

PROCEEDINGS
OF THE
ZOOLOGICAL SOCIETY
OF LONDON.



PART IX.

1841.

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PROCEEDINGS
OF THE
ZOOLOGICAL SOCIETY OF LONDON.

January 12, 1841.

IN consequence of there not being a sufficient number of Members present to constitute a quorum, the Meeting was adjourned to January the 26th.

January 26, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

Letters from E. L. Moore, Esq., and Augustus Elliott Fuller, Esq., were read.

A letter from Sir Edward Cust was next read. This letter contains a description of a species of *Holothuria*, presented by Sir E. Cust to the Society, obtained at the island of Porto Rico, and remarkable for its leopard-like markings.

A continuation of Mr. G. B. Sowerby's descriptions of new species of shells, collected by H. Cuming, Esq. in the Philippine Islands, was next read.

HELIX MONOCHROA. *Hel. testâ suborbiculari, tenuiusculâ, subpallescente brunnea, haud nitente; spirâ mediocri; anfractibus quatuor, ventricosis, rugulosis, ultimo maximo, cæteris multo majori; fasciis binis medianis saturatoribus, binis pallidioribus; suturâ distinctè impressâ; aperturâ subelliptico-semilunari, intus albâ; labio externo latiusculo, rotundato-reflexo, extûs subfusco; labio interno tenuissimo, columellari subdilatato, umbilicum mediocrem partim tegente.*

Long. 1·3, lat. 2· poll.

Hab. ad insulam Tablas dictam.

This species appears to be very distinct from any of those given by De Férussac, as well as from the *Helix Cailliaudi* of Deshayes, with which I have compared it. Besides the rugulosities which cover the external surface, oblique lines of growth are easily distinguishable, which are stronger near the suture.

Nos. XCVI. & XCVII.—PROCEEDINGS OF THE ZOOL. SOC.

HELIX CHLOROCHROA. *Hel. testá globoso-suborbiculari, tenuiusculá, pallidè brunneá, haud nitente; spirá elevatiusculá; anfractibus $4\frac{1}{2}$, ventricosis, lævibus; striis solùm incrementi tenuibus insculptis, ultimo maximo, cæteris multò majori; fasciá unicá albidá medianá; suturá distinctá; aperturá rotundato-sublunari, intùs albá; labio externo rotundato-reflexo, fuscescente, interno tenui; labio columellari lato, albicante, subsinuoso, profundè ineunte; umbilico nullo.*
 Long. 1·6, lat. 2· poll.

This species bears a general resemblance to the last, though it may easily be distinguished by its more elevated spire and the absence of an *umbilicus*. Besides the lighter-coloured band, the shell is usually mottled with paler light-brown markings. A variety occurs of a much darker colour, but similarly marked.

HELIX SPHÆRION. *Hel. testá globoso-orbiculari, tenui, lævi, unicoloris, haud nitens; spirá brevi, paululùm elevatá; anfractibus quatuor, ventricosis; striis solùm incrementi, tenuibus insculptis, ultimo maximo, cæteris multò majore; suturá lineá albá distinctá; aperturá rotundatá, anfractu ultimo tenuiter modificatá, intùs albicante; labio externo fuscescente, anticè paululùm reflexo; labio columellari albo, latiusculo, profundè ineunte.*

Long. 1·3, lat. 1·6 poll.

Hab. supra folia arborum propè Tanauan ad insulam Leyte dictam Philippinarum.

This species is most like *H. Coccomelos*, but may be distinguished from that by its thin, scarcely reflected outer lip. Two varieties in colour have been found, one of which is of a very dark chocolate-brown, and the other of a pale yellowish brown. Another variety, very much resembling this last, has been found at Loboek, in the island of Bohol, which differs only in the lip being rather more reflected.

HELIX MIRABILIS, De F. *Hel. testá subglobosá, imperforatá, lævi, nitidá, candidá, epidermide olivaceo-lutescente indutá; spirá elevatiusculá, obtusá; anfractibus $4\frac{1}{2}$ rotundatis, ultimo maximo, plerumque fasciis duobus rufo-fuscis cincto; suturá distinctá; aperturá subobliquá, elliptico-rotundatá; peritremate albo, latiusculo, reflexo; columellá albá, latiusculá, anticè sinuatá; labio interno tenui.*

Long. 1·6, lat. 1·3 poll.

Hab. supra folia arborum propè Albay, provinciæ Albaiensi ad insulam Luçon Philippinarum.

Syn. *Helix galactites*, Lam. (Hist. Nat. des Anim. sans Vert. vi. part 2, p. 69. April 1822).

Helix mirabilis, De Férussac (Hist. Nat. gen. et part. des Mollusques Terr. et Fluv., t. 31, f. 4, 5, 6. 1819).

A representation of this fine species, without the *epidermis*, was published by De Férussac in 1819, under the name of *Helix mirabilis*; his name is therefore here adopted. But Lamarck in 1822, although he quotes De Férussac's name and plate, has given it the name of *H. galactites*, which of course must give way to De Férussac's.

It appears extremely probable that both Lamarck and De Férussac have confounded with this species a variety of *Helix metaformis*, De F., the latter author having figured a var. of that species under the name of *H. mirabilis*, var. See his Tab. 104, f. 6 et 7, and Lamarck, describing his var. β . as “*testá supernè in conum elongatá.*”

“I must here acknowledge my obligations to M. Valenciennes, who has informed me in a note that the species I have described under the name of *decipiens* is identical with this species, *H. mirabilis*, De F. I suspect that he may be right in his opinion, and will take the earliest opportunity of re-examining all the varieties of both, together.

“At present I will proceed to describe the principal varieties which have occurred to Mr. Cuming, and which are unquestionably referable to the *mirabilis* of De F.”

a. Shell rather thick and strong, with three dark bands, one of which is close to the suture, and much narrower than the others.

b. Shell very thin, with bands similar to the last.

c. Shell with the spire much produced, and with three dark bands, of which the middle one is very slender.

d. Shell very thin, with a narrow sutural band, and a broader circumferential band.

e. Shell thick and strong, with only a very narrow antesutural band.

f. Shell thin, and entirely destitute of bands.

HELIX FULGENS. *Hel. testá globoso-pyramidali, crassiusculá, imperforatá, lævi, nitidá, albidá; spirá prominulá, obtusá; anfractibus 4½ ventricosis, castaneo-nigroque fasciatis; lineis incrementi tenerimè insculptis; aperturá suborbiculari, intús albá; fasciis nigris subconspicuis; peritremate reflexo, albo; columellá latiusculá, albá, profundè ineunte.*

Long 1·5, lat. 1·15 poll.

Hab. ad Puerto Galero insulæ Mindoroensis Philippinarum.

Two principal varieties of this brilliant species have been found by Mr. Cuming; the one has black and chestnut-coloured bands, beautifully relieved on a light-coloured ground, and the other has the posterior part of each volution nearly white, one dark band close behind the circumference, and three close-set dark bands in front.

HELIX CHRYSOCHELLUS. *Hel. testá subglobosá, crassiusculá, lævi, nitidá, imperforatá; spirá mediocri, obtusá; anfractibus quinque, ventricosis; lineis incrementi tenuitèr insculptis, epidermide pallescente indutis; aperturá suborbiculari, intús albá; peritremate incrassato, reflexo, aurantiaco; columellá latiusculá, aurantiacá, profundè ineunte; labio interno tenui.*

Hab. supra folia arborum ad Banqui provinciæ Ilocos septentrionalis ad insulam Luçon Philippinarum.

A very beautiful species, and apparently very distinct from any that have hitherto been noticed. It is extremely rare.

Prof. Owen read his description of a new genus and species of sponge, which he proposes to name *Euplectella Aspergillum*.

“Mr. Cuming has entrusted to me for description,” says the author, “one of the most singular and beautiful, as well as the rarest of the ma-

rine productions with which his researches in the Philippine Islands have enabled him to enrich the zoological collections of his native country. This production is, however, a member of the very lowest class of the animal kingdom, if even it be permitted to rank in that division of organized nature. After repeated examination and much reflection, I can arrive at no other conclusion than that the object about to be described is the skeleton or framework of a species of sponge belonging to that division of the class called Horny, in opposition to the calcareous and siliceous groups, and to the Alcyonoid family. It is a hollow, cylindrical, slightly conical, and gently curved case or tube, resembling a delicate cornucopia, with the apex removed. It measures eight inches in length, two inches across the base, and one inch and a quarter across the apex, which is truncated. The base or wider aperture of the tube is sub-elliptical, and is closed by a cap of coarse and somewhat irregular network, gently convex externally, the circumference of which is divided from the walls of the cylinder by a thin projecting plate, standing out like a ruff or frill. This marginal plate varies in breadth from one to three lines. The parietes of the circular cone consist also of a network of coarse fibres, but these exhibit the greatest regularity of disposition, and intersect each other at definite and nearly equal distances throughout the course of the cone. They consist of longitudinal, transverse, and oblique fibres, the latter being of two kinds, winding spirally round the cylinder, but in opposite directions. The strongest fibres are the longitudinal and transverse ones, which are arranged at intervals of about a line and a half, and mark out regular square spaces of the same diameter: these spaces are kept of pretty equal size throughout the cone, from the circumstance of the longitudinal fibres diminishing in number as the cone decreases in size; the mode of diminution is not, however, by abrupt termination, but by the gradual convergence and final interblending of two contiguous longitudinal fibres, and the regularity of the interspaces is therefore disturbed at the intervals of such converging fibres. The fibre resulting from this union of two fibres bears a proportionate thickness to the additional material entering into its composition. The nature of such material is demonstrated at the apex of the cone by the resolution of the longitudinal fibres into their component filaments, each of them dividing at about two thirds of an inch from their extremity into a fasciculus or pencil of extremely delicate, stiff, glistening, elastic threads, resembling the finest hairs of spun glass. The transverse fibres, in like manner, are resolved at the truncated apex of the cone into their component filaments, which intersect those proceeding from the longitudinal fibres, as well as similar pencils from the oblique filaments, the whole forming an irregular silky tuft, which almost closes the apical aperture of the cone.

“The longitudinal fibres are external to the transverse ones, to which they are connected by both the spiral fibres, and by smaller and less regular intersecting fibres at the angles of the squares; the area of each square is thus reduced more or less to a circular form: at about one or two inches from the apex, these connecting reticulate fibres begin to rise in the form of narrow ridges from the general surface

of the network, and sooner on the convex than on the concave side of the bent cone. These ridges at first are short and interrupted; they are then more extended, but irregular in their course, some being transverse, others undulated or curved; but as they approach the base of the cone they are continued into broader ridges, which follow, with more or less regularity, the course of the oblique spiral fibres; the broadest of these ridges would measure two lines and a half. Their structure presents an extremely fine and irregular network, disposed, for the most part, in two plates, which converge as they recede from the general wall of the cone, and terminate in a sharp and well-defined edge. The component fibres of these reticulations, like those of the main network, are resolved into the fine silky filaments above mentioned. The fibres of the coarse irregular network which closes the basal aperture of the cone, and which constitutes the main characteristic of this Alcyonoid sponge, appear to be directly continued from, and, as it were, to include all those which enter into the composition of the longitudinal, transverse and oblique fibres of the wall of the cone; the frill-like ridge above described defining the line of transition from the one to the other. The inner surface of the reticulate parietes of the cone is even; not interrupted by any ridges or processes like those on the outer surface. The number of the longitudinal filaments at the base of the cone is 60; that at the smaller end, where they begin to resolve themselves into their constituent filaments, is 30. The diameter of the longitudinal fibres is about $\frac{1}{40}$ th of an inch; that of the transverse fibres is somewhat less. The oblique fibres, where they are most regular, average $\frac{1}{60}$ th of an inch; the longitudinal fibres, where they begin to resolve themselves into their component filaments, expand in the direction of a line passing to the centre of the cone, and not in the direction of the plane of its circumference; maintaining, in the latter respect, nearly the same breadth to their entire unraveling; whilst in the other dimension they equal one line in breadth before they are wholly decomposed. Small portions of a finely reticulate plate were loosely attached to some parts of the internal surface. The fibres of these pieces consisted of minute filaments, irregular in their course, branching, anastomosing, and sending off abrupt processes like thorns. The component filaments of the parietal fibres are of two kinds; the one simple, cylindrical, and smooth; the others barbed at pretty regular distances through their whole course, like the hair of certain caterpillars. I have also observed a long filament, simple at one extremity, and becoming barbed at the other. They consist of material like the dried gluten of marine plants, containing a small proportion of azote, and burning away to a charry residuum.

“If the basal aperture of the cone were open, the resemblance to many of the beautiful reticulate Alcyonoid sponges would be very close: its closure by the reticulate convex cap, in the present instance, establishes the generic distinction; and in the exquisite beauty and regularity of the texture of the walls of the cone the species surpasses any of the allied productions that I have, as yet, seen, or found described.”

A letter from G. T. Vigne, Esq. was read. In this letter, at the request of the Society's Curator, Mr. Vigne furnishes the following list of Birds constituting part of a collection this gentleman had formed during his travels in Thibet, Cashmere, &c.

Aquila Bonelli, Gould. Cashmere and Lower Himalaya.

Buteo — ? Cashmere.

Accipiter fringillarius, Ray. Cashmere.

Falco biarmicus ? Temm. } Common in the plains under the Alpine
— *Chicquera* ? Lath. } Panjab.

Athene Cuculoïdes, Gould. In the Alpine Panjab.

Caprimulgus Asiaticus, Lath. Plain of Attok.

Merops Apiaster, Linn. Cashmere and Persia.

Alcedo Bengalensis, Gmel. Cashmere.

— *Smyrnensis*. Alpine Panjab.

Phanicornis brevirostris, Vig. *Ib.*

Muscipeta castanea, Temm. *Ib.*

Turdus atrogularis, Temm. *Ib.*

Oriolus galbuloides, Gould. *Ib.*

Ixos leucogenys (*Brachypus leucogenys* of Hardwick and Gray's 'Indian Zoology'). Cashmere.

Note.—An allied species, differing in having red instead of yellow under the tail, is found in the plains of India.

Ianthocincla variegata, Gould. Alpine Panjab.

Petrocincla saxatilis, Vig. *Ib.*

— *Pandoo*, Sykes. *Ib.*

Enicurus maculatus, Vig. Cashmere.

Phænicura leucocephala, Vig. *Ib.*

Motacilla lugubris, Pall. *Ib.*

Coccothraustes Icteroïdes, Vig. Alpine Panjab.

Pastor Mahrattensis. *Ib.*

Garrulus lanceolatus, Vig. *Ib.*

Fregilus graculus, Cuv. Himalaya tops; Little Thibet.

Nucifraga hemispila, Vig. Cashmere.

Cuculus micropterus, Steph. Cashmere.

Dendrocopus Himalayanus. Alpine Panjab.

Picus nuchalis, Wagl. *Ib.*

Chrysoptilus squamatus, Swains. *Ib.*

Bucco grandis, Linn. *Ib.*

Tichodroma phænicoptera, Temm. Cashmere, Alpine Panjab, and Little Thibet.

Columba leuconota, Vig. Thibet mountains.

Turtur auritus, Ray. Alpine Panjab.

Phasianus Stacei, Vig. Chumba.

— *albocristatus*, Vig. Alpine Panjab.

— *Pucrasia*, Vig. *Ib.*

Lophophorus Impeyanus, Vig. Cashmere and Himalaya.

Tetraogallus Nigellii, Gray. Snow range, Cashmere and Little Thibet.

Pterocles arenarius, Temm. Plains of Panjab.

Francolinus vulgaris, Gould. Alpine Panjab and Indus.

Perdix Chukar, Lath. Thibet.

Coturnix Sinensis. India and Panjab.

Ardea cinerea, Lath. Panjab.

Ibis Falcinellus, Cuv. Little Thibet.

Scolopax rusticola, Linn. Dodah, near Cashmere,

Note.—A second species, nearly allied to the *Scolopax major*, Linn., is found in Cashmere.

Totanus ———? Thibet.

Parra Sinensis, Lath. Cashmere.

Querquedula Crecca, Steph. *Ib.*

Fuligula Nyroca, Steph. Little Thibet.

Mr. Vigne's letter also contains the following notes, relating to a species of Hare from Little Thibet, which was exhibited to the Meeting, and which he had presented to the Society:—

“The Hares of Little Thibet, which is a barren country, are found almost exclusively within, or within reach of, sandy valleys, through which a stream flows, creating on its flat banks just verdure enough for them to feed upon. They lie in forms, under rocks and stones; sometimes, when pursued, will take to any natural hollows beneath them, and are occasionally, and, in fact, frequently, sheltered by the thick bushes of *Tartarian furze*, with which the valleys of Little Thibet abound, more or less. They do not burrow, but scratch away a deep form under a stone or rock. In some respects this species resembles the Alpine Hare, but the latter has a small ear, whilst the present animal has a very large, broad, and open ear. I never heard that these Hares were gregarious, excepting from the necessity of seeking the same places in quest of food, and those being few and far between. The nature of the country would prevent any migration, such as that of the Alpine Hares.

“I never heard it utter any peculiar cry, and should think it not unlikely that the varieties said to exist in Tartary by Bewick, and to *whistle* sharply, like the chirping of a sparrow, must be the large Drun (?) or Thibetian Marmot, of which Jacquemont says he received a skin, and of which I and Dr. Falconer also have seen plenty. I had the skeleton of one, but unfortunately lost it.”

Mr. Vigne moreover observes, that there are no Hares in Cashmere, though it is a country which appears to be particularly fitted for them; neither are there any gray or black Francolins, though all are found within four or five days' march of the Valley.

The Hare exhibited, Mr. Waterhouse observed, was an undescribed species, and he proceeded to characterize it under the name of

LEPUS TIBETANUS. *Lep. cinereus, pilis flavescenti-albo nigroque annulatis; abdomine albo; pedibus suprâ sordidè albis, subtùs sordidè flavescenti-fuscis, pilis densis indutis; caudâ mediocri, albâ, suprâ nigricante; auribus longis, ad apicem nigricantibus: nuchâ sordidè albâ, indistinctè fulvo-lavâtâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin. . . .	18	0
———— caudæ	4	6
———— tarsi	5	0
———— auris	4	6
———— ab apice rostri ad basin auris	3	8

The Thibet Hare, compared with most other species of the genus, is most remarkable for its pale grayish colouring, and the almost total absence of brown or yellow tints in its fur. On the upper parts of the body the fur is of a pale gray hue next the skin; the hairs are blackish beyond the middle, and at the point, and broadly annulated with white or cream colour near the point; but interspersed with the ordinary fur on this part of the body are numerous hairs which are white at the base, though annulated like the others on the apical portion. The fur on the chest is also pale gray at the base, but externally it has a faint fulvous hue, though it might almost be described as dirty white, and the *occiput* and back of the neck are of the same hue. On the belly the fur is white, even next the skin. The legs and feet are almost white; a slight ashy tint is observable on the outer side of the hinder pair; they are rather densely clothed with fur, and that on the under side is of a yellowish-brown hue, but not very dark. The ears are very large, and well clothed with hairs; on the outer part, in front, these hairs have the same colouring as those on the back of the animal, but on the hinder part they are white, or nearly so, and the apical portion of the ear is broadly margined with black.

The skull, compared with that of the common Hare, differs, in being much smaller, and proportionally narrower; the upper incisors have the groove rather more near the middle of the tooth. Following are the principal dimensions of the skull:—

	in.	lin.
Total length	3	4
Width	1	7 $\frac{1}{8}$
Width between orbits	1	0
Length of nasal bones	1	5
Width at base	0	8
Length of bony palate	1	2 $\frac{1}{3}$

Mr. Gould exhibited and characterized a new species of *Himantopus*, which he had received from New Zealand.

HIMANTOPUS NOVÆ ZELANDIÆ. *Him. fuliginoso-niger, dorso, alis caudæque nitore virescente tinctis. Exempla, fronte, loris, mento, collo anticè, et ad latera, sic et pectore crissoque albis, nonnunquam obveniunt.*

The whole of the plumage sooty black, with the exception of the back, wings and tail, which are glossed with green: examples sometimes occur with the forehead, lores, chin, front and sides of the neck, chest, and under tail-coverts white; bill black; feet pink-red.

Total length, 16 inches; bill, 3; wing, 9 $\frac{1}{4}$; tail, 3 $\frac{1}{2}$; tarsi, 3 $\frac{1}{4}$.

This bird is interesting, not so much for its beauty, but as adding another species to the very limited genus *Himantopus*, of which, until lately, only one was known. Mr. Gould regretted that no other information accompanied the specimens than that they were killed at Port Nicholson. From the great difference in their colouring it might be supposed that they are distinct, but he inclines to believe that they are either the result of age or season; in all probability the black plumage is that of summer.

February 9, 1841.

William Horton Lloyd, Esq. in the Chair.

A letter from Dr. M'Clelland, of Calcutta, Corr. Memb., was read. It states that Dr. M'Clelland had forwarded for the Society a pair of Java Pea-fowls; these having been brought from Chittagong by C. W. Smith, Esq., who expressed a desire to present them to the Society. Dr. M'Clelland also states, that he shall endeavour to procure for the Society a pair of the Jungle Pea-fowl of India.

A letter from P. C. Blackett, Esq., dated January 27, 1841, was next read. It relates to the parent stock of the domestic Dog (*Canis familiaris* of authors), and gives some account of the habits of the European Wolf. The pups of this animal, it is said, were considered valuable about sixty or seventy years back, and that they were easily domesticated, and became as familiar and attached to their master as the common domesticated Dog.

A monograph on the genus *Nematoptera*, by J. O. Westwood, Esq., F.L.S., was read.

In this monograph numerous new species are added to those already characterized by Dr. Klug and others. The genus *Nematoptera* (*Nemoptera*, Latr.) was placed by its founder, Latreille, in the family *Panorpidæ*, owing to the rostrum being elongated as in that family; but Mr. Westwood agrees with Drs. Klug and Burmeister, in arranging the species in the *Hemerobiidæ*, since they agree with this family, not only in the structure of the mouth, but also in the general arrangement of the nervures of the wings.

Following are the chief characters of the species:—

Sectio 1^{ma}.

Alæ anticæ latissimæ ovatæ, coloratæ, serie duplici vel triplici cellularum in area anali.

Sp. 1. NEMATOPTERA PETIVERI. *Nem. alis anticis ovatis, pallidè flavis; fasciis quatuor sinuatis; costa ad basin immaculata; macula oblonga ante mediam, altera media tertiatque subapicali, nigris, punctisque nonnullis versus marginem internum et in discum alæ ejusdem coloris.*

Expans. alar. antic. 2—2 $\frac{1}{4}$ unc. Long. alar. postic. 1 $\frac{3}{4}$ —1 $\frac{5}{8}$ unc.

Syn. The Feather-tailed Smyrna Adderbolt, *Petiver*, Gazoph. tab: 73. f. 11.

Phryganea e Moldavia, *Linnaeus*, Kongl. Vetensk. Handl. 1747. p. 176—178. tab. 6. fig. 1.

Ephemera Coa, *Hasselquist*, Iter Palæstinum, p. 423. (1757).

No. XCVII.—PROCEEDINGS OF THE ZOOL. SOC.

Panorpa Coa, *Linnaeus*, Syst. Nat. Edit. x. Ditto, Edit. xii. vol. ii. p. 915. *Fabricius*, Syst. Ent. p. 314. Ent. Syst. Suppl. p. 208.

Panorpa halterata, *Fabr.* Mantiss. Ins. p. 251.

Nemoptera sinuata, *Olivier*, Enc. Méth. viii. p. 178. *Lamarck*, Hist. Nat. iv. p. 419. *Klug*, Monogr. Panorp. p. 13. No. 2.

Sp. 2. NEMATOPTERA COQUEBERTII. *Nem. alis anticis latissimè ovatis, pallidiori-flavescentibus; fasciis tribus valdè sinuatis; costa in areas angustas divisa, singula area linea obscura notata, macula media costali, altera intermedia, 3tiæque versus apicem costæ obscuris; disco et basi punctis numerosis nigris; areaque anali lata duplici serie punctorum et unica strigarum nigrarum.*

Expans. alar. antic. $1\frac{2}{3}$ — $1\frac{5}{6}$ unc. Long. alar. postic. $1\frac{1}{2}$ unc.

Syn. Panorpa Coa, *Coquebert*, Illustr. iconogr. i. p. 15. tab. 3. fig. 3.

Nemoptera Coa, *Olivier*, Enc. Méth. tom. viii. p. 178. *Klug?* Mon. Panorp. p. 12. No. 1. *Burmeister?* Handb. d. Entomol. ii. p. 987.

Nemoptera lusitanica, *Rambur*. Faune Andal. tom. ii. pl. 9. f. 1.

The extraordinary breadth of the fore-wings (which are as broad as those of the preceding species, although of considerably less expanse) is alone sufficient to distinguish this from the two other species of this Section.

Sp. 3. NEMATOPTERA BIPENNIS. *Nem. alis anticis latis, margine antico ferè recto; latè flavis, brunneo variis; punctis numerosis fasciisque tribus valdè sinuatis brunneis ornatis; costa in cellulas quadratas divisa; singula cellula puncto rotundo notata; macula oblonga paullò pone medium costæ apiceque toto brunneis, et in hoc apice macula parva subcostalis elongata alteraque magna ovalis, area anali serie unica punctorum alteraque strigarum.*

Expans. alar. antic. 2— $2\frac{1}{8}$ unc. Long. alar. postic. $1\frac{3}{4}$ — $\frac{9}{10}$ unc.

Syn. Panorpa bipennis, *Illig.* Ahrens Faun. Ins. Eur. i. 16.

Nemoptera lusitanica, *Leach*, Zool. Misc. ii. tab. 85. fig. sup. *Klug*, Monogr. Panorp. p. 13. *Burmeister*, Handb. d. Ent. ii. p. 987. *Nec Rambur*. Faun. Andalusia. ii. pl. 9. f. 1.

Nemoptera Coa, *Latr.* Hist. Nat. Crust. et Ins. t. xiii. pl. 97. bis fig. 2. Gen. Crust. iii. p. 186. *Savigny*, Descr. de l'Égypte, Neur. pl. 2. fig. 15.

Diptita lusitanica, *Hoffm.* MSS. quoted by *Leach*.

This species (to which I have restored *Illiger's* specific name, which has been overlooked by all subsequent authors, although several years prior to *Leach's*) is at once distinguished from the two preceding species by the shape of the fore-wings, of which the anterior margin is almost straight, at least for two-thirds of the length of the wing; they are consequently not so greatly dilated as in the two preceding. The colour of the wings is also of a much richer yellow, and the markings are fine brown, instead of obscure black.

Sectio 2^{da}.

Alæ anticæ angustiores hyalinæ; serie unica cellularum oblongarum in area anali.

Subsectio 1.

Alæ posticæ pone medium subitò bis aut semel dilatatæ.

Sp. 4. NEMATOPTERA EXTENSA. *Nem. alis anticis hyalinis; costa paullò obscuriori punctoque minuto fusco supra conjunctionem venæ mediastinæ cum postcostali; alis posticis ante apicem apiceque rotundato, valdè extensis et infuscatis.*

Expans. Alar. antic. $1\frac{2}{3}$ unc. Long. alar. postic. $1\frac{2}{3}$ unc.

Syn. *N. extensa*, Olivier, Enc. Méth. viii. p. 178. *Guerin*, Icon. d. Règne An. Ins. pl. 61. f. 1. *Klug*, Monogr. Panorp. p. 13. *Burmeister*, Handb. d. Ent. ii. p. 987.

The short description given above is taken from a specimen in my collection, which was captured by Olivier himself near Bagdad, and for which I am indebted to my friend Audouin.

Sp. 5. NEMATOPTERA DILATATA. *Nem. fusco-brunnea; alis anticis hyalinis; posticis ante apicem biextensis fuscis; apice angusto lacteo.*

Expans. alar. antic. 2 unc. Long. alar. postic. $1\frac{7}{10}$ unc.

Syn. *N. dilatata*, *Klug*, Monogr. Panorp. p. 14. tab. annex. fig. 1. *Burmeister*, Handb. ii. p. 987.

This very distinct species has the hind wings comparatively short, with the expansions considerably larger than in *N. extensa*. It is from South Africa.

Sp. 6. NEMATOPTERA FORSKALLII. *Nem. alis anticis hyalinis, venâ postcostali flava; alis posticis "triclavatis"; stylo flavo; clava 1^{ma} fusco-flavescenti; 2^{da} dimidio minori cærulea; 3^{tiu} terminali oblonga cærulea; apice extimo obtuso.*

"Corp. long. poll." Alæ posticæ, "3 poll. vel corpore triplò longiores."

Syn. *Panorpa halterata*, *Forskall*, Descr. Anim. p. 97. tab. 25. fig. E. (copied in *Encycl. Méth.* pl. 98. fig. 1., under the name of *Panorpe d'orient*).

Nec *N. halterata*, *Fabr.*, *Olivier*, *Dumeril*, *Klug*.

Sp. 7. NEMATOPTERA BARBARA. *Nem. alis erectis pallidis; costa late fusca; posticis linearibus longissimis subbiclavatis nigris apice dilatatis in medio coarctatis; fasciis tribus albis, intermedia minori.*

Syn. *Panorpa Coa*, *Fabricius*, *Mantiss. Ins.* i. p. 251.

Panorpa halterata, *Fabricius*, *Ent. Syst. Suppl.* p. 208.

Nemoptera barbara, *Klug*, *Monogr. Panorp.* p. 14.

Sp. 8. NEMATOPTERA PALLIDA. *Nem. alis anticis hyalinis immaculatis venis fulvescentibus punctoque minuto stigmaticali albo; posticis longissimis linearibus albis apice vix latioribus, fascia tamen fusca dilatata pone medium alæ.*

Expans. Alar. antic. $1\frac{9}{10}$ unc. Long. alar. postic. $\frac{2}{12}$ unc.

Syn. *N. pallida*, Olivier, Enc. Méth. viii. p. 179.
N. halterata, Klug, Monogr. Panorp. p. 14?

Subsectio 2.

Alæ posticæ absque dilatatione.

(a.) Fasciatæ.

Sp. 9. NEMATOPTERA AFRICANA. *Nem. corpore luteo, brunneo vario; alis anticis apice rotundatis hyalinis; spatio inter venam mediastinam et postcostalem luteo; his venis fulvo-testaceis, umbra fusciscenti apicali post stigma albidum; alis posticis basi pallidioribus; fascia fusca ante apicem album.*

Expans. alar. antic. 2 unc. Long. alar. postic. $2\frac{1}{8}$ unc.

Syn. *Nemopteryx africana*, Leach, Zool. Misc. vol. ii. p. 74. tab. 85. fig. inf.; *Griffith*, Animal Kingd. vol. xv. p. 324. pl. 105. fig. 4.

Sp. 10. NEMATOPTERA BACILLARIS. *Nem. pallida, dorso brunnea vario; alis hyalinis, anticis (apice angustioribus subacutis) costa pallida, ad apicem infuscata; stigmatibus albo; posticis linearibus longissimis, basi pallidis, ante apicem latè fuscis; antennis longitudine alarum anticarum.*

Expans. alar. antic. $2\frac{1}{8}$ unc. Long. alar. postic. $2\frac{1}{2}$ unc.

Syn. *N. bacillaris*, Klug, Monogr. Panorp. p. 15. tab. annex. fig. 2. *Burmeister*, Handb. d. Ent. ii. p. 986.

Sp. 11. NEMATOPTERA LATIPENNIS. *Nem. rufo-testacea; linea dorsali media fusca; alis anticis dilatatis rotundatis; umbra cinerea post stigma album; posticis in basi rufescentibus; fascia fusca ante apicem album.*

Long. corp. 6''' ; alar. antic. 10'''.

Syn. *N. latipennis*, *Burmeister*, Handb. d. Ent. ii. p. 986.

This species inhabits South Africa, and is described by *Burmeister* from the Museum of Halle.

Sp. 12. NEMATOPTERA ANGULATA. *Nem. pallida, brunneo varia; antennis fuscis longitudine alarum anticarum; alis anticis apice angulatis, hyalinis; vena mediastina et postcostali fulvis (spatio intermedio luteo), punctoque parvo in cellula singula areæ costalis fulvo; stigmatibus fusco; alis posticis longissimis ferè linearibus, dimidio basali brunneo; fascia lata ante apicem album fusca.*

Expans. alar. antic. $2\frac{1}{4}$ unc. Long. alar. postic. $2\frac{1}{2}$ unc.

Syn. *Nemoptera angulata*, *Westw.* in Trans. Ent. Soc. vol. i. Journal of Proceedings, p. 75.

Inhabits South Africa.

Sp. 13. NEMATOPTERA COSTALIS. *Nem. lutea, brunneo varia; antennis luteo-fulvis, alis anticis multò brevioribus; alis anticis apice rotundatis hyalinis; vena mediastina et postcostali fulvis (spatio intermedio luteo), punctoque parvo in cellula singula areæ costalis fulvo; stigmatibus fusco; nubila apicali alba, internè umbra tenui lutea marginata; alis posticis albidis ad basin fusciscentibus; fascia fusca ante apicem album.*

Expans. alar. antic. 2 unc. Long. alar. postic. $2\frac{1}{8}$ unc.
Syn. *N. costalis*, *Westw.* in *Trans. Ent. Soc.* i. ELXXV.
Inhabits South Africa.

Sp. 14. NEMATOPTERA OLIVIERII. *Nem. corpore testaceo brunneo-que variegato; alis hyalinis; anticis valde angustis; costa pallidè fusca, lineaque (areæ costali posticè conjuncta) tenui stigmatè que albidis; posticis linearibus basi fasciaque testaceis.*

Expans. alar. antic. $1\frac{1}{4}$ unc.

Syn. *N. halterata*, *Olivier*, *Enc. Méth.* viii. p. 178. (nec *Forskallii*).
N. costata, *Klug*, *Monogr. Panorp.* p. 14.

(b.) Alæ posticæ setacæ haud fasciatæ.

Sp. 15. NEMATOPTERA SETACEA. *Nem. pallida; dorso pedibusque fuscis; alis anticis hyalinis, ad apicem subinfuscatis macula alba; posticis setaceis apice albis.*

Long. corp. lin. 6. Expans. alar. antic. 12—13 lin.; alar. postic. 14—15 lin.

Syn. *Nemoptera setacea*, *Klug*, *Monogr. Panorp.* p. 15. tab. annex. f. 3. *Burmeister*, *Handb. d. Ent.* ii. p. 986.

Inhabits South Africa.

Sp. 16. NEMATOPTERA CAPILLARIS. *Nem. pallida; dorso luteo vario; alis anticis hyalinis, nervis fusco alboque variegatis, reticulatis; macula ad marginem anticum ante-apicali alba; posticis longissimis setaceis albis; basi hyalinis reticulatis.*

Long. corp. lin. 4. Expans. alar. antic. $10\frac{1}{2}$ lin. Long. alar. postic. $13\frac{1}{2}$.

Syn. *N. capillaris*, *Klug*, *Monogr. Panorp.* p. 16. tab. annex. fig. 4. *Burmeister*, *Handb. d. Entomol.* ii. p. 985.

Inhabits Arabia.

Sp. 17. NEMATOPTERA ARISTATA. *Nem. albidia; alis albo-hyalinis; anticis macula ante-apicali fusca; posticis setaceis.*

Long. corp. lin. $2\frac{1}{2}$.

Expans. alar. antic. 9. Long. alar. postic. $7\frac{1}{4}$.

Syn. *Nem. aristata*, *Klug*, *Monogr. Panorp.* p. 16. tab. annex. fig. 5. *Burmeister*, *Handb. d. Ent.* ii. p. 985.

Inhabits Ambukohl.

Sp. 18. NEMATOPTERA ALBA. *Nem. alba immaculata; oculis solùm nigris; alis anticis hyalinis, venis albidis; posticis longis setaceis et coloris albi paulld obscuri.*

“7 ou 8 lignes de largeur les ailes étendues,” *Oliv.*

Syn. *Nem. alba*, *Olivier*, *Enc. Méth.* viii. p. 179. *Klug*, *Monogr. Panorp.* p. 16.

Inhabits Bagdad. Found in the houses in the evenings of May.

Sp. 19. NEMATOPTERA FILIPENNIS. *Nem. luteo-fusca; alis anticis albo-hyalinis; stigmatè fusco; posticis longissimis, basi nigricantibus latioribus; apice albo filiformi.*

Long. corp. lin. $3\frac{1}{2}$. Expans. alar. antic. lin. $11\frac{1}{2}$. Long. alar. postic. 1 unc. 3 lin.

Habitat in India orientali. In Mus. D. W. W. Saunders, F.L.S., &c.

Mr. Gould exhibited to the Meeting fine specimens, male and female, of the *Macropus laniger* of Quoy and Gaimard, and a species of *Hypsiprymnus* nearly allied to the *H. minor*, but which differs considerably in the form of the skull, and especially in having the muzzle broader, the sides being swollen; it also differs from *H. minor* in having the tail and tarsi proportionally shorter. This species being new, Mr. Gould characterized it as follows, under the name

HYPSPRYMNUS GILBERTII. *Hyps. colore corporis supernè e cinereo, fusco, nigroque commixtis, lineâ nigrescente a naso ductâ cum colore frontis se intermiscente; corpore subtùs e cinereo albo.*

	unc. lin.
Longitudo ab apice rostri ad caudæ basin.	16 0
———— caudæ.	6 3
———— tarsi	3 0

This species was procured by Mr. Gould's assistant, Mr. Gilbert, at King George's Sound.

The following two papers, being a continuation of the descriptions of Mr. Cuming's shells, were next read.

The first of these papers is by W. J. Broderip, Esq.

BULINUS MACULIFERUS. *Bul. testâ plerumque sinistrorsâ, elongato-pyramidali, anfractibus sex subventricosis, ultimo longè maximo, lineis incrementi obliquè longitudinaliter striatâ; aperturâ ovatâ; labro sub-patulo reflexo albo.*

Var. A. *Griseo-brunnea strigis griseo-subpurpureis et maculis albis griseo-subpurpureisque irregulariter notata; anfractu basali supernè suturam juxta albo vittata.*

Bulinus maculiferus is figured in Sowerby's Conchological Illustrations, but has not hitherto been described.

Var. B. *Griseo-albens vel subflavescens strigis frequentibus, irregularibus, subangulatis, sordidè subpurpureis ornata.*

This seems to be the shell figured by Petiver, Tab. lxxvi. fig. 5. Described by him as "a rare *Luzone-shell*, with its mouth to the right. Cat. 224. Its waves brown, the rest yellow and white."

Var. C. *Flavescens, ochraceo-brunneo strigata.*

Var. D. *Albido-brunnescens; anfractibus prioribus strigis obscuris undulatis, ultimo strigis distantibus obliquè longitudinalibus roseis albo limbatis, ornatis.*

Var. E. *Tota alba.*

Var. F. *Dextrorsa alba vel subflavescens strigis purpureo-brunneis præsertim in anfractum ultimum creberrimis et subirregularibus ornata.*

Length about $2\frac{1}{2}$ inches. Breadth about $1\frac{1}{8}$ inch.

Legit H. Cuming in sylvis.

Locality. All the varieties, except Var. C., were found in the province of Misamis, in the island of Mindanao. Var. C. was found at Gindulman, in the isle of Bohol. All were taken on the trunks of trees.

This is a handsome species; the ivory-like appearance of the apex, with its dark border, in most of the varieties, except the white one, is remarkable. In fine specimens, the inside of the mouth has a satin-like nacreous lustre, bordering on iridescence, something like that often seen upon the tendon of a muscle.—W.J.B.

BULINUS EVANESCENS. *Bul. testá obtusè conico-pyramidalí, subpupiformi, anfractibus 5, lineis incrementi creberrimè striatá; labro subreflexo.*

Var. A. *Albido-flavescentis; anfractu penultimo et ultimo purpureo-brunneo suturam juxta supernè vittata; strigá basali ad columellam approximante purpureo-nigrá.*

Long. $1\frac{1}{8}$. Lat. $\frac{6}{8}$ poll. circ.

Var. B. *Gracilior, alba, strigá basali subpurpureá.*

Var. C. *Tota alba.*

Legit H. Cuming in insula Luçon.

Var. A. was taken at Lual, in the province of Pangusinan, on leaves of bushes; the other two varieties at Catananan, in the province of Tayabas, on leaves of trees.—W.J.B.

BULINUS VELATUS. *Bul. testá subpupiformi, anfractibus 5, ultimo ceteros aequante flavescente ad suturas rubro-brunneo vittatá, anfractu basali fasciá obscurá subcentrali cincto, epidermide albente meatibus plená, velatá; strigá basali et labii vix reflexi limbo rubro-brunneis; aperturá albá.*

Long. $1\frac{7}{10}$. Lat. $\frac{9}{10}$ poll. circ.

Hab. in insula Camote.

Legit H. Cuming in sylvis, foliis arborum adhærentem.

In a great number of the beautiful land-shells collected by Mr. Cuming, and herein-before described, the pattern, upon immersion in water or other fluid, becomes entirely obliterated till evaporation restores the colours to all their pristine brilliancy. In the species now before us, the very reverse is the result of immersion. The external whitish porous epidermis which veils the shell when dry, suffers the bright colours to shine out when immersed in water. *Bul. velatus* is described above, as it appears on immersion, and before it becomes dry: but in the latter state the beauties of the shell are shrouded, and the colour of the sutural bands, peeping out between interstices in the epidermis, gives to these bands a moniform appearance.

I sent to Sir David Brewster, as the highest authority on such subjects, four or five species of those land shells from which the pattern disappears upon immersion; but I have not as yet forwarded to him any upon which the colours come out when so treated. Sir David has been so obliging as to send me the following letter, which I now lay before the Society:—

“ Dear Sir,—I beg to return you my best thanks for the very interesting specimens of land-shells from the Philippine Islands, which you have been so kind as to send me. The disappearance of the white pattern by immersion in water or any other evaporable fluid, and its subsequent reappearance when the shell is dry, are phenomena perfectly analogous to those of *hydrophanous opal*, *tabasheer*, and other porous substances.

“ The phenomenon in the land-shells is still more beautiful when we examine them by *transmitted* light. The pattern which is *white* by *reflected* light, is *dark* by *transmitted* light, and *vice versa*. This is particularly beautiful in the *Helix pulcherrima*, where the ground of the *white* pattern is almost *black* by reflected light, and of a light *reddish* colour by transmitted light, the pattern which is *white* by reflection, having a *dark red* colour by transmitted light.

“ In all these shells, the difference of structure by which the pattern is produced, does not exist in the shell, but in the *epidermis*, and hence the pattern may be wholly obliterated by removing the epidermis. It appears to me, from very careful observations, that the epidermis consists of two layers, and that it is only the upper layer which is porous wherever the pattern is white. These *white* or porous portions of the epidermis differ from the other parts of the upper layer only in having been deprived of, or in never having possessed, the element which gives transparency to the membrane, in the same manner as hydrophanous opal has become *white*, from the expulsion of its water of crystallization.

“ When the shell is immersed in water or any other fluid, the fluid enters the pores of the white epidermis, and having nearly the same refractive power as the epidermis, no light is reflected at the separating surface of the water and the pores which contain it, so that the light passes through the membrane, which thus loses its white appearance. When the water escapes from the pores by evaporation, or is driven from them by heat, the membrane again reflects white light from the numerous surfaces of its pores.

“ As the colouring matter resides in the shell itself, its peculiar colour is seen through the epidermis as distinctly where it is porous, as where it is not porous, when the porous portion has been rendered transparent by the absorption of a fluid.

“ If we apply oil or varnish to the white pattern, we may obliterate it permanently, or we may change it into a pattern entirely different from the original one.

“ If these observations appear to you to have any interest, you are welcome to make any use of them you please.

“ I am, dear Sir, ever most faithfully yours,

“ D. BREWSTER.”

It will be observed, that Sir David Brewster points out how the application of oil or varnish to the white pattern may obliterate it permanently; such a case has already happened more than once: persons who have become possessed of some of the species whose patterns are lost on immersion, not content with their natural beauties, and unaware of their peculiarity, have had recourse to art,

and by applying oil or varnish, have spoiled their specimens,—a proper punishment for trying to mend nature.

The second paper is by G. B. Sowerby, Esq.

Helix metaformis. De F. var.

It seems proper to notice the following additional varieties of this species, varieties which have been found by Mr. Cuming in the Philippine Islands, viz.—

a. Shell pale yellow brown, irregularly covered with a very pale hydrophanous epidermis; circumference of the columella nearly black; one pale brown band anterior to the circumference of the shell; apex white. Found on leaves of trees near Manilla.

b. Shell pale yellow brown; apex white; circumference of the columella nearly black; a pale brown band close behind the suture of the first volutions. Found on leaves of trees near Manilla.

c. Shell light brown, paler near the apex, which is reddish brown; circumference of the columella nearly black; two narrow brown bands, one of which is placed at the circumference of the shell, and the other close to the suture in front. Found on leaves of trees near Manilla.

d. Shell light brown, with a dull hydrophanous epidermis, paler toward the apex, which is dark mahogany brown; circumference of the columella nearly black; two broad, very dark brown bands, one of which is placed at the circumference of the shell, the other close to the suture in front. Found on leaves of trees at San Mateo, in the province of Tondo, isle of Luçon.

e. Shell brown, with a lighter coloured irregular hydrophanous epidermis; paler near the apex, which is dark brown; circumference of the columella very dark brown; two brown bands nearly similar to those in var. c. This is rather a coarse variety, and appears to be a slight example of monstrous growth, its spire being rather unusually elevated, and the volutions consequently more prominent. Found on leaves of trees near Dolores, province of Pampanga, isle of Luçon.

HELIX CINCINNIFORMIS. *Hel. testá ovato-oblongá, pyramidali, tenui, lavigatá, striis incrementi tenuissimis solùm insculptá, apice spiræ obtuso; anfractibus quinque tenuitèr rotundatis; suturá distinctá; aperturá obtusè subtrapezoidali, posticè acuminatá; peritremate tenuitèr reflexo, albo; columellá rectiusculá, subincrassatá, albá.*

Long. 1·8; lat. 1·2 poll.

Hab. Supra folia arborum ad insulam Luban, Philippinarum.

Mr. Cuming has obtained three varieties of this species, viz. :—

a. Colourless.

b. White, a broad nearly black belt surrounding the columella, a pale reddish brown band at the circumference of the shell, and a darker brown antesutural band articulated with white hydrophanous specks of epidermis; apex dark brown.

c. Shell white, with a broad nearly black belt surrounding the columella, a spiral dark brown band in the centre of the last volu-

tion and continuing to the apex, and an antesutural dark brown band, articulated with whitish specks of hydrophanous epidermis.

HELIX LEUCOPHÆA. *Hel. testá ovato-oblongá, subpyramidali, crassiusculá, levi, obscurá, brunneá; epidermide hydrophaná pallescente indutá; apice obtuso; anfractibus senis, subrotundatis; aperturá rctundato-subtrapeziformi, posticè acuminatá, labio externo crasso, reflexo, albo, margine fusco; columellá subincrassatá, rectiusculá albá, anticè subsinuatá.*

Long. 2; lat. 1·2 poll.

Hab. Supra folia arborum ad montes Igorrotes insulæ Luçon, Philippinarum.

This species has occurred in several localities, and there are several varieties, all remarkable for a more or less russet brown hydrophanous epidermis. They are

a. Shell of a nearly uniform colour, rather lighter near the suture, and very irregularly speckled with dark brown shining spots, caused by the partial abrasion of the epidermis. From the mountains of the Igorrotes, in the northern part of the island of Luçon.

b. Shell of an uniform brown, with a nearly white sutural band interrupted with brown shining spots. From the same locality.

c. Shell of a light brown colour, with a dark band surrounding the last volution. Found on leaves of trees at Sual, in the province of Pangusinan, island of Luçon.

d. Shell of an uniform light brown, speckled with dark brown, and with a dark brown antecircumferential band. Found on leaves of trees at Dolores, in the province of Pampanga, isle of Luçon.

e. Shell small, of an uniform brown, with a nearly white antesutural band, and a pale band near the circumference of the last volution. From the mountains of the Igorrotes.

f. Shell brown, longitudinally streaked with nearly white, and having a nearly white antecircumferential band. Found on leaves of trees at Gattananga, in the province of Cagayan, island of Luçon.

g. Shell of an uniform dark brown. This appears to be a dwarf variety, being much shorter in its proportions than the others. Length 1·5; breadth 1·05 of an inch. Found on leaves of trees at Sinait, in the province of South Ilocos, in the island of Luçon.

February 23, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from Capt. Belcher, R.N., dated Sincapore, October 22, 1840, was read. It announces that Capt. Belcher had forwarded for the Society's Menagerie a specimen of the Babyroussa Hog, from the Moluccas.

Mr. G. B. Sowerby's descriptions of the shells collected by H. Cuming, Esq. were continued.

HELIX COLUMBARIA. *Hel. testá suborbiculari, rotundato depressá, læviusculá, fulvescente, brunneo-variè-zonatá, sæpius propè suturam albido tessellatá; spirá brevi, obtusá; anfractibus quinís plùs minùsve rotundatis; peripheriá rotundatá; aperturá transversá subauriformi; peritremate incrassato, continuo, reflexo, subsinuoso, intùs anticè nonnunquam unidentato; dente obtuso; umbilico parvo, partim obtecto.*

Long. 0·73; lat. 1·4 poll.

Obs. *Testá pone aperturam sæpius coarctatá.*

Hab. Sub lapidibus et ligno putrescente apud Calauan, provinciæ Laguna, insulæ Luçon, Philippinarum.

The following varieties of this interesting and elegant species have occurred to Mr. Cuming:—

a. Shell somewhat striated, striæ forming the lines of growth, many of those on the under side white, pale brown with brown bands (one at the periphery, one close to the suture, and one beneath). Distant, squarish, striated patches of white epidermis ornament the broad band in front of the suture: aperture white: found at Calauan.

b. Shell slightly striated, striæ as in the last, forming the lines of growth; ground colour pale yellowish brown, with a rather darker brown band close in front of the suture, a narrow brown band at the periphery, and a broad one beneath, where this variety is also ornamented with brownish white mottlings: peritreme white, with a single white tooth within at the lower part. From Calauan.

c. Pale brown, darker, and articulated with brownish white patches in front of the suture; a narrow brown band at the periphery, where it is mottled with brownish white; peritreme flesh-colour, with a single white tooth within at the lower part. From Albay.

d. Light brown, having a brown antesutural band, articulated with brownish white, a brown band at the circumference and a broad brown band beneath; and brownish white mottlings spread over both these last-mentioned bands; peritreme as in the last. Found at Albay.

HELIX CONCINNA. *Hel. testá oblongo-pyramidali, tenui, lævigatá, epidermide fuscá albido-marmoratá indutá; spiræ apice obtuso; anfractibus senis, planulatis; suturá distinctá; aperturá rotundato-subtrapeziformi; labio externo incrassato, tenuiter reflexo, fusco; columellá albá, subincrassatá, anticè subsinuatá.*

Long. 1·3; lat. 0·75.

Hab. Supra folia arborum ad Sanctam Jaun, provinciæ Cagayan Insulæ Luçon, Philippinarum.

The ground colour of this very elegant little shell is of a dark chestnut-brown, and this is covered all over, except a small portion about the aperture, with an hydrophanous epidermis of various shades of brown, beautifully marbled with white and brownish white. Near the apex the shell is lighter coloured, but the apex itself is darkish brown.

HELIX CURTA. *Hel. testá subovatá, pyramidali, tenuiusculá, lævigatá, epidermide superne pallescente, subtùs fuscá indutá; spiræ apice obtuso; anfractibus subsenis, rotundatiusculis; suturá distinctá; aperturá sublunari, ad latus columellæ sinuatá; labio externo reflexo, latiusculo, albo; columellá obliquá, latá, anticè obliquè truncatá, albá.*

Long. 1·2; lat. 0·9 poll.

Hab. Supra folia arborum apud Bauang, provinciæ Pangusinan insulæ Luçon, Philippinarum.

The shell itself is of a pale yellow-brown colour, lighter at the third volution, where it begins to put on a pale tint of chestnut-brown, which becomes darker as it approaches the apex, which is brown.

HELIX MERETRIX. *Hel. testá suborbiculari, rotundato-depressá, crassiusculá, lævi, fulvescente, brunneo-varie-zonatá, albidoque marmoratá; spirá brevi, obtusá; anfractibus quinis, subrotundatis; peripheriá rotundatá; aperturá transversá, subauriformi; peritremate incrassato, continuo, reflexo, subsinuoso; umbilico mediocri, partim obtecto.*

Long. 0·65; lat. 1·4 poll.

Hab. Supra truncos arborum apud Sual, provinciæ Pangusinan, insulæ Luçon, Philippinarum.

Shell with a low, depressed spire, of a yellow-brown colour, with three very dark brown, nearly black bands (one at the periphery, one before, and one behind it); aperture posteriorly subsinuated, white; upper part of the shell with irregular radiating, broadish white streaks.

March 9, 1841.

James Wishaw, Esq., in the Chair.

A paper by Dr. Richardson, on some new or little known fishes from the Australian seas, was read. The following is an abstract of this paper.

1. CHEILODACTYLUS GIBBOSUS, formâ *Cheilodactyli zonati*, (*h. e. capite brevi, ore parvulo, dentibus brevibus setaceis; dorso gibbo, spinâ quartâ longissimâ;*) radiis pinne dorsalis articulatis radios spinosos numero plus duplo excedentibus.

RADII. P. 8·VI; D. 17·36; V. 1·5; A. 3·8; C.

This species differs from the ordinary *Cheilodactyli*, and agrees with the Japanese species discovered by the naturalists who accompanied Admiral Krusenstern, in the body being very high in the pectoral region, and tapering away in a lengthened manner posteriorly; in the abruptly and steeply arched form of the spinous dorsal anteriorly, the smallness of the mouth, the slender teeth, and in horn-like protuberances on the fore-part of the orbit, and also on the tip of the snout, the latter formed by the projecting shoulders of the maxillary bones. The Japanese species named *zonatus* in the 'Hist. des Poissons,' has only twenty-nine articulated rays in the dorsal, and differs in the distribution of its dark bands of colour, which in *gibbosus* run as follows:—one obliquely backwards over the eye and operculum, another over the nape and tip of the gill-flap, meeting the former at the base of the pectoral; a third takes in the first three short dorsal spines, and tapers away on the side under the middle of the pectoral; while a fourth proceeding from a black patch which occupies the fifth and seven following spines, and keeping parallel to the base of the dorsal, runs along the summit of the back to the tail. In *zonatus* there are seven or eight dark stripes running obliquely backwards. Both species appear to have spots on the tail. The description of *Cheilodactylus gibbosus* is drawn up from two Western Australian specimens brought home by Mr. Gould; and the fish also inhabits the seas of New Zealand, Mr. Gray having recognised a drawing by Parkinson of a specimen which was caught in Endeavour River, on Cook's second voyage, as being a correct representation of this fish. (Vide Banks, Icon. ined. t. 23.) One of Mr. Gould's specimens is deposited in the British Museum, and the other at Haslar Hospital.

2. OSTRACION LENTICULARIS, *inermis, ovali-compressus, dorso ventreeque carinatis.*

RADII. P. 12; D. 10; A. 10; C. 11.

The discovery of this species adds another form to the genus *Ostracion*, the shapes enumerated in the 'Règne Animal' being triangular with or without spines, quadrangular with or without spines,—
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and compressed with a keeled belly and scattered spines. In *lenticularis* we have a compressed form with a keeled back and belly and no spines. The compressed Ostracions with scattered spines have been characterized by Mr. Gray as a subgeneric group, under the name of *Aracana*, and several Van Diemen's Land species were lately described to the Society by the author of the present paper. The *Aracana Reevesii* (Gray) from China differs from the Van Diemen's Land species in having the back slightly keeled, and thus forms a transition to the form of *lenticularis*, in which the sides are convex, the back and belly acute, and the profile elliptical. *Lenticularis*, though unarmed, exhibits an analogy to the armed *Aracanae*, in the umbones of the reticulated surface being largest where the spines would be situated, did they exist. The species is Australian, and the author expresses his obligations to Dr. Andrew Smith, of Fort Pitt, for the loan of two specimens of different ages.

3. ANGUILLA AUSTRALIS. Van Diemen's Land Eel.

ANGUILLA AUSTRALIS, *maxillâ inferiore longiore, pinnâ dorsi supra anum incipienti, rictu magno.*

This is a Port Arthur freshwater species, for which the author expresses himself indebted to Mr. Lemprière. It differs from the common freshwater eels of Europe in the more posterior origin of the dorsal, as well as in the more anterior position of the vent. The pectorals are lanceolate, the vertical fins are but moderately high, and the gape extends to the posterior margin of the orbit.

4. NARCINE TASMANIENSIS, dorso dipterygio, corpore latè obovato; valvulâ nasali obtusè trilobatâ integerrimâ; pinnâ ventrali disco pectorali approximâtâ.

The author having but recently had an opportunity of consulting Henle's Monograph of the genus *Narcine*, takes this opportunity of supplying a specific character of the Van Diemen's Land species, which was formerly described to the Society (Zool. Proceed. for March 1840, p. 29), but which could not be distinctively characterized from his want of knowledge of the other species.

A paper by W. J. Broderip, Esq., in which the author proceeds with his descriptions of Mr. Cuming's shells, was next read.

HELIX CRYPTICA. *Hel. testâ tumidâ, subumbilicatâ, subglobosâ, anfractibus 3 subcorrugatis (ultimo longè maximo, obscurè fasciato), lineis incrementi creberrimè obliquè substriatis, purpureo-brunneâ, epidermide sordidè brunneâ; aperturâ subelongato-auriculiformi, intus subargenteo-carulescente, subiridescente; labiî limbo rubro-brunneo, haud patulo, reflexo.*

Long. $1\frac{6}{8}$; lat. $2\frac{1}{2}$ poll.

Hab. ad Catbalonga Insulæ Samar sub foliis desiccatis.

Mr. Cuming found this *Helix* hidden under the decayed leaves of trees. The inside of the mouth has that silvery iridescence which may be observed in the tendon of a muscle in some of the mammiferous animals, and through it may be seen the purple-brown colour of the shell, which thus puts on a subcærulescent appearance.

HELIX LATITANS? *Hel. testâ subtumidâ, subcomplanatâ, purpureo-rubrá, anfractibus 3 lineis incrementi creberrimè striatis (ultimo longissimè maximo), epidermide sordidè albente; aperturâ maximâ e brunneo subalbido-iridescente, labio patulo, reflexo, rubente, albedo internè limbato.*

Long. $1\frac{2}{8}$; lat. $2\frac{2}{8}$ poll.

Hab. ad Gindulnan Insulæ Bohol sub foliis desiccatis.

At first sight, this *Helix*, which was also found by Mr. Cuming under decayed leaves, looks a good deal like *H. cryptica*; but on a nearer inspection not only will a difference in form almost indescribable be observed, but also in the texture of the shell, which is without corrugations. The mouth too is much wider and broader, and the reflected lip much more patulous. The silvery iridescence of the mouth extends but a short distance within the aperture, but the polish is continued far in. Still it may only be a variety of *H. cryptica*.

HELIX CRETATA. *Hel. testâ subglobosâ, tumidâ, anfractibus 3 (ultimo longè maximo, fasciis et lineis nigricantibus cincto), lineis incrementi creberrimè obliquè striatis et lineis elevatis cinctis, brunneo-nigricante, epidermide cretaceâ; aperturâ argenteo-subcæruleâ, labii limbo obscurè rubente.*

Hab. ad Tannaun Insulæ Leyte foliis arborum hærens.

Mr. Cuming has shown me a young shell which he brought from the mountains of Tanhay in the Isle of Negros, where it was taken on the leaves of trees. I thought at first that it might be the young of *Helix Harfordii*, but the sculpture of the shell and the quality of the epidermis correspond so closely with those of the adult shell just described, that though there is some difficulty arising from the capture of the two shells in different islands, I am inclined to be of opinion that it is probably the young of *Helix cretata*.

HELIX PAN. *Hel. testâ globosâ, subelevatâ, umbilicatâ, zonatâ, anfractibus 4 (ultimo maximo) lineis incrementi minutissimè obliquè striatis; columellâ albidâ, aperturâ subrotundâ, cæruleo-albente, labii limbo angusto, subreflexo.*

Long. $1\frac{2}{8}$; lat. $1\frac{2}{8}$, variat ad infinitum.

Var. *a.* Albens brunneo et nigro pulcherrimè fasciata.

Of the whitish class of variety (*a*) there are variations without end, according as the bands are more or less present or absent. In some the whitish epidermis is only relieved by a brown sutural line and a deep submedial band on the body-whorl, which is more or less interrupted and ribanded with white and light brown towards the base.

Var. *b.* Brunnea albido et nigricante concinnè fasciata.

The same may be said of this section, which varies as much as var. *a.* This imperfect description was drawn from six of each class; but at least treble the number of each would be requisite to give a correct idea of the infinite variations of this beautiful species.

March 23, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A collection of birds from Newfoundland, presented by E. Moore, Esq., was exhibited: it consists of specimens, in different states of plumage, of the Willow Ptarmigan (*Tetrao Saliceti*), a specimen of the Pin-tailed Duck (*Dafila caudacuta*), the American Teal (*Querquedula Americana*), and the Black-backed Gull (*Larus marinus*). The collection also contains a fœtal Esquimaux preserved in spirit.

A paper by G. B. Sowerby, Esq., was read, in which the author proceeds with his descriptions of the new species of shells collected by H. Cuming, Esq., in the Philippine Islands. The following species were described and exhibited:—

HELIX MATRUELIS. *Hel. testâ depressiusculo-subgloboâ, tenuiusculâ, laevi, castaneâ, epidermide opacâ, pallescente, hydrophanâ indutâ; spirâ subdepressâ, anfractibus quatuor subrotundatis, ultimo maximo, ventricoso; suturâ distinctâ; aperturâ subtrapezoidali, extûs rotundatâ, intûs sinum propè columellam efformante, labio externo reflexo rotundato, fusco; columellâ latiusculâ, declivi, anticè obliquè subtruncatâ.*

Long. 1·1; lat. 1·6 poll.

Hab. supra folia arborum propè Cagayan, Provinciæ Misamis, Insulæ Mindanao, Philippinarum.

Obs. Variat interdùm spirâ minus depressâ.

Of this species there are two varieties in form and several in colouring. The variety with a rather more than usually elevated spire very closely resembles some of the varieties of *Helix Roissyana*; still it may be distinguished from that species by the much greater declivity of the columella, and its broader and less rounded outer lip. In the general arrangement of the colouring all the varieties are somewhat similar, particularly in the dark chestnut colour of the apex, which is continuous down the anterior part of the following volutions; the upper part of the second and third volutions are lighter; the columella is dark brown, and there is always a very light band surrounding it, which when covered with its epidermis is light yellow-brown, but when deprived of it is white; this is surrounded by a very dark brown band. The following are the varieties in colour, viz.

a. Shell with a dark brown band at the periphery and another antesutural dark brown band; epidermis with a very pale band at the circumference.

b. Shell coloured precisely like *a.*: epidermis with a very dark band at the circumference.

c. Shell with the spire more elevated; last volutions very dark brown, with a white antesutural and another white band at the circumference.

HELIX SETIGER. *Hel. testá suborbiculari, tenui, brunneá, spirá levatiusculá, anfractibus senis, rotundatis, angustioribus; aperturá semilunari, labio externo, tenuissimo; epidermide setigerá, setis regulariter coordinatis.*

Long. 1"; lat. 1·2 poll.

Hab. in ligno putrido propè St. Jaun, Provinciæ Cagayan, Insulæ Luçon.

Shell dark brown, with a yellowish band in front of the periphery, and a broad band of the same surrounding the columella, which is small and white and deeply placed.

HELIX VELUTINA. *Hel. testá suborbiculari, subdepressá, tenui, pallidè brunneá, epidermide velutino indutá, anticè lævi, nitidá; spirá depressá, anfractibus quinque, rotundatis; aperturá semilunari, posticè rotundato-subtruncatá; labio externo tenui; columellá parvá, profundá.*

Long. 0·7; lat. 1·2 poll.

Hab. in arboribus putridis ad Insulam Guimaras, Philippinarum.

Close-set short hairs, covering the whole of the upper part of the shell and part of the lower, give it a velvety appearance and softness. Two varieties of this species have occurred, one of smaller size and paler colour at the Isle of Negros, and the other like the last with two brown bands at Mount Isarog.

HELIX BREVIDENS. *Hel. testá suborbiculari, subdepressá, tenuiusculá, pallidè brunneá, lined brunneá supernè circumdatá; spirá subplanulatá, anfractibus quatuor, supernè subplanulatis, ad peripheriam rotundato-subangulatis, infrá rotundatis; aperturá semilunari, posticè depressá, labio externo albo, rotundato-reflexo, anticè, propè columellam unidentato, dente brevi, obtuso, albo; umbilico parvo, labio columellari partim obfecto.*

Long. 0·5; lat. 0·8 poll.

Hab. at Puerto-Galero.

The epidermis of this species has numerous close-set, very short hairs, which renders it rather rough to the touch.

HELIX GUMMATA. *Hel. testá suborbiculari, conico-subdepressá, crassiusculá, supernè decussatim striatá, infrá lævi, nitidá, striis incrementi solùm insculptá; spirá conico-subdepressá, anfractibus senis, rotundatis, angustioribus, epidermide corneo, nitido, supernè indutis; aperturá semilunari, labio externo tenui, propè columellam subincrassato; columellá profundá.*

Long. 0·8; lat. 1·3 poll.

Hab. in ligno putrido propè Nuevam Insulæ Luçon, Philippinarum.

The upper or posterior part of this shell is covered with a thin horny epidermis, which gives it the appearance of having had a coat of varnish or gum spread over it, whence the name. In colour its upper surface is dark brown, the circumference light yellowish

brown, then a band of the same colour as the upper surface, and then the lower or anterior part is of the same colour as the circumference. A variety occurs which is smaller and darker coloured, at the same time its brown band in front of the circumference is much broader.

HELIX SPHÆRICA. *Hel. testâ spheroidali, crassiusculâ, flavâ, lineâ spirali nigro-fuscescente circumdatâ; haud nitente, spirâ obtusâ, anfractibus quatuor ventricosis, ultimo maximo; aperturâ subcirculari, labio externo crasso, reflexo, albo, margine nigro; columellâ latâ, crassâ, albâ margine nigricante.*

Long. 0·9; lat. 1·0 poll.

Hab. supra folia arborum propè St. Esteven Provinciæ Ilocos meridionalis Insulæ Luçon, Philippinarum.

Five varieties of this very brilliant species have occurred to Mr. Cuming; viz.

a. Bright yellow with a narrow white band close to the suture in front.

b. Pale brownish yellow: in other respects the same as *a.*

c. Bright yellow with a narrow white band close to the suture in front and a broad brown band at the circumference.

d. Same as *a.*, only having in addition pale brown irregular longitudinal stripes on the last volution.

e. Same as *a.*, only having in addition bright brown irregular longitudinal stripes on the last volution; found on the leaves of the Pandanus in the mountains of the Igorro in the north part of Luçon.

HELIX (CAROCOLLA) SEMIGRANOSA. *Hel. testâ suborbiculari conico-subdepressâ, supernè granulosa, subtùs lævi, nitidâ; spirâ conico-subdepressâ, anfractibus senis, rotundatis, ad marginem carinatis; labio externo tenui, acuto, propè columellam crassiusculo; umbilico minimo.*

Hab. ad Insulam Luban dictam, Philippinarum.

The margin of the last volution immediately in front of the keel is slightly crenulated, and of a dark brown colour: the remainder of the shell is of an uniform yellow-brown colour.

April 13, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

The following paper, on some new genera of Birds, by Hugh E. Strickland, Esq., was read.

“It is not without some unwillingness that I venture to point out some new generic groups of birds, because I am of opinion that the process of naming and defining new genera has been in many cases carried too far already. The class of birds probably does not contain more than 6000 species, and these have already been distributed into upwards of 1000 genera, and I think therefore there can be no doubt that systematic ornithologists are now fast approaching the point beyond which it will not be expedient to carry the subdivision of the older groups into new genera. For we must not lose sight of the fact, that expediency or practical convenience *does* form an element in the construction even of a natural system. In such a system the *materials* which constitute any group must be naturally allied, and they must be placed in such *order* as will best show their natural affinities, and yet the number of nominal genera into which such a group is to be divided may be a question of mere expediency. For the *species*, which are the only *real* ingredients in a family or subfamily, often pass from one form of structure to another without any hiatus, so that it becomes a mere matter of opinion whether the so-called genera into which they are to be classed shall be many or few. Nature draws no line by which the rank or extent of genera can be determined. As a general rule, varieties of *form* are considered to constitute genera, and varieties of colour, species; but this criterion is far from infallible, for we very rarely find two species, however closely allied, possessing precisely the same form and proportions, so that if every difference of structure be held to be generic, we shall end in having as many genera as there are species. Take, for instance, the two very natural groups *Corvus* and *Parus*, as now restricted; it will be found on examination that there are marked differences of both structure and habits which characterize almost every one of the species. It is plain then that we have in general no other guide in the definition of new genera than a mere *opinion* as to the amount of structural variation which is considered to authorize their adoption, and I think there can be no doubt that in many of the genera recently established in ornithology, the standard has been reduced too low; in other words, these genera are based on diversities of structure of so little value as to be practically inconvenient. All genera profess to be of equal rank, and we should therefore aim at making them as nearly so as possible, and at the same time not inconveniently numerous.

“ Granting, however, that many of the existing genera of birds are based on insufficient characters, and may require to be reincorporated with the groups from which they have been divided, it is equally certain that other groups exist in our cabinets, whose characters, as yet undefined, are so marked, as to demand in fairness, and with the view of producing equality of rank, to be defined and named as genera. A few of these groups I now bring forward, illustrated by specimens from my own cabinet, and the meeting will be able to judge how far the structures here exhibited appear to authorize generic distinction.

“ I also take this opportunity of exhibiting a specimen of that rare bird the *Glyphorhynchus cuneatus* (Licht.), afterwards named *Xenophasia platyrhyncha* by Mr. Swainson. This bird has the tail of *Dendrocolaptes* and the general form of *Xenops*, while the beak is altogether anomalous, being compressed at the sides and depressed at the apex.”

Fam. SYLVIADÆ.

Subfam. MALURINÆ.

Genus SPHENÆACUS*, n. g.

< *Motacilla*, Gm., < *Malurus*, Sw., < *Sphenura*, Licht.

Diff. Char.—*Beak much compressed; tail cuneate.*

Rostrum mediocre, compressum, ad basin elevatum, culmine subrecto, juxta apicem deorsum, gonyde pariter sursum curvato, tomio maxillari emarginato, commissurâ leviter deflexâ. Nares oblongæ, membranâ suprâ tectæ. Vibrissæ nullæ.

Alæ breves rotundatæ, remigibus 4â, 5â, 6â, 7â, æqualibus, primam duplo excedentibus.

Cauda longiuscula, maximè cuneata, rectricibus strictis, acutis, subdecompositis, intermediis exteriores triplò superantibus.

Pedes fortes, tarsis longiusculis, acrotarsiis scutellatis, paratarsiis integris, digitis lateralibus æqualibus.

Ungues modicè curvati, acuti.

Ptilosis rigida, pennis subdecompositis.

Habitat in Africâ.

Species unica, *S. Africanus* (Gm.), Levaill. Ois. d’Af., pl. 112. f. 2. (*Sphenura tibicen*, Licht.)

Fam. MUSCICAPIDÆ.

Subfam. FLUVICOLINÆ.

Genus COPURUS†, n. g.

< *Platyrhynchus*, Spix, < *Muscipeta*, Cuv.

Diff. Char.—*The two medial rectrices greatly prolonged.*

Rostrum triangulare (desuper spectanti) paulo longius quàm latum,

* Σφήν, a wedge; οἶαξ, a helm.

† Κώπη, an oar; οὐρά, the tail.

modicè depressum. Culmen rotundatus, ad basin lentè, versus apicem citiùs decurvans. Nares ovatæ, patulæ. Tomia maxillaria modicè emarginata. Commissura leniter decurvata, gonyis leniter ascendens. Vibrissæ rictales mediocres.

Alæ longiusculæ, remige primâ breviorè, 2â, 3â, 4â, fere æqualibus.

Cauda mediocris, quadrata, nisi quòd maris rectrices duæ intermediæ graciles spathuliformes reliquas magis duplo excedunt.

Tarsi mediocres, acrotarsiis paratarsiisque scutellatis. Digitus externus interno longior, ad basin paulò cum intermedio coadunatus. Ungues longiusculi, satis curvati, acuti, graciles.

Habitat in Americâ Meridionali.

Species unica, *C. filicaudus* (Spix), Av. Braz. v. 2. pl. 14. (*Muscicapa leucocilla*, Hahn.)

Obs. This bird bears much resemblance to *Pipra* in the colours of its plumage and in the elongate rectrices, as Mr. Swainson has remarked (Classif. Birds, v. ii. p. 90). The depressed beak, however, rounded culmen, shorter tarsus, and slender claws, sufficiently prove its true place to be among the Flycatchers, near *Alectrurus*.

Fam. PIPRIDÆ ?

Subfam. PARDALOTINÆ ?

Genus PRIONOCHILUS*, n. g.

< *Pardalotus*, Temm.

Diff. Char.—*Margins of the beak minutely serrated.*

Rostrum longiusculum, subcompressum, mandibulis subæqualibus; culmine subcarinato, juxta basin recto, deinde usque ad apicem gradatim decurvato; commissurâ modice decurvâtâ; gonyde sursum curvatâ. Maxilla haud emarginata, sed tomia mandibulæ utriusque per medietatem externam minutissimè serrata. Nares oblongæ, membranâ suprâ tectæ.

Alæ mediocres, remige 1â spurîâ, 3â, 4â, et 5â subæqualibus.

Cauda brevis, rectricibus æqualibus.

Pedes subbreves, gressorii, acrotarsiis subscutellatis, paratarsiis integris. Digitus externus interiore longior, ad medium per longitudinis dimidium coadunatus.

Habitant in Malasiâ.

Species: 1. *P. percussus* (Temm.), Pl. Col. 394. f. 2. 2. *P. thoracicus* (Temm.), Pl. Col. 600. f. 1, 2. 3. *P. maculatus* (Temm.), Pl. Col. 600. f. 3.

Obs. The nearest affinity of this group is *Calyptomena*, Raff., to which it approaches in the structure of the beak and feet much more nearly than to *Pardalotus*. The serrations of the *tomia* appear not to have been hitherto noticed.

* Πρίων, a saw; χείλος, a lip.

Fam. LANIADÆ ?

Subfam. ——— ?

Genus ÆTHIOPS*, n. g.

Diff. Char.—*Beak subconical, slightly emarginate, dilated at the base.*

Rostrum subconicum, subelongatum. Maxilla ad basin paulo dilatata, juxta apicem compressa, leviter emarginata, apice paulo deorsum curvato, tomis inflexis. Culmen subcarinatus, gradatim à basi ad apicem decurvatus. Nares ovatæ. Commissura leviter decurvata, gony ascendens.

Alæ mediocres, rotundatæ, remige 1^â spuriâ, 3^â, 4^â, et 5^â subæqualibus.

Cauda breviuscula, rotundata.

Tarsi breves, acrotarsiis scutellatis, paratarsiis integris. Digiti mediocres, medius tarsum æquans, postico longior; externus internum paulo superans. Ungues breviusculi, modicè curvati, ad latera sulcati.

Habitat in Africâ occidentali. Species unica.

ÆTHIOPS CANICAPILLUS. *Æth. vertice, cervice, dorsoque canescente cinereis, verticis lateribus, uropygioque canescente-albidis. Fronte, genis, guld, partibusque inferioribus omnibus nigerrimis. Alæ nigrae, tectricibus minoribus omnibus, majoribusque dorso proximis maculâ subapicali rotundatâ albâ. Cauda unicolor nigra, tectricibus superioribus nigrescente-plumbeis. Rostrum pedesque nigri.*

Long. tot. 5 poll. *Rostrum* ad rictum $7\frac{1}{2}$ lin., ad frontem 6 lin., latum $3\frac{1}{2}$ lin., altum 3 lin. *Ala* 2 poll. 8 lin. Rectrices medii 1 poll. 11 lin., externi 1 poll. 7 lin. *Tarsus* 8 lin. *Digitus* intermedius cum ungue 8 lin., externus 6 lin., internus $5\frac{1}{2}$ lin., posticus 6 lin.

Hab. in insulâ Fernando Po. Mus. meo.

Obs. This singular generic form is very difficult to classify. The beak is somewhat similar in form to that of a Tanager, but its other characters and the African habitat forbid such a collocation. The beak also exhibits some resemblance to that of *Artamus*, but the shortness of the wings makes a marked contrast to that genus.

Fam. FRINGILLIDÆ.

Subfam. TANAGRINÆ.

Genus STEPHANOPHORUS†, n. g.

< *Tanagra*, Tem., < *Pyrrhula*, Vieill.

Diff. Char.—*Beak very short, tumid, of equal height and length.*

Rostrum breve, subconicum, mandibulis subæqualibus, intumidis; culmine gradatim deorsum, gonyde sursum incurvatis; commissurâ subrectâ, leviter deorsum curvatâ; maxillâ juxta apicem obsoletissimè emarginatâ. Nares subrotundæ.

* *Διθιοψ*, a negro, in reference to the colour and habitat.

† *Στέφανος*, a crown; *φέρω*, to bear.

Alæ mediocres, rotundatæ, remigibus 3^â, 4^â (hâc longissimâ) et 5^{tâ} ferè æqualibus.

Cauda mediocris, retriçibus subæqualibus.

Pedes mediocres, acrotarsiis scutellatis, paratarsiis integris. *Digitus* externus interiorem paulo excedens. *Ungues* mediocres, leviter curvati.

Ptilosis cærulescens, nitore sericeo. Vertex colore igneo insignis.

Habitat in Americâ meridionali.

Species unica, *S. cæruleus* (Vieill.), (*T. diadema*, Temm.), Pl. Col. 243.

Obs. The beak is more tumid and the under mandible more developed in this well-marked type than in any other of the *Tanagrinae*, and it has hence been referred to the genus *Pyrrhula*. The marginal notch, however, together with the blue and silky plumage, and the geographical distribution, sufficiently prove the true place of this bird to be among the Tanagers, and in the vicinity of *Tanagra*, Lin. (restr.), and *Calospiza*, Gray (*Aglaia*, Sw.).

Fam. PICIDÆ.

Subfam. CELEINÆ.

The genus *Brachylophus*, as defined by Mr. Swainson, includes three very distinct groups: first, the Green Woodpeckers, which had previously been named *Gecinus* by Boié; secondly, the crimson-winged species, *miniatus*, *puniceus*, and *mentalis*, to which I propose to restrict Swainson's name *Brachylophus*; and thirdly, the short-thumbed Woodpeckers, which are here characterized.

GENUS BRACHYPTERNUS*, n. g.

< *Picus*, Linn., < *Brachylophus*, Sw.

Diff. Char.—*Hind toe and claw very short, almost obsolete.*

Rostrum longitudine caput æquans, apice obtusè securiformi, culmine paulatim decurvato, acie laterali nullâ, commissurâ rectissimâ, gonyde paulo ascendente.

Alæ mediocres, remige 1^â subspuriâ, 4^â, 5^â (hâc omnium longissimâ) et 6^â subæqualibus.

Cauda mediocris.

Tarsus mediocris. *Digitus* intermedius ac versatilis tarsum æquiparantes, posticus cum ungue brevissimus, propemodum obsoletus.

Ptilosis: dorsum alæque aurantia aut rubra, facies et partes inferiores albedo nigroque variegatæ.

Habitant in Indiâ, Malasiâ.

Species: 1. *B. aurantius* (Linn.), (*P. bengalensis*, Gm.; *P. nuchalis*, Wagl.; *B. hemipodius*, Sw.). 2. *B. goensis* (Gm.), (*P. peralaimus*, Wagl.). 3. *B. philippinarum* (Lath.), (*B. palalacca*, Wagl.). 4. *B. hamatrimon* (Wagl.). 5. *B. erythronotus* (Vieill.), (*P. neglectus*, Wagl.).

* Βραχὺς, short; πτέρυγα, a heel.

Fam. CHARADRIADÆ.

Subfam. CHARADRIANÆ.

The group of Plovers affords an instance in addition to those furnished by the genera *Ceyx*, *Alcyon*, *Jacamaralcyon*, *Tiga*, *Tridactylia*, *Halodroma*, and others, that the presence or absence of the hind-toe in birds becomes, under certain circumstances, a character of very small value in the natural arrangement. The fact seems to be, that when in any group the hind-toe becomes so slightly developed as to be unable to perform those functions of prehension or of progression which are its usual duties, the transition from the abortive state of this organ to its total disappearance becomes very unimportant. In the group of the Plovers too much weight has hitherto been attached to the presence or absence of the hind-toe; it has been made the groundwork of divisions into families and subfamilies, whereas the utmost value that can justly be assigned to it amounts only to that of a generic character. This is proved by the fact that the absence of the hind-toe is not coincident with the other and more extensive changes of structure in the group, so that it becomes indicative of analogy rather than of affinity, as the following table of the genera of *Charadrianae* will show:—

- A. Acrotarsia reticulate, wings pointed, plumage spotted.
 Three-toed *Charadrius*.
 Four-toed *Squatarola*.
- B. Acrotarsia reticulate, wings pointed, plumage black, white, and grey, in large masses.
 Three-toed *Eudromias*. *Hiaticula*.
- C. Acrotarsia scutate, wings rounded, plumage black, white, and grey, in large masses.

I. Face unwattled.

- | | | |
|---|---|---|
| Three-toed . . <i>Philomachus</i> , Mœhr.
(<i>Hoplopterus</i> , Bon.) | } | a. wing-spine short,
<i>P. coronatus</i> (Gm.).
b. wing-spine long,
<i>P. spinosus</i> (Linn.). |
| Four-toed . . <i>Vanellus</i> , Temm. | } | a. wing-spine short,
<i>V. cristatus</i> (Linn.).
b. wing-spine long,
<i>V. cayennensis</i> (Gm.). |

II. Face wattled.

- Three-toed *Sarciophorus*, mihi.
 Four-toed *Lobivanellus*, mihi.

The last two groups which have hitherto been united, the one with *Charadrius*, the other with *Vanellus*, are now for the first time defined.

Genus SARCIOPHORUS*, n. g.

< *Charadrius*, Gm.

Diff. Char.—*Three-toed, lores wattled.*

* *Σαρκίον*, a caruncle; *φέρω*, to bear.

Rostrum ut in Charadriis.

Membrana loris affixa, nuda, erecta, in anticum protensa.

Alæ elongatæ, caudam vix superantes, remigibus tribus primariis subæqualibus. Spina pollicaris brevis, obtusa.

Cauda modicæ longitudinis, rectricibus æqualibus.

Pedes elongati, graciles, tridactyli, acrotarsiis scutellatis.

Habitant in Africâ, Asiâ, Australiâ.

Species: 1. *S. pileatus* (Gm.), Pl. Enl. 834. 2. *S. tricolor* (Vieill.), (*Charadrius pectoralis*, Wagl.). 3. *S. bilobus* (Gm.), Pl. Enl. 880.

Genus LOBIVANELLUS*, n. g.

< *Parra*, Gm., < *Tringa*, Lath., < *Charadrius*, Wagl., < *Vanellus*, Cuv.

Diff. Char.—*Four-toed, lores wattled.*

Rostrum ut in Charadriis.

Membrana loris affixa, nuda, erecta, in anticum protensa.

Alæ elongatæ, caudam vix superantes, remigibus tribus primariis subæqualibus. Spina pollicaris valida, acuta. *Cauda* modicæ longitudinis, rectricibus æqualibus.

Pedes elongati, graciles, tetradactyli, acrotarsiis scutellatis.

Habitant in Africâ, Asiâ, Australiâ (Americâ?).

Species: 1. *L. goensis* (Gm.), Pl. Enl. 807. 2. *L. gallinaceus* (Wagl.), Jard. Ill. Orn. ser. 1. pl. 84. 3. *L. ludovicianus* (Gm.), Pl. Enl. 835. 4. *L. senegalus* (Linn.), Pl. Enl. 362. 5. *L. albicapillus* (Vieill.), Sw. W. Af. v. ii. pl. 27. 6. *L. tricolor* (Horsf.), (*Ch. macropterus*, Wagl.). 7. *L. dominica* (Gm.), (*Ch. brissonii*, Wagl.). 8. *L. albiceps* (Gould), Proc. Zool. Soc. pt. ii. p. 45. 9. *L. cucullatus*, (Temm.), Pl. Col. 505.

The Secretary called the attention of the members to a new species of Monkey, allied to the green *Cercopithecus*, living at the Society's Menagerie.

The Monkeys allied to *Cercopithecus sabæus*, observes Mr. Ogilby, are now so numerous, that they may be considered to form a subgenus of themselves, at least for all the practical purposes of descriptive zoology. Four species have been already distinguished by M. Frederic Cuvier, *C. sabæus*, *faunus*, *griseus*, and *pygarythrus*. Colonel Sykes has described a fifth, *C. albogularis*, though it is certainly less closely allied to the others than they are among themselves; and there is now a fifth living in the Gardens. This species is most nearly related to *C. sabæus* and *pygarythrus*, between which it is intermediate in many of its characters. It may be described as follows:—

CERCOPITHECUS TANTALUS. *Cerc. suprâ saturatè flavo-viridis, in artus cinerescens, subtus stramineus; facie subnigrâ, circa oculos lividâ; auriculis palmisque fuscis; caudâ fuscâ; apice caudæ, mystacibus et perinæo flavis; tænid frontali albâ.*

Head, back and sides a mixture of yellowish brown and green, of

* *Lobus*, a caruncle; *vanellus*, a Lapwing.

the same intense shade as that which prevails on the upper parts of the allied species, *C. sabæus* and *pygarythrus*; outer surface of the limbs of a clearer ashy grey colour; whiskers, throat, breast, belly, and inside of the limbs yellowish white; tail brown at the root, light grey at the tip; backs of the hands and feet light grey; face covered with very short hairs, black on the nose and cheeks, livid flesh-colour round the eyes, and light brown on the lips; eyebrows black, surmounted by a broad white fillet which passes across the forehead; nose very prominent and narrow between the eyes, but flatter and broader towards the extremity; ears and palms of the hands brown; scrotum surrounded by yellowish hairs; size and form of *C. sabæus*, but with a rounder head and shorter face.

The specimen here described was procured at Liverpool, but its previous origin is unknown.

A paper, in which Mr. Broderip proceeds with his descriptions of Mr. Cuming's shells, was next read.

HELIX REEVII. *Hel. testâ ovato-subpyramidalî, anfractibus 5 ventricosis, lineis incrementi creberrimè obliquè striatis, ultimo maximo, cæteris duplè longiori, apice subplano, umbilico vix apparente, columellæ robustæ basi subsinuatâ, labii limbo reflexo, aperturâ cæruleo-albâ.*

Long. 3; lat. $2\frac{3}{4}$ poll.

Var. *a. Rubro-brunnea, epidermide ex albo brunnescente oblecta, fasciis latis nigricantibus insignis.*

Var. *b. Lineis fasciisque nigricantibus numerosis cincta.*

Hab. ad Luchban in Tayabas insulæ Luzon.

Legit H. Cuming in sylvis.

Var. *c. Tota rubro-brunnea anfractu basali nigrescente.*

Hab. ad Tayabas insulæ Luzon.

Legit H. Cuming in sylvis.

This fine *Helix*, named, at the request of Mr. Cuming, after Mr. Reeve, an assiduous collector, was found by the former at the localities above mentioned, adhering to the leaves of trees. The ground-colour is reddish brown, deepening on the body-whorl to rich, dark plum-colour, approaching to black. A brownish white *epidermis* covers the two first varieties, with the exception of certain intervals, through which the ground-colour is exposed in the form of lines and bands. Thus in var. *a.* three small cinctures of brown lines appear towards the upper part, and a broad brown band at the lower part of the fourth whorl. At the upper part of the body-whorl are two hair-like dark lines, and the middle and lower part of it is belted with four bold, broad, nearly black bands. In var. *b.* the body-whorl is belted and filleted with more numerous lines and bands, but none of the latter are so broad as they are in var. *a.* In all the varieties the *peritreme* and reflected lip are of a rich plum-colour, and the inside of the aperture is bluish white. The pattern resides in the *epidermis*, and, when the shell is plunged into water, disappears.

BULINUS ONYX. *Bul. testâ subpupiformi, umbilicatâ, lineis incre-*

menti obliquis creberrimè substriatá, anfractibus 7, ultimo maximo ; anfractibus 4 primis sordidè albis, quinto et sexto castaneis, ultimo supernè castaneo, basi albo, labii reflexi margine lato et columellá nigricantibus, aperturá albá.

Long. $2\frac{1}{2}$; lat. $1\frac{1}{8}$ poll.

Hab. ad Calanang insulæ Luzon.

Legit H. Cuming in sylvis.

The above description is taken from a shell deprived of its *epidermis*, and I have only seen one with the *epidermis* on, and that one is not in good condition. The *epidermis* is dirty white. On the anterior part of the fourth whorl a band of longitudinal brown dashes, occurring at regular intervals, extends far upon the whorl from near the suture. A similar band skirts the anterior part of the body-whorl, which is belted with two whitish bands, the uppermost rather below the middle, and is greenish at the base. Upon plunging the shell into water the upper *epidermis* disappears, and exposes the ground-colour; but the greenish *epidermis* remains unchanged. The aperture of the shell almost looks as if it had been curtailed artificially, so suddenly does it terminate.

BULINUS ALBERTI. *Bul. testá pyramidali, anfractibus sex, lineis incrementi obliquis creberrimè striatá, anfractu ultimo cæteros vix æquante, apice acuto, rubro-brunneo, basi viridi ; columellá subsinuatá et labii reflexi margine nigricantibus ; aperturá albá.*

Long. $2\frac{6}{8}$; lat. $1\frac{6}{8}$ poll.

Var. *a.* *Strigis angulatis albidis et nigricantibus concinnè marmorata ; anfractu basali fasciis 2 subalbidis cincto.*

Hab. ad montem Isarog insulæ Luzon.

Legit H. Cuming in sylvis.

Var. *b.* *Obscurior ; anfractu quinto albido supernè unifasciato, anfractu basali albido trifasciato.*

Hab. ad Calanang insulæ Luzon.

Legit H. Cuming in sylvis.

This species, the most elegant of all the *Bulini* which I have yet seen, is named in honour of His Royal Highness Prince Albert. The form and rich but elegant colouring of the shell combine to make it very beautiful. The pattern, as in the two last species, resides in the *epidermis*, and, when the shell is plunged into water, disappears; but the green at the base remains unchanged, as in the last species.

Mr. Cuming found var. *a.* on the leaves of trees in the woods at the foot of Mount Isarog, in the province of South Camarines, at the south-east end of Luzon. It was very rare, for Mr. Cuming, after a search of many days, could only procure six specimens.

Var. *b.* was found in dense woods, also on the leaves of trees, in the province of the Laguna, at Calanang, in that island.—W. J. B.

April 27, 1841.

William Horton Lloyd, Esq., in the Chair.

The exhibition was resumed of the new species of Shells collected by H. Cuming, Esq. in the Philippine Islands, and the following description of new species, by W. J. Broderip, Esq., were read.

HELIX (CAROCOLLA) REGINÆ. *Car. testá hyaliná, prasiná, lineis incrementi obliquè striatá, lineolis transversis creberrimè decussatá suberectá, anticè compressá; anfractibus 3, ultimo latissimo, acuto, suturam versus concinnè cælato; aperturá infrà angulatá; labii margine subéxpanso, acuto.*

Long. $\frac{4}{8}$; lat. $1\frac{1}{8}$ poll.

Hab. ad Sibongam Insulæ Zebu foliis arborum hærens, rarissima.

Legit H. Cuming in sylvis.

This rare *Carocolla* excels in beauty and delicacy all the land-shells that I have yet seen. Green is by no means a common colour in the testaceous mollusca generally; but in the pulmoniferous testaceans it is comparatively rare, and, in the cases where it occurs, generally resides in the *epidermis*, or forms a part of the pattern. But this elegant species, of a delicate transparent green, somewhat between the colour of an emerald and a chrysoprase, is more like a gem than a shell. It does not lie flat like most of the *Carocollæ*, but when placed with its aperture downwards, stands at a high angle. A light-coloured line marks the suture and the edge of the body-whorl, while the expansion of the lip (which expansion terminates at the angle of the aperture) is of a glassy clearness. On the under part of the shell, especially, the striæ formed by the lines of growth are crossed by other delicate and very frequent transverse lineations.

Var. a. Anfractus basalis angulo brunneo lineatus.

The animal of both varieties is grayish white.

Hab. ad Puerto Galero insulæ Mindoro foliis arborum hærens.

Legit H. Cuming in sylvis.

HELIX (CAROCOLLA) PAPHYRACEA. *Car. testá albo-flavescente, diaphaná, lineis incrementi obliquè creberrimè striatá; columellá crassá, excavatá, latá et elongatá; labii limbo vix expanso.*

Long. $\frac{1}{2}$; lat. 1 poll.

Though this *Carocolla* may at first sight be taken for a variety of *Car. Reginæ*—and such was my original impression—a nearer inspection will detect the distinction between the shells. The spire in *Car. papyracea* is more elevated, and the shell stands at a higher angle; the expansion of the lip is not so wide, and it is not terminated at about half the distance from the outer edge to the columella

(as it is in *Car. Reginae*), but continues until it forms a slight angle below the columella. In *Car. papyracea* the edge of the expanded lip is the lowest part of the shell, whereas in *Car. Reginae* the white continuous edge of the columellar lip is placed above a green portion of the base of the volution, which is prominent below it; the columella is also quite different; and these distinctions cannot be attributed to difference of age, for the most complete specimens of each which have furnished the comparison are full-grown.

Hab. ad Puerto Galero in insulâ Mindoro foliis arborum hærens.
Legit H. Cuming in sylvis.

HELIX (CAROCOLLA) DRYOPE. *Car. testâ subdiaphaná, subpyramidali, lineis incrementi creberrimè striatâ et striis transversis levibus frequentissimè decussatâ; anfractibus 4, ultimo maximo acuto, ex albido virescente; apice, labii limbo, et umbilico nigro-castaneis; aperturâ auriculiformi, intùs iridescente.*

Long. $\frac{5}{8}$; lat. 1 poll.

Hab. ad St. Juan in provinciâ Cagayan insulæ Luzon, foliis arborum hærens.

Legit H. Cuming in sylvis.

The sculpture of this species resembles that of *Car. Reginae*, but there the similitude ends. The termination of the aperture is below the line of the body-whorl. The shell consequently rests more on its base: it is much more opaque than *Car. Reginae*, and has no angle at the aperture, the inside of which has the iridescence of mother of pearl. The sharp edge of the body-whorl is light yellow.

Var. *a. Planior albido- et luteo-virescens; anfractu basali maculis albidis obscuris guttato; basi flavescente; labii limbo ex albido flavescente.*

Hab. ad insulam Bureas, foliis arborum parvorum hærens.

Legit H. Cuming in sylvis.

In this variety, which is much flatter, the sharp edge of the body-whorl is whitish.

HELIX (CAROCOLLA) LISTERI. *Car. testâ complanatâ, umbilicatâ; anfractibus 4, lineis incrementi creberrimè striatis, ultimo maximo acuto; albido-fuscâ maculis brunneis guttatâ, et brunneo uni-fasciatâ; peritremate deorsum flexo auriculari; albido; labii undentati margine acuto, anticè lanceolato.*

Long. $\frac{5}{8}$; lat. $1\frac{7}{8}$ poll.

Hab. ad Albay insulæ Luzon, truncis arborum hærens.

Legit H. Cuming in sylvis.

Mr. Cuming had named this species *Car. Gallina*; but as it is designated as *Car. Listeri* on the boards of the British Museum, and as Lister appears to have been the first who figured it, but apparently from an imperfect shell, the latter name is retained.

In colour and in the direction of the form and shape of the aperture it bears much resemblance to *Helix auriculata*, figured by Mr. Swainson (Zoological Illustrations, 1st series) from a specimen formerly in the cabinet of Mr. C. Dubois, afterwards in mine, and now in the

British Museum; but in *H. auriculata* the whorls are comparatively rounded, and the body-whorl is quite round instead of having a sharp edge. *H. auriculata* is besides, in many individuals, dimpled with small depressions. These differences may be sufficient in the present state of our knowledge to constitute specific distinction; but whether they are in reality strong enough to form such a separation, may well be doubted. My present impression is, that *H. auriculata* and *H. Listeri* are identical; but I shall return to this subject when I have examined the whole of the cognate series in Mr. Cuming's collection.

HELIX (CAROCOLLA) PARMULA. *Car. testá valdè complanată, umbilicatá; anfractibus 4, lineis incrementi striatis, ultimo maximo, acuto; fuscá, lineá brunneá suturam juxta albam fasciatá, margine anfractús ultimi acuto, albo; peritremate deorsùm flexo auriculari; labii anticè sublancoolati subalbidi margine subreflexo.*

Long. $\frac{3}{8}$; lat. $\frac{1}{2}$ poll.

Hab. ad Argao insulæ Zebu, arborum excelsorum truncis hærens.

Legit H. Cuming in sylvis.

This is a delicate though not showy species.

Var. *a. Elevatior, obscurè albens fasciá suturali et centrali fuscis ornata.*

Hab. ad insulam Negros, truncis arborum hærens.

Legit H. Cuming in sylvis.

HELIX (CAROCOLLA) SIQUIJORENSIS. *Car. testá subcomplanată anfractibus 4, lineis incrementi creberrimè striatá; ultimo maximo, acuto; labii subreflexi limbo superiore haud deorsùm depresso; fuscá, epidermide cinerascente coopertá.*

Long. $\frac{5}{8}$; lat. $1\frac{6}{8}$ poll.

Hab. ad radices arborum et arbusculorum in insulâ Siquijor.

Legit H. Cuming in sylvis.

The ash-coloured *epidermis* which covers this species, upon immersion in water, disappears, to reappear when it is dry. When it is wet the dark brown ground-colour is exposed. The shell varies to a lighter whitish-brown hue. The sutural line is darker than the general colour, and the lower surface of the expanded edge of the lip is dark brown and shining in each variety. The termination of the upper edge of the lip is on the same line with the edge of the body-whorl.

HELIX (CAROCOLLA) THERSITES. *Car. testá subcomplanată, gibbá, tenuissimá, hyalind, diaphaná; anfractibus 4, lineis incrementi creberrimè striatis, ultimo anticè acuto, posticè subitè rotundato, gibbo; aperturá magná; labii anticè reflexi limbo subreflexo, flavescente; anfractibus suturam versus et medio castaneo-fasciatis; nucleo castaneo.*

Long. $\frac{1}{2}$; $1\frac{3}{8}$ poll.

Hab. ad Calopan in insulâ Mindoro, foliis arborum hærens.

Legit H. Cuming in sylvis.

The deformed appearance of this species arises from the flattened

and sharp edge of the body-whorl suddenly becoming rounded at about half way. The colouring is pretty, the chestnut bands showing to advantage on the transparent amber-colour of the shell. The young shell has no gibbosity.

Var. *a. Subdiaphana, fasciâ latissimâ nigro-castaneâ ornata.*

Hab. cum præcedente.

This variety is more opaque, and the broad, blackish, chestnut band extends from the suture half-way down the whorls. The base of the shell is broadly bifasciated with the same dark colours, the narrowest band being nearest to the outside edge. The termination of the lip in this species is on the same line with the body-whorl.—
W. J. B.

The next paper read was by G. B. Sowerby, Esq. This also consists of descriptions of Mr. Cuming's new species of shells.

HELIX MODESTA. *Hel. testâ acuminato-subovali, tenui, albicante, fasciis spiralibus badiis modestè ornatâ; spirâ acuminatiusculâ, apice obtuso; anfractibus $4\frac{1}{2}$ subrotundatis, lævibus, lineis incrementi tenerrimè insculptis, ultimo maximo, ventricoso; suturâ distinctâ; aperturâ margine externo rotundato, interno supernè anfractu penultimo modificato; columellari recto, angulum efformante; peristomate paululim reflexo, badio; columellâ rectâ, albâ, subincrassatâ.*

Long. 1·1; lat. 0·8 poll.

Hab. supra folia arborum, propè Catanauan provinciæ Tayabas insulæ Luzon, Philippinarum.

An extremely rare species, rather remarkable among its gay associates of the Philippine Islands for its unpretending modesty of colouring, as well as for its neat contour.

HELIX PYRAMIDALIS. *Hel. testâ oblongo-pyramidali, brunneâ, crassiusculâ; apice obtuso, saturatiore; fasciâ suturali nigro-brunneâ nonnunquam ornatâ; spirâ acuminatâ; anfractibus $5\frac{1}{2}$, leviter rotundatis, lævibus, lineis incrementi tenerrimè insculptis, ultimo majori, rotundato; aperturâ margine externo rotundato, interno supernè anfractu penultimo modificato; columellari recto, angulum efformante; peristomate reflexo, subincrassato, brunneo; columellâ rectâ, crassiusculâ, albâ.*

Long. 1·5; lat. 0·8 poll.

Hab. supra folia arborum, ad insulam Cuyo, Philippinarum.

This species most nearly resembles our *Helix incompta*, but may be easily distinguished by its proportions, the number of volutions, and its longer, more pyramidal spire.

HELIX ACUMINATA. *Hel. testâ acuminato-pyramidali, brunneâ, nigrâ, crassiusculâ; apice obtusiusculo, pallidiore, spirâ acuminato; anfractibus 5, planulatis, lævibus, nitidis, lineis incrementi tenerrimè insculptis, ultimo majori, medianè subangulato; aperturâ anticè subeffusâ; peristomate externo subincrassato, reflexo, brunnescente-nigro; columellâ albâ, subincrassatâ, subdeclivî.*

Long. 1·3; lat. 0·8 poll.

Hab. supra folia arborum ad insulam Cuyo, Philippinarum.

Two specimens only of this species have been found; it somewhat resembles the last, but may be known from that by its more acuminate shorter spire, and by the sides of the volutions being nearly straight, and not rounded. Remains of an opaque hydrophanous *epidermis* are to be seen on both the specimens.

HELIX OBLONGA. *Hel. testá oblongá, subcylindricá, tenui, brunnea, obscurá, subrugosá; anfractibus senis, latis, ventricosis, ultimo majori; suturá distinctá; aperturá subovali, posticè anfractu ultimo modificato; peristomate amplo, subincrassato, reflexo; columellá alba, subincrassatá, rectiusculá; umbilico mediocri.*

Long. 1·5; lat. 0·75 poll.

Hab. supra folia arborum, ad insulam Luban, Philippinarum.

Somewhat like *H. Oomorpha*, but distinguished easily by its proportions, by the number of its volutions, and by the nature of its *peritreme*.

HELIX FRAGILIS. *Hel. testá subglobosá, tenuissimá, laevi, viridescente; anfractibus tribus, raptim crescentibus, ultimo maximo, lineis interruptis fasciisque duabus anticis albis; aperturá magná; peristomate tenui, subreflexo; columellá tenui, rectiusculá.*

Long. 1·; lat. 1·15 poll.

Hab. supra folia arborum, prope Tanauan ad insulam Leyte, Philippinarum.

One of the most delicate and fragile of the Helices, which in general form somewhat resembles our common *Helix aspersa*; the white interrupted lines, as well as the two white bands, consist of hydrophanous epidermal matter.

HELIX BRUNNEA. *Hel. testá subglobosá, crassiusculá, laevi, obscurá, brunnea, albido nigroque fasciatá; spirá brevi, obtusá; anfractibus quatuor, subrotundatis, ultimo maximo, ventricosos; aperturá latè semilunari; peristomate nigro, subexpanso, crassiusculo, reflexo; labio columellari lato, albo; columellá declivi, incrassato, albo.*

Long. 1·3; lat. 1·7 poll.

Hab. supra folia arborum, prope Puerto Galero ad insulam Mindoro dictam, Philippinarum.

Usually of a rich brown colour, the circumference having a black band posteriorly, and a whitish band anteriorly, in front of which there are several whitish and brown bands alternately: the circumference of the columellar lip is nearly black.

May 11, 1841.

William Horton Lloyd, Esq., in the Chair.

Mr. Gould read his paper upon the Menura or Lyre-bird (*Menura superba*) of Australia. This bird, like the Brush Turkey (*Talegalla Lathamii*, Gould), has been classed by ornithologists in various groups, but perhaps most generally it has been regarded as one of the Gallinaceous order. Mr. Gould's observations, however, all tend to prove that it ought to be arranged among the Insesores, and is most nearly allied to certain South American genera of Ground Thrushes, such as *Pteroptochos*, *Scytalopus*, &c.

The Menura is a terrestrial bird, and but rarely takes to the wing. When pursued it generally escapes by running into the thick brush-wood: it is so extremely shy, the author observes, that of all the birds he ever met with the Lyre-bird is by far the most difficult to procure.

Whilst among the brushes he has been surrounded by these birds, pouring forth their loud and liquid calls, for days together without being able to get a sight of them, and it was only by the most determined perseverance and extreme caution that he was enabled to effect this desirable object, which was rendered the more difficult by their often frequenting the almost inaccessible and precipitous sides of gullies and ravines. Its food appears to consist principally of insects, especially those of the Coleopterous order, and Centipedes. Mr. Gould also found the remains of shells of snails in the gizzard, which he remarks is strong and muscular. The nest is placed either on the ledge of a projecting rock, at the base of a tree, or on the top of a stump, but always near the ground.

The natives state that the eggs are two in number, and of a light colour, freckled with red.

May 25, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A letter was read from the Society's Corresponding Member, J. M'Clelland, Esq. It states that several Birds and Quadrupeds had been forwarded from India for the Society's Menagerie, and likewise that Mr. M'Clelland had sent a collection of the rarer Indian fresh-water fishes for the Museum.

Some notes, from Sir Robert Heron, Bart., were next read. These notes relate to the breeding of Gold-fishes in the author's menagerie. Sir R. Heron observes, that about two out of five of the specimens hatched are deficient of the dorsal fin, and about two in a hundred, or rather more, have a triple tail-fin, and as many have the anal fin double. All the deformed fishes are separated from the others and placed in a pond by themselves, but they do not produce a greater proportion of deformed offspring than the perfect fishes.

The following paper, by George Gulliver, Esq., F.R.S., entitled "Observations on the Blood-corpuscles of the order *Feræ*," was then read.

"It appears to me that a systematic and comprehensive set of observations is yet wanting on the blood-corpuscles of the different orders of the class Mammalia, for the subject is interesting in connexion with physiological questions now perpetually arising, and which may be expected to multiply as inquiries in minute anatomy are extended.

"In the order *Feræ* the result of my observations will show that the size of the blood-discs has a general relation to the different families. Although some exceptions may appear, these will probably fall into order as our knowledge of the subject becomes more complete; and it must be recollected that zoologists differ as to the exact affinities of a few of the animals in question.

"In the *Insectivora* the size of the corpuscles is considerably smaller than in the *Plantigrada*. The corpuscles of this latter family are very uniform in size, and, as far as I have at present observed, larger than those of the other species of the *Feræ*, with the exceptions afforded by the genera *Canis*, *Lycæon*, *Hyæna*, *Lutra*, and *Phoca*. The corpuscles of the common species of the two latter, and of the Dog, are the largest I have yet found in the order. The most minute corpuscles of the *Feræ* were also found in the family *Carnivora*. In the *Viverridæ* and *Felidæ* the corpuscles appear to be very small, as compared with those of the *Phocidæ* and *Canidæ*; and in the genera *Paradoxurus* and *Herpestes* the corpuscles are, for the most part, remarkably so, especially in the *Paradoxurus Bondar**, in

* In the Menagerie of the Zoological Society this animal is called *Para-*

which animal they only slightly exceed those of the Goat in size, as noticed in the 'Proceedings of the Society,' Nov. 24, 1840. Among the Cats there is a great resemblance of the corpuscles, which are only just appreciably larger in the Lion, Tiger, Chetah, and Leopard, than in the domestic Cat, so that it would require a nice observation to detect any difference. In the Serval and Norway Lynx the corpuscles, obtained after death from the heart, appeared to be fully as large as those of any other species of the genus; the corpuscles of the Ocelot and Persian Lynx presenting the smallest size. But as the blood was obtained from the two last species during life, the observations were not quite satisfactory for comparison, as the corpuscles soon undergo changes after death*, and are very liable to certain alterations quickly after being abstracted even from the living animal†. In the Dog they were uniformly found to be slightly larger than in the Fox and some other congenerous species; and in the Striped and Spotted Hyænas the corpuscles closely resemble those of the genus *Canis*, and are therefore distinctly larger than in the *Viverridæ* and *Felidæ*, with both of which the Hyæna has been associated. The corpuscles of the *Bassaris* approximate pretty nearly to those of the *Ursidæ*.

"On the whole then, although there is considerable diversity in the magnitude of the red particles of the order, there is generally a well-marked relation between these and the different families. Thus the blood-corpuscles of the *Plantigrada* may be immediately distinguished from those of the *Viverridæ*. Adopting Mr. Waterhouse's subdivisions of the *Carnivora*, they would stand as follows, if set down in the order of the size of their blood-discs:—Seals, Dogs, Bears, Weasels, Cats, Viverras. The difference in size is generally quite distinct between the corpuscles of the first two and last two tribes, the discs of the Weasels forming the connecting link, and closely approximating to those of the Cats. The corpuscles of the Otter, however, are much larger than any I have yet seen of the rest of the *Mustelidæ*, and in fact agree very nearly in size with the corpuscles of the Seals and Dogs.

"It has been stated, that in the *Carnivora* the corpuscles are intermediate in size to those of the omnivorous species and of the strictly vegetable feeders—smaller in the *Carnivora*, for example, than in Man and the *Quadrumana*, but larger than in the *Ruminantia*; and the same assertion has been extended to the *Marsupiatæ*, especially that the red particles of the *Perameles*, which derives its nourishment from the greatest number of organized substances, are larger than the particles either of the carnivorous Dasyure or of the herbivorous Kangaroo.

"This opinion is not supported by numerous measurements given by me in the 'Philosophical Magazine' for January, February, March

doxurus Typus, but I have been assured that it is the *P. Bondar* of authors; it is the same species as that designated *P. Typus* in the Phil. Mag. for Jan. 1840, p. 28.

* See Lond. and Edin. Phil. Mag. for March 1840, p. 195.

† *Ibid*, Nov. 1840, p. 325.

and August, 1840. In one of the Ruminants indeed the corpuscles are singularly minute, but in another granivorous animal they are as singularly large; and they are larger in several of the Ruminants than in some of the *Carnivora*. Among the marsupial animals, although the corpuscles of the *Perameles* slightly exceed those of the Viverrine Dasyure in size, yet in the Ursine Dasyure the corpuscles are larger than in either, and just as large too as those of Bennett's Kangaroo."

An abstract of the measurements of the blood-corpuscles of the order *Ferae* is subjoined.

Measurements of the Blood-corpuscles of the order Ferae.

The measurements are all expressed in fractions of an English inch, and, for the sake of brevity, the average-sized corpuscles only are mentioned, as deduced from numerous observations in each species.

INSECTIVORA.		<i>Canis aureus</i> , Linn.	1.3860
<i>Talpa Europæa</i> , Linn.	1.4747	— <i>mesomelas</i> , Schreb.	1.3645
<i>Sorex tetragonurus</i> , Herm.	1.4571	— <i>Lupus</i> , Linn.	1.3625
<i>Erinaceus Europæus</i> , Linn.	1.4085	<i>Lycaon tricolor</i> , Brookes.	1.3801
PLANTIGRADA.		<i>Hyæna vulgaris</i> , Desm.	1.3735
<i>Meles vulgaris</i> , Desm.	1.3940	— <i>crocuta</i> , Linn.	1.3820
<i>Ursus maritimus</i> , Linn.	1.3870	<i>Herpestes griseus</i> , Desm.	1.4662
— <i>Arctos</i> , Linn.	1.3732	— <i>Javanicus</i> ?	1.4790
— <i>Americanus</i> , Pallas.	1.3693	— <i>Smithii</i> , Gray.	1.4466
— <i>ferox</i> , Lewis & Cl.	1.3530	<i>Viverra Civetta</i> , Linn.	1.4274
— <i>labiatus</i> , DeBlainv.	1.3728	— <i>tigrina</i> , Schreb.	1.5365
<i>Procyon lotor</i> , Cuv.	1.3950	<i>Felis Leo</i> , Linn.	1.4322
<i>Nasua fusca</i> , Desm.	1.3789	— <i>concolor</i> , Linn.	1.4465
— <i>rufa</i> , Desm.	1.3878	— <i>Tigris</i> , Linn.	1.4206
<i>Basaris astuta</i> , Licht.	1.4033	— <i>Leopardus</i> , Linn.	1.4319
CARNIVORA.		— <i>jubata</i> , Linn.	1.4220
<i>Paradoxurus binotatus</i>	1.4660	— <i>pardalis</i> , Linn.	1.4616
— <i>leucomystax</i> , Gray	1.4236	— <i>domestica</i> , Brisson.	1.4404
— <i>Bondar</i>	1.5693	— <i>Caracal</i> , Gmelin	1.4684
<i>Canis familiaris</i> , Linn.	1.3542	— <i>cervaria</i> , Temm.	1.4220
— <i>Dingo</i> , Blum.	1.3397	— <i>Serval</i> , Linn.	1.4129
— <i>Vulpes</i> , Linn.	1.4117	<i>Galictis vittata</i> , Bell.	1.4175
— <i>fulvus</i> , Desm.	1.3920	<i>Mustela Zorilla</i> , Desm.	1.4270
— <i>argentatus</i> , Desm.	1.3888	— <i>furo</i> , Linn.	1.4134
— <i>lagopus</i> , Linn.	1.3888	<i>Lutra vulgaris</i> , Erxl.	1.3502
		<i>Phoca vitulina</i> , Linn.	1.3281

The next paper read was from W. J. Broderip, Esq., in which the author resumes his descriptions of Mr. Cuming's shells.

HELIX (CAROCOLLA) VIRGO. *Car. testâ subcomplanato-globosâ, nitidâ, subdiaphanâ, lineis incrementi obliquis creberrimè striatâ, suturis et anfractûs basalis angulo subelevatis subcrenatis, viz umbilicatâ; aperturâ auriculato-angulatâ; labii limbo subreflexo.*

Var. *a.* *Alba, labii limbo purpureo-brunneo.* Long. $\frac{5}{8}$; lat. $1\frac{1}{8}$ poll.

Var. *b.* *Tota alba.*

Hab. ad insulam Zebu, foliis arborum hærens.

Legit H. Cuming.

The entirely white variety of this delicate shell (which has the appearance of being framed of the purest wax overlaid with a glassy transparent enamel) is rather smaller than var. *a.* The animal in both varieties is of a light bluish green, so that when it is withdrawn into the transparent shell it produces a strong resemblance to *Carocolla Reginea*; and indeed, when Mr. Cuming first saw them, he for a moment thought that he had found large specimens of that lovely shell; but when the animal was taken out, the delusion vanished.

HELIX (CAROCOLLA) DEALBATA. *Car. testâ sordidè albâ, subflavescente, subdiaphanâ, subglobosâ, lineis incrementi obliquis creberrimè substriatâ, vix subumbilicatâ; aperturâ auriculatâ, magnâ; labii limbo vix substriato.* Long. $\frac{10}{12}$; lat. $1\frac{4}{8}$ poll.

Hab. in insulâ Siquijor, foliis arbusculorum hærens.

Legit H. Cuming.

The dim and sordid white of this species is enriched when the greyish white animal is withdrawn into the shell.

HELIX (CAROCOLLA) PUELLA. *Car. testâ globosâ, diaphanâ, lineis incrementi obliquis creberrimè substriatâ; aperturâ auriculato-rotundatâ; labii limbo subreflexo.*

Hab. in insulâ Camiguing, foliis arbusculorum adhærens.

Var. *a.* *Alba, anfractu basali lineâ brunneâ subcentrali cincta.*

Var. *b.* *Tota alba.*

Legit H. Cuming.

The colour of the animal is dark greyish white.

HELIX (CAROCOLLA) ROTA. *Car. testâ complanatâ, rotundatâ, subdiaphanâ, umbilicatâ, supernè lineis elevatis, acutis, infrâ lineis elevatis haud acutis, concentricis, regularibus corrugatâ, flavescente; anfractibus supernè medio bilineatis, anfractus basalis infrâ unilineati angulo acuto, dentato, unilineato; lineis castaneis; aperturâ auriculatâ; peritrematis unidentati limbo subexpanso albo.* Long. $\frac{3}{8}$; lat. 1 poll.

Hab. in insulâ Siquijor, arborum truncis hærens.

Legit H. Cuming.

The animal of this elegantly worked *Carocolla* is yellowish, somewhat like the ground-colour of the shell, which is exquisitely sculptured after the manner of engine-turned trinkets. Above, the elevated concentric lines are sharp, and the shell on that side has somewhat the appearance of a flattened *Scalaria*; beneath, the elevated lines are rounded, and radiate very regularly from the open *umbilicus*. The chestnut line that borders the sharp dentated edge of the angle of the body-whorl is, beneath, interrupted with white bead-like elevations. All the four chestnut lines of the body-whorl can be seen through the shell when it is placed with the lower side uppermost.

HELIX (CAROCOLLA) ZEBUENSIS. *Car. testá complanato-convexá, solidá, subumbilicatá, purpurascente; lincis incrementi obliquis creberrimè striatá; suturis acutis subelevatis; anfractús basalis angulo acuto; aperturá cæruleo-albá, acuto-auriculari; labii limbo nigro-castaneo, subexpanso, subacuto; epidermide fuscá, subcrassá.*
 Long. $\frac{5}{8}$; lat. $1\frac{2}{8}$ poll.

Hab. ad Dalaguete in insulá Zebu, foliis arborum hærens.

Var. *a.* *Albido-fusca nigro-castaneo interruptè lineata et maculata.*

In this variety the edge of the whorls above the suture is considerably elevated with a gutter or furrow on the upper side. The brown interrupted lineations take the form of bands running in the directions of the whorls, and the lower side of the body-whorl is marked immediately under the edge of the angle with a circle of large, well-defined, tessellated spots, which reach to the edge of the angle of the whorl.

Var. *b.* *Fusca anfractibus suturam juxta obscurè maculatis.*

In this variety the angle of the whorl next to the body-whorl is elevated, but there is no gutter above.

Var. *c.* *Albescens, suturis et anfractús basalis angulo nigro-castaneo maculatis, infrà nigro-castaneo creberrimè tæniata.*

In this variety there is no elevation of the suture; the broad tessellated band near the angle of the body-whorl below, and the interrupted spotted and lineated bands which ornament the lower side of the shell, are neatly and prettily disposed.

Var. *d.* *Fusco-albescens rubro-brunneo obliquè strigata.*

In this variety the edge of the penultimate whorl is elevated, and has a slight gutter on the upper side. The shell beneath is obscurely lineated in the direction of the whorl, and the red-brown dashes radiate from the angle of the whorl to the interrupted lineations which gird it. On the upper side the bold oblique stripes of the same colour completely cross the whorls.

Var. *e.* *Tota fusca.*

In this variety the angle of the upper whorls is very much elevated.

The ground-colour of all these varieties is a purple or red-brown, and the pattern of the variegated specimens resides in the *epidermis*, or rather is produced by the intermixture of the ground-colour of the shell and of the *epidermis*. Thus, if any of the variegated varieties be immersed in water, the pattern vanishes as long as the shell remains wet; when it is dry, the pattern is restored. If, for instance, var. *a.* and var. *e.* be immersed, the general colour becomes identical, and the dark interrupted lineations of the former can hardly be traced. The absence or presence of the elevation of the edge of the upper whorls, in the different varieties of this species, shows that such a conformation cannot be trusted as a specific character. The animal is a dark purplish brown.—W. J. B.

Mr. Yarrell exhibited a British example of the *Motacilla alba* of

Linnaeus, which had been shot at Kingsbury. Two pairs of this species of Wagtail were seen by Mr. Bond near the reservoir in the early part of the present month, and, although they were very shy, that gentleman, who furnished Mr. Yarrell with the specimen exhibited, succeeded in shooting three of them, two males and one female.

M. Leonard read a paper on the intelligence of animals, which he illustrated by means of two pointer dogs which he had trained for the purpose.

To show that these animals possessed the power of comparison, he placed different objects upon the ground, such as a glove, a roll of paper, a small box, &c., and having kept similar objects himself, he showed them one after another to either of the dogs, and desired the animal to fetch that which was like it from the ground. The dogs performed this task correctly, and all others which they were desired.

Cards, with numbers from 1 to 9 painted upon them, were placed upon the ground, and the dogs fetched any particular number they were bidden: a number brought, M. Leonard ordered the dog to take back again and exchange for another number, and at the same time to deposit it in the place of that number. The dogs also selected a card of a particular colour, when desired, from among many of different colours. Pieces of bread were placed on the ground, and in placing them, their master called them by the names of different numbers in an irregular manner, and afterwards ordered the dogs to fetch the piece of bread he had called a certain number. These and various other experiments (some with pieces of meat) were all performed correctly, and tended to show the great intelligence of the animals and the control which their master had obtained over them.

The dogs were named Phylax and Braque, and either dog, upon his name being called, performed the task he was ordered; but one of them appeared to be more quick than the other.

June 8, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

The following paper, "On the Blood-corpuscles of Marsupial Animals," by George Gulliver, Esq., F.R.S., was read.

"As far as I have had an opportunity of observing, the blood-corpuscles of marsupial animals possess the common circular form, and, compared with the red particles of other Mammals, are of rather large size, being nearly allied in this respect to the corpuscles of Man and the *Quadrumana*, and slightly thicker than the corpuscles of the *Quadrumana* and those of the human subject.

"It is remarkable that the corpuscles of two carnivorous *Marsupiata* should differ as much in size as the corpuscles of any other two species of the order. This fact, however, would appear to be not altogether devoid of interest, for the corpuscles of different families of the placental *Carnivora* also exhibit great diversity of magnitude, as may be seen by reference to the 'Observations on the Blood-corpuscles of the Order *Fera*,' in the Proceedings of the Zoological Society, May 25, 1841. Now the corpuscles of the Ursine Dasyure are of large size, like those of the *Canidæ*, and the corpuscles of the Viverrine Dasyure are considerably smaller, like those of the *Felidæ* and *Viverridæ*. Hence it would be interesting to inquire whether the blood-corpuscles of the different tribes of marsupial animals do not generally present the same characters as the corpuscles of the corresponding types of the placental series. But the few observations which I have been able to make on the blood of the former order are by no means sufficient to admit of generalization. It may be noticed, however, that the corpuscles of an insectivorous species, the *Perameles*, are nearly as small as those of the Viverrine Dasyure, and that the corpuscles of the Wombat are of much larger size.

"The measurements which I have made, as opportunities occurred, of the blood-discs of the *Marsupiata* are here for the first time revised, arranged together, and extended by some new observations. The averages, which I had not previously estimated, are also now given; these are set down at the bottom, beneath the lines; the two measurements immediately above the latter indicate the sizes of the large and the small corpuscles, and all the other numbers were obtained from the common-sized discs. As usual, the measurements are all given in fractions of an English inch.

"Measurements of the Blood-corpuscles of Marsupial Animals.

"1. Virginian Opossum (*Didelphis Virginiana*, Temm.).

1.3600	} common sizes.
1.3530	
1.4570	small size.
1.2900	large size.

Thickness of discs.
1.12,000

1.3557 Average.

" 2. Viverrine Dasyure (*Dasyurus viverrinus*, Geoff.).

1·4000

1·4800

1·3555

Average.. 1·4056

" 3. Ursine Dasyure (*Dasyurus ursinus*, Geoff.):

1·3600

1·3428

1·4365

1·3000

Thickness:

1·12,000

1·10,000

Average.. 1·3534

1·10,910

" 4. Rabbit Perameles (*Perameles Lagotis*, Reid).

1·4572

1·4000

1·3428

1·4800

1·3200

Average.. 1·3902

" 5. Bennett's Kangaroo (*Macropus Bennettii*, Waterh.):

1·3600

1·3432

1·4000

1·3200

Average.. 1·3535

" 6. A small Kangaroo (*Halmaturus Derbyanus*? Gray).

1·3554

1·3432

1·3200

1·4000

1·3000

Thickness:

1·12,000

1·10,000

Average.. 1·3405

1·10,910

" 7. Vulpine Phalanger
(*Phalangista vulpina*, Desm.).

1·3600

1·3530

1·5000

1·2900

Average.. 1·3617

" 8. Minute Phalanger
(*Phalangista nana*, Geoff.).

1·4000

1·3760

1·3554

1·6000

1·3000

Average.. 1·3856

“ 9. Squirrel Flying Opossum
(*Petaurista sciureus*, Geoff.).

1·3600
1·4800
1·3000

Average .. 1·3661

“ 10. Wombat
(*Phascolomys Wombat*, Per. et
Lesu.).

1·3600
1·3500
1·3200
1·3048
1·5333
1·2900

Average .. 1·3456.”

The next paper read was by G. B. Sowerby, Jun., Esq., and is entitled “ Descriptions of eight new species of the genus *Ranella*,” in the collection of Mr. Cuming.

1. *RANELLA VEXILLUM*, Conch. Illustr., f. 3. *R. testá ovali, ventricosá, subacuminatá, pallidè brunneá, transversè striatá, fasciis rufescentibus elevatis noduliferis cinctá; varicibus irregularibus, decumbentibus, latis; aperturá magná alba, intus griseo fasciatá, posticè vix canaliferá, anticè in canalem brevem rectum, latum terminante; labio interno sublavi decumbente, dentibus lævibus paululùm incrassato; labio externo subexpanso, leviter undulato, dentibus ferè obsoletis intus incrassato.*

Long. 3·40; lat. 2 poll.

Hab. ad (Chiloe) Conception.

Mr. Cuming collected specimens at rocky places from three to six fathoms deep. The outer lip is more expanded, and the knotted brown bands are narrower and more numerous than in *R. argus*.

2. *RANELLA CRUENTATA*, Conch. Illustr., f. 5, 5*. *R. testá subquadratá, rugulosá alba vel pallidè fulvá, rubro-maculatá, inter varices ad angulum anfractuum tuberculis magnis tribus, in medio tribus minoribus; varicibus elevatis, utrinque foveolatis; aperturá paululùm angustatá, extremitatibus validissimè canaliferis; labio interno decumbente, dentibus acutis instructo, maculis sanguineis 5 ad 6 in medio picto; labio externo complanato, subdigittato, intus dentibus validis instructo.*

Long. 1·50; lat. 1·20 poll.

Hab. ad insulam Ticao, Philippinarum. H. Cuming legit.

Found on coral reefs. This species is remarkable for the well-defined spots of blood-red colour by which that part of the inner lip which rests upon the body-whorl is ornamented. A darker variety occurs, in which the spots are of a strong brown colour.

3. *RANELLA NANA*, Conch. Illustr., f. 6. *R. testá elongato-ovali, lævi, inter varices nebuloso-purpureá, in medio anfractu fasciá alba cinctá, ad angulum anfractuum tuberculis acutis quatuor, anteriùs tuberculis parvis; varicibus prominentibus, anticè laqueatis, posticè canalem exhibentibus; aperturá ovali, ad extremita-*

tes validissimè canaliferá; labio interno granoso; labio externo valdè denticulato.

Long. 1·80; lat. 1·05 poll.

Hab. ad insulam Panama, Philippinarum. H. Cuming legit.
Found in coarse sand at seven fathoms.

4. *RANELLA ALBO-FASCIATA*, Conch. Illustr., f. 14. *R. testá ovali, subcompressá, granulósá, fusco-purpureá, fasciá albá in medio anfractu cinctá, lineis moniliformibus numerosis et ad angulum 6 ad 7 tuberculis cinctá; varicibus granuloso-tuberculiferis; aperturá ovali, ad extremitates validissimè canaliferá; labio interno granoso; labio externo valdè denticulato.*

Long. 1·80; lat. 1·20 poll.

Hab. ad insulam Panama, Philippinarum.

Much broader and more completely granulated than the former, which is nearly all over smooth. In this respect our shell resembles *R. granulata*, Lam., but it is neither so oval nor so compressed, the varices are more strongly marked, and the posterior canal is more perfect.

Found in coarse sand at 10 fathoms.

5. *RANELLA RHODOSTOMA*, Conch. Illustr., f. 10. *R. testá subquadrátá, rugulosá, granulátá, pallidè fulvá, rufo-punctatá et maculatá, inter varices tuberculis prominentibus tribus ad angulum, tribus in medio anfractu; aperturá roseo-purpureá, paululum angustatá, ad extremitates valdè canaliferá; labio interno granuloso propè canales transversè dentato, labio externo sub-expanso, undulato, intùs dentato; varicibus granoso-tuberculatis, validis, utrinque foveolatis.*

Long. 1·15; lat. ·85 poll.

Hab. ad insulam Masbate, Philippinarum.

Found on coral reefs by Mr. Cuming. It is a pretty little species with a delicately purple aperture.

6. *RANELLA SUBGRANOSA*, Conch. Illustr., f. 18. *R. testá ovali, subangulatá, purpureo-fuscá, brunneo-fasciatá et maculatá, transversè lineis elevatis, moniliformibus alternantibus striatá; ad angulum anfractuum tuberculis acutis; varicibus elevatis, utrinque subfoveolatis, granoso-tuberculatis; aperturá ovali, albá, intùs pallidè purpureá; canali postico lato, antico subrecurso, lato; labio interno tenui, posticè dentato anticè extanti; labio externo crenulato validissimè dentato, ad canalem posticum aculeato, anticè sub-expanso.*

Long. 2·85; lat. 1·70 poll.

Hab. ad sinus Manillæ. H. Cuming legit.

This species very nearly resembles *R. elegans*, Beck, Chemn. 1270, Conch. Illustr., f. 17, of which it may perhaps be only a local variety. Our shell is of a more oval shape and is more evenly granulated in every part. Found in sandy mud at ten fathoms.

7. *RANELLA NEGLECTA*, Conch. Illustr., f. 22. *R. testá subquadrátá, brevi, lineis granulatis transversè striatá, pallidè fulvá,*

fusco-maculatá; inter varices ad angulum posticum tuberculis tribus magnis, in medio tribus ad quatuor parvis, prope caudam uno, et aliquando serie moniliformi tuberculorum parvorum; varicibus crassis lirulim granulosis posticè foveolatis; aperturá ovali albá; canali postico brevi, recto; canali antico brevi, subrecto; labio interno decumbente, granulato, prope canalem posticum acutè denticulato; labio externo, minutè denticulato, propè canales solùm reflexo.

Long. 1·60; lat. 1·15.

Hab. ad insulam Ceylon.

This shell, which is now common, differs from *R. crumena* in the following respects: it is shorter, the tubercles are more obtuse, the canals are shorter and straighter, the outer lip is scarcely reflected, and the inner lip is not raised at the caudal extremity.

8. *RANELLA RUGOSA*, Conch. Illustr., f. 7. *R. testá ventricosá, granulosa, angulatá, pallidè fulvá, fusco-maculatá; inter varices ad angulum posticum tuberculis tribus obtusis, granulosis, inter granula fusco interrupto-lineatis, in medio lined duplicatá moniliformi; caudam versùs lineis quinque alternantibus moniliformibus; varicibus crassis, granoso-tuberculatis, utrinque validissimè foveolatis; canali antico tortuoso, magno; aperturá rotundato-ovali albá, canali postico sub-elongato; labio interno tortuoso, propè extremitates validè extanti; labio externo reflexo, extùs laqueato, intùs quinquefariam bi-denticulato, denticulis foveolato.*

Long. 2·30; lat. 1·50.

Hab.

This species has not the thickness, flatness, nor the elongated, curved, posterior canal of *R. bufonia*, nor are the tubercles so large.

A fine specimen of the *Trogon Temnura*, presented by C. Clarke, Esq., British Consul at Cuba, was exhibited.

Mr. Yarrell laid before the Meeting the numbers eleven to twenty-four of Mr. Audubon's new royal octavo edition of his birds of North America.

June 22, 1841.

Owing to the removal of the Society from Leicester Square to Pall Mall at this time, no Meeting took place.

July 13, 1841.

Professor Owen, Vice-President, in the Chair.

The following letter, addressed to Mr. Waterhouse, from James Brooke, Esq., was read:—

“ Singapore, 25th March, 1841.

“ My dear Sir,—I am happy to announce the departure of five live Orang Utans by the ship *Martin Luther*, Captain Swan, and I trust they will reach you alive. In case they die, I have directed Captain Swan to put them into spirit, that you may still have an opportunity of seeing them. The whole of the five are from Borneo: one large female adult from Sambas; two, with slight cheek callosities, from Pontiana; a small male, without any sign of callosities, from Pontiana likewise; and the smallest of all, a very young male with callosities, from Sadung. I will shortly forward a fine collection of skulls and skeletons from the north-west coast of Borneo, either shot by myself or brought by the natives, and I beg you will do me the favour to present the live Orangs and this collection to the Zoological Society. I have made many inquiries and gained some information regarding these animals, and I can, beyond a doubt, prove the existence of two, if not three distinct species in Borneo.

“ First, I will re-state the native account; secondly, give you my own observations; and thirdly, enter into a brief detail of the specimens hereafter to be forwarded.

“ 1st. The natives of the north-west coast of Borneo are all positive as to the existence of two distinct species, which I formerly gave you by the names of the *Mias Pappan* and *Mias Rambis*; but I have since received information from a few natives of intelligence that there are three sorts, and what is vulgarly called the *Mias Rambis* is in reality the *Mias Kassar*, the *Rambis* being a distinct and third species. The *Mias Pappan* is the *Simia Wurmbii* of Mr. Owen, having callosities on the sides of the face: the natives treat with derision the idea of the *Mias Kassar* or *Simia Morio* being the female of the *Mias Pappan* or *Simia Wurmbii*, and I consider the fact can be established so clearly that I will not trouble you with their statements: both Malays and Dyaks are positive that the female of the *Mias Pappan* has cheek-callosities, the same as the male; and if on inquiry it prove to be so, the existence of three distinct species in Borneo will be established. The existence of the *Mias Rambis* is vouched by a few natives only, but they were men of intelligence and well acquainted with the animals in the wild state. They represent the *Mias Rambis* to be as tall as the *Pappan*, or even taller, but not so stout, with longer hair, a smaller face, and no callosities either on the male or female, and they always insisted that it was not the female of the *Pappan*.

“ The *Mias Kassar* or *Simia Morio* is the same colour as the *Mias*
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Pappan, but altogether smaller, and devoid of callosities either on the male or female adults.

“By the native statements, therefore, we find three distinct species, viz. the *Mias Pappan* or *Simia Wurmbii*, the *Mias Kassar* or *Simia Morio*, and the *Mias Rambii*, which is either the *Simia Abelii* or a fourth species. The existence of the Sumatran Orang in Borneo is by no means impossible, and I have already compared so many of the native statements that I place more confidence in them than I did formerly, more especially as their account is in a great measure borne out by the skulls in my possession. I had an opportunity of seeing the *Mias Pappan* and the *Mias Kassar* in their native woods, and killing one of the former and several of the latter species. The distribution of these animals is worthy of notice, as they are found both at Pontiana and Sambas in considerable numbers, and at Sadung on the north-west coast, but are unknown in the intermediate country which includes the rivers of Sarawak and Samarahan. I confess myself at a loss to account for their absence on the Sarawak and Samarahan rivers, which abound with fruit, and have forests similar and contiguous to the Sadung Linga and other rivers. The distance from Samarahan to Sadung does not exceed twenty-five miles, and though pretty abundant on the latter, they are unknown on the former river. From Sadung, proceeding to the northward and eastward, they are found for about 100 miles, but beyond that distance do not inhabit the forests. The *Mias Pappan* and *Mias Kassar* inhabit the same woods, but I never met them on the same day; both species, according to the natives, are equally common, but from my own experience the *Mias Kassar* is the most plentiful. The *Mias Rambii* is represented as unfrequent and rarely to be met with. The *Pappan* is justly named *Satyros* from the ugly face and disgusting callosities. The adult male I killed was seated lazily on a tree, and when approached only took the trouble to interpose the trunk between us, peeping at me and dodging as I dodged. I hit him on the wrist and he was afterwards despatched. I send you his proportions, enormous relative to his height, and until I came to actual measurement my impression was that he was nearly six feet in stature. The following is an extract from my journal relating to him, noted down directly after he was killed.

“Great was our triumph as we gazed on the huge animal dead at our feet, and proud were we of having shot the first Orang we had seen, and shot him in his native woods, in a Borneo forest, hitherto untrodden by European feet. The animal was adult, having four incisors, two canines and ten molars in each jaw, but by his general appearance he was not old. We were struck by the length of his arms, the enormous neck, and the expanse of face, which altogether gave the impression of great height, whereas it was only great power. The hair was long, reddish and thin; the face remarkably broad and fleshy, and on each side, in the place of a man’s whiskers, were the callosities or rather fleshy protuberances, which I was so desirous to see, and which were nearly two inches in thickness. The ears were small and well-shaped, the nose quite flat, mouth prominent,

lips thick, teeth large and discoloured, eyes small and roundish, face and hands black, the latter being very powerful.

“ ‘ The following are the dimensions :—

	Ft.	In.
Height from head to heel	4	1
Length of foot	1	0
Ditto hand	0	10 $\frac{1}{2}$
Length of arm from shoulder-blade to finger end. .	3	5 $\frac{3}{4}$
Shoulder-blade to elbow	1	6
Elbow to wrist	1	1 $\frac{1}{2}$
Hip to heel	1	9
Head to <i>Os coccygis</i>	2	5 $\frac{1}{2}$
Across the shoulders	1	5 $\frac{1}{2}$
Circumference of neck	2	4
Ditto below the ribs	3	3 $\frac{1}{4}$
Ditto under the arms.	3	0
From forehead to chin	0	9 $\frac{3}{4}$
Across the face, below the eyes, including callosities	1	1
From ear to ear across the top of head.	0	9 $\frac{1}{2}$
From ear to ear behind the head	0	9 $\frac{3}{4}$

“ ‘ The natives asserted the animal to be a small one, but I am sceptical of their ever attaining the growth of a tall man, though I bear in mind that full-grown animals will probably differ as much in height as man.’

“ ‘ Some days after this, and about thirty miles distant, I was fortunate enough to kill two adult females (one with her young), and a male nearly adult, all the *Mias Kassar*. The young male was not measured, owing to my having waded up to my neck in pursuit of him, and thereby destroyed my paper and lost my measure; but he certainly did not exceed three feet, whilst the two females were about 3ft. 1in. and 3ft. 2in. in height. The male was just cutting his two posterior molars: the colour of all resembled that of the *Mias Pappan*, but the difference between the two animals was apparent even to our seamen. The *Kassar* has no callosities either on the male or female, whereas the young *Pappans* despatched by the Martin Luther (one of them *not a year old*, with two first molars) show them prominently. The great difference between the *Kassar* and the *Pappan* in size would prove at once the distinction of the two species, the *Kassar* being a small slight animal, by no means formidable in his appearance, with hands and feet *proportioned* to the body, and they do not approach the gigantic extremities of the *Pappan* either in size or power; and, in short, a moderately powerful man would readily overpower one, when he would not stand the shadow of a chance with the *Pappan*. Besides these decisive differences, may be mentioned the appearance of the face, which in the *Mias Kassar* is more prominent in the lower part, and the eyes exteriorly larger, in proportion to the size of the animal, than in the *Pappan*. The colour of the skin in the adult *Pappans* is black, whilst the *Kassar*, in his face and hands, has the dirty colour common to the young of both

species. If further evidence was wanted, the skulls will fully prove the distinction of species, for the skulls of two adult animals compared will show a difference *in size alone* which must preclude all supposition of their being one species. Mr. Owen's remarks are, however, so conclusive, that I need not dwell on this point; and with a suite of skulls, male and female, from the adult to the infant, of the *Mias Kassar*, which I shall have the pleasure to forward, there can remain, I should think, little further room for discussion. I may mention, however, that two young animals I had in my possession alive, one a *Kassar*, the other a *Pappan*, fully bore out these remarks by their proportionate size. The *Pappan*, with two molars, showed the callosities distinctly, and was as tall and far stouter than the *Kassar* with three molars, whilst the *Kassar* had no vestige of the callosities. Their mode of progression likewise was different, as the *Kassar* doubled his fists and dragged his hind quarters after him, whilst the *Pappan* supported himself on the open hands sideways placed on the ground, and moved one leg before the other in the erect sitting attitude; but this was only observed in the two young ones, and cannot be considered as certainly applicable to all.

“On the habits of the Orangs, as far as I have been able to observe them, I may remark, that they are as dull and as slothful as can well be conceived, and on no occasion when pursuing them did they move so fast as to preclude my keeping pace with them easily through a moderately clear forest; and even when obstructions below (such as wading up to the neck) allowed them to get away some distance, they were sure to stop and allow us to come up. I never observed the slightest attempt at defence, and the wood, which sometimes rattled about our ears, was broken by their weight, and not thrown, as some persons represent. If pushed to extremity, however, the *Pappan* could not be otherwise than formidable; and one unfortunate man, who with a party was trying to catch a large one alive, lost two of his fingers, besides being severely bitten on the face, whilst the animal finally beat off his pursuers and escaped. When they wish to catch an adult they cut down a circle of trees round the one on which he is seated, and then fell that also, and close before he can recover himself, and endeavour to bind him.

“In a small work entitled ‘The Menageries,’ published in 1838, there is a good account of the Bornean Orang, with a brief extract from Mr. Owen's valuable paper on the *Simia Morio*; but, after dwelling on the lazy and apathetic disposition of the animal, it states in the same page that they can make their way amid the branches of the trees with *surprising agility*, whereas they are the slowest and least active of all the monkey tribe, and their motions are surprisingly awkward and uncouth. The natives on the north-west coast entertain no dread, and always represent the Orangs as harmless and inoffensive animals; and from what I saw, they would never attack a man unless brought to the ground. The rude *hut* which they are stated to build in the trees would be more properly called a seat or nest, for it has no roof or cover of any sort. The facility with which they form this seat is curious, and I

had an opportunity of seeing a wounded female weave the branches together, and seat herself within a minute; she afterwards received our fire without moving, and expired in her lofty abode, whence it cost us much trouble to dislodge her. I have seen some individuals with nails on the posterior thumbs, but generally speaking they are devoid of them: of the five animals sent home, two have the nails and three are devoid of them; one has the nail well-formed, and in the other it is merely rudimentary. The length of my letter precludes my dwelling on many particulars, which, as I have not seen the recent publications on the subject, might be mere repetitions, and I will only mention, as briefly as I can, the skulls of these animals in my possession. From my late sad experience I am induced to this, that some brief record may be preserved from shipwreck. These skulls may be divided into three distinct sorts. The first presents two ridges, one rising from each frontal bone, which joining on the top of the head, form an elevated crest, which runs backward to the cerebral portion of the skull.

“The second variety is the *Simia Morio*, and nothing need be added to Mr. Owen’s account, save that it presents no ridge whatever beyond the frontal part of the head. No. 9 in the collection is the skull of an adult male: No. 2 the male, nearly adult, killed by myself: Nos. 11 and 3 adult females, killed by myself: No. 12 a young male, with three molars, killed by myself: No. 21 a young male, died aboard, with three molars: No. 19, young male, died aboard, with two molars. There are many other skulls of the *Simia Morio* which exactly coincide with this suite, and this suite so remarkably coincides through the different stages of age, one with another, that no doubt can exist of the *Simia Morio* being a distinct species. The different character of the skull, its small size and small teeth, put the matter beyond doubt, and completely establish Mr. Owen’s acute and triumphant argument, drawn from a single specimen.

“The third distinction of the skulls is, that the ridges rising from the frontal bones do not meet, but converge towards the top of the head, and again diverge towards the posterior portion of the skull. These ridges are less elevated than in the first-mentioned skulls, but the size of the adult skulls is equal, and both present specimens of aged animals. For a long time I was inclined to think the skulls with the double ridge were the females of the animals with the single and more prominent ridge, but No. 1 (already described as killed by myself) will show that the double ridge belongs to an adult, and not young male animal, and that it belongs to the *Simia Wurmbii* with the huge callosities. The distinction therefore cannot be a distinction of sex, unless we suppose the skulls with the greater development of the single ridge to belong to the female, which is improbable in the highest degree. The skulls with the double and less elevated ridges belong, as proved by No. 1, to the *Simia Wurmbii*; and I am of opinion the single and higher ridge must be referred to another and distinct species, unless we can account for this difference on the score of age. This, I conceive, will be found impossible, as Nos. 7 and 20 are specimens similar to No. 1, with the double and less ele-

vated ridges *decidedly old*, and Nos. 4 and 5 are specimens of the single high ridge, likewise *decidedly old*.

“These three characters in the skulls coincide with the native statements of there being three distinct species in Borneo, and this third Borneon species *may* probably be found to be the *Simia Abelii* or Sumatran Orang. This probability is strengthened by the adult female on her way home : her colour is dark brown, with black face and hands ; and in colour of hair, *contour*, and expression, she differs from the male Orangs, with the callosities, to a degree that makes me doubt her being the female of the same species. I offer you these remarks for fear of accident ; but should the specimens, living and dead, arrive in safety, they will give a fresh impetus to the inquiry, and on my next return to Borneo, I shall, in all probability, be able to set the question at rest, whether there be *two* or *three* species in that country. Believe me, my dear Sir, with best wishes, to remain,

“Yours very truly,

“J. BROOKE.”

Mr. Charlesworth exhibited to the Meeting a collection of skins of Mammalia and Birds, which he had obtained on the table-land of Mexico, and which he begged to present to the Society. Among the Mammals were adult specimens of the *Bassaris astuta*, Licht., of which animal a young individual had been procured by Messrs. Thompson and Charlesworth at Real del Monte, and forwarded, under the care of the Society's Corresponding Member, Lieut. Smith, as a present to the Menagerie.

The *Bassaris*, Mr. Charlesworth observed, is known in Mexico by the name ‘Cacomistle’ ; it is abundant in the city itself, and indeed Mr. Charlesworth believes it is not to be met with at a distance from the abodes of man. Its habits are nocturnal, and it selects for its dwelling outhouses or uninhabited buildings, whence it sallies forth at night and commits great ravages in hen-roosts and pigeon-houses, and on this account every attempt is made by the Mexicans to exterminate it. The number of young which the *Bassaris* produces does not exceed three or four at a birth.

A skin of the *Ascomys Mexicanus*, Licht., or ‘Tusa,’ as it is called by the natives, was also exhibited by Mr. Charlesworth ; and he drew attention to a curious fact in the economy of this Rodent, viz. that the cheek-pouches with which it is provided, and which open externally, are used for the purpose of conveying the soil from its subterranean retreats to the surface of the ground, where the mould is deposited in heaps, similar in appearance to those formed by the common Mole.

The skulls of these two animals were on the table ; and Mr. Waterhouse observed, that that of *Bassaris astuta* presented all the characters of the skulls of the *Paradoxuri*, whilst the skull of *Ascomys Mexicanus* did not appear to him to offer any characters by which it might be distinguished (excepting as a *species*) from the crania of different species of *Geomys* which he had examined ; and as the same remarks would apply to the dentition, he thought it would be desirable to expunge one of these genera from our catalogues.

The following paper, entitled "Descriptions of several new species of *Chitones*, brought by H. Cuming, Esq., from the Philippine Islands," by G. B. Sowerby, Esq., jun., was next read.

CHITON SPINIGER. *Ch. Spiniger*, Mag. Nat. Hist. 1840, p. 287; Con. Illus., f. 68. *Ch. testá depressá, ovato-elongatá, omninè granulatá; valvis reclinantibus, terminalibus rotundatis; margine lato, spinis sub-arcuatis numerosis instructo.*

Long. $2\frac{1}{10}$; lat. $1\frac{1}{2}$ poll.

The description is here repeated, for the purpose of noticing two remarkable varieties brought by Mr. Cuming from the Philippines.

In the first variety the spines are comparatively short, and being coated in patches by calcareous matter, give to the margin an appearance of being banded with black and white. The valves are more rounded, and in some instances more coarsely granulated than in the specimens originally described. Found under stones at low water in Cagayan, province of Misamis, island Mindinão.

In the second variety the valves are more elevated. Found under stones at low water, in the island Siquijor.

The larger variety tends to connect the species with the variable *Ch. piceus*, from which it differs in the narrowness of the valves, the spinose margin, and the purplish flesh tint of the inside, which are the same in all the varieties.

CHITON ALATUS. *Ch. testá elongatá, subdepressá, griseo-virescente, fusco-virescente maculatá; valvis anticè coarctatis, primá et ultimá asperis; areis dorsalibus rotundatis, granoso-striatis; margine squamoso-granulato.*

Hab. ad insulam Siquijor et Zebu.

More depressed, having the marginal granulations coarser and the lateral areas more expanded than *Ch. limaciformis*.

Found under stones at low water.

CHITON TRUNCATUS. *Ch. testá ovali, minutissimè asperá, rosed aut pallidè fulvá, griseo-virescente maculatá, sulcis subdistantibus leviter undatá; areis lateralibus elevatis, expansis; valvá posticá conicá, anticè subcomplanatá, posticè truncatá; margine levi.*

Long. 1.50; lat. .80.

Hab. ad insulam Siquijor, Philippinarum.

Differing from *Ch. crenulatus*, *Grayi*, &c., chiefly in the conical shape and sudden termination of the last valve. The species is subject to great variations, both in the colour and in the strength of the undulating lines. Found under stones at low water.

Var. *testá sublævi*.

Hab. ad insulam Samar (Catbalonga).

CHITON INCISUS. *Ch. testá elongatá, grised, fusco-maculatá; valvis angustis, subdisjunctis, elongatis, longitudinaliter undato-striatis, primá sexfariam costatá, medianis utrinque unicostatis; areis centralibus latis, ultimá subconicá, utrinque trifariam costatá; fissurá triangulari posticè incisá; margine lato, fasciculis minutissimis numerosis instructo, posticè inciso.*

Long. 2·60; lat. 1 poll.

Hab. ad insulam Zebu (Daleguete).

It is to be regretted that no specimens of this very remarkable species should have been preserved with the soft parts; it being probable that the fissure in the last valve and in the posterior part of the margin is accompanied by some anatomical peculiarity in the animal sufficient to establish its claim to generic distinction.

Found under stones at low water.

CHITON COARCTATUS. *Ch. testâ elongatâ, posticè coarctatâ, subtunicatâ; valvis reniformibus, subdisjunctis, carinatis, asperis; carinâ dorsali levi; margine levi.*

Long. 1; lat. ·50 poll.

Hab. ad insulam Bohol, Philippinarum.

From the peculiar shape of the valves, and the comparative smallness of the portion which remains uncovered, the observer would be led to look for the small tufts of hair found in the margins of some similarly-shaped species. All the specimens, however, have the margins perfectly smooth.

Found under stones at low water.

July 27, 1841.

In consequence of there not being a sufficient number of Members present to constitute a quorum, no Meeting took place.

August 10, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from the Earl of Derby was read. This letter is dated August 7, 1841, and announces the arrival of a pair of the African Musk Deer (*Moschus aquaticus*, Ogilby); one of them (a female) is alive, and in good health, in his Lordship's menagerie. Having two skeletons of this animal, his Lordship has directed one of them to be forwarded as a present to the Society.

A letter from Dr. Cox, dated Naples, March 28, 1841, was read; it refers to some engravings of a deformed fœtus which this gentleman had sent for exhibition at one of the Society's scientific meetings.

A letter from the Society's corresponding member Dr. Poey was read. In this letter, which is dated Havannah, June 26, 1841, Dr. Poey informs the Society that he has forwarded for the Menagerie a living Raccoon, and he moreover makes some observations upon its habits.

A letter from Edward Blyth, Esq., was next read. This letter is addressed to the Curator, and is written by Mr. Blyth on his passage to India; the writer relates some facts respecting various Mammals which have been communicated to him by his fellow-travellers. Lieut. Beagin, upon being shown some drawings of species of Gibbons, at once, in a figure of the *Hylobates leucogenys*, Ogilby, recognised an animal which he had met with, and examined, in the Malabar jungles. "Lieut. Beagin," observes Mr. Blyth, "has frequently seen this species in the Malabar ghauts, generally in groups of eight or ten, among which were brown individuals." "They appear to be unknown on the Coromandel side, but extend eastward to the Neilgherries; inhabiting upland jungles, chiefly at about 2000 feet above the sea-level."

"The same gentleman is well acquainted with the *Semnopithecus Johnii*, which I observe is incidentally noticed in Harkness's work on the Aborigines of the Neilgherry hills, p. 61. This species is common enough in the depths of the forest, but never approaches the houses like the *Entellus*."

Mr. Blyth is also informed by Lieut. Beagin of the existence of a true Ibex, upon the Neilgherries, with long and knotty horns, curved backwards, and having a considerable beard, in which characters it differs from the Himalayan Ibex. "It keeps to the loftiest and most inaccessible crags, like the other Ibices. He has seen it repeatedly, in troops of a dozen or more individuals, and often endeavoured to obtain a specimen, but without success."

"The *Kemas hylocrias*, Ogilby, or 'Jungle Sheep,' (identified from one of my drawings,) is very generally, it appears, found in the hilly jungles of Peninsular India, keeping to the thick cover, and always met with solitarily, or in pairs. It is a very timid and shy

animal, and when frightened utters a bleat like that of the domestic Sheep. Both sexes possess horns, those of the female being smaller; and indeed this sex is rudely figured in one of General Hardwicke's drawings in the British Museum, as the 'Warry-a-too' of the Chagaton Hills; besides which, this is probably the species indicated as the wild Sheep of Tenasserim of Capt. Low."

"I shall now call your attention to some animals of North Africa, very good descriptions of many of which, obligingly furnished to me by Mr. Crowther (of the Queen's 63rd regiment), I have easily recognised as referring to known species; but there are several which are certainly new to naturalists, and among them two very fine Bovine animals, which the Society would do well to write about to their correspondents in that quarter. As Mr. Crowther described to me the Bubalis and the White Oryx, which are often designated 'wild cattle,' it must not be supposed that those animals are alluded to, as indeed is clear enough from the somewhat elaborate descriptions, and from the roughly-drawn sketches of both animals, *from memory*, which I enclose to assist those descriptions. These sketches will, at any rate, give some idea of the sort of animal, and go far to prove their distinctness from any which we are acquainted with.

"The 'Sherif al Wady' (or *River-chief*) stands six feet and upwards at its elevated withers. General form Bisontine; the carcass somewhat narrow, with flakes or rolls of fat on the sides of the neck; the limbs fine-boned and rather long, being terminated by comparatively small neat hoofs; the succentorial rather long; tail short, with its tuft of frizzled hair not reaching to the houghs. Head, it would seem, much like that of ordinary cattle, with small pointed ears, generally borne pendent, and naked of hair internally and towards the tip, which are delicate pinkish flesh-colour; eyes small and dark; the horns thick, cylindrical, smooth till towards their base, where they are a little rugose, and directed almost vertically upwards from the sides of the forehead; their colour dark, and length about a foot and a half. The character of the coat approaches that of Highland cattle in Britain, but is smoother toward the under parts, with curly hair on the forehead; some pendent hair (as shown in the drawing) from the site of the dew-lap (which latter is wanting), of the dark colour of the body, and a long but scanty white tuft hanging from the prepuce, as in Fallow Deer. General colour blackish brown, with a white belly; the centre of the hump pale ash-colour, or even whitish, with radiating black hair surrounding this, four or five inches long. The cow is smaller and of a redder colour. The individual described was brought with two others, another male and a female, from the central region of Mount Atlas, and was presented by the Emperor of Morocco, in the year 1834, to the late Sir Peter Schousboe, who gave it to Mr. Crowther, in whose possession it lived for four months at Tangiers, when it was shot. It became tolerably tame, and its voice was a booming low, though, when irritated, it would roar in a different tone. The flesh proved to be rather coarse-grained, but that stripped from the sides of the dorsal apophyses, or hump, was excellent, and had the flavour of tongue. The skin was attempted to be preserved, but was destroyed

by the rats. It was considered to be rather a rare animal. Should the above indications of it be confirmed, as I have no doubt they will, I propose that the species be denominated *Bos Atlanticus*. It is not improbably the *Empolunga* of Purchas.

“The other wild Bovine species is much commoner, and has also much of the Bison in its general contour. Size that of Devon cattle, and colour red, with a flowing blackish nuchal mane: (hence this animal is probably the *Wadan* of Capt. Lyon, if not also the *Pacasse*, *Empacasse*, or *Pegasus* of different authors). Its horns are very long and spreading in both sexes, but more so in the female, wherein they are also more slender; they are cylindrical, a little rugose towards the base, and directed out and up; head not much unlike that of common cattle, with no curly hair on the forehead; the ears of moderate size, and broad; and tail, with its tuft, reaching below the hock; the hoofs are very black, and the secondary, or succentorial, short. There is little difference between the male and female in general aspect, but the calf is born of a whitish colour. The voice of this species much resembles that of common cattle, but is considerably more powerful. Its beef is excellent. They are occasionally seen solitarily, but more commonly in large herds, sometimes consisting of several hundreds; at the rutting season in particular, which is about July, they are very fierce, and apt to attack without provocation; they feed in the night, and by day pass much of their time standing knee and belly deep in water, like our tame cattle in summer; their coat has a wavy surface. This species is found about Rabat, and near Salee, on the Barbary coast. I have heard before of such an animal, and it appears to be tolerably common.

“Upon questioning Mr. Crowther respecting the Bear of Mount Atlas, which has been suspected to be the *Syriacus*, he knew it well, and it proves to be a very different animal. An adult female was inferior in size to the American Black Bear, but more robustly formed, the face much shorter and broader, though the muzzle was pointed, and both its toes and claws were remarkably short (for a Bear), the latter being also particularly stout. Hair black, or rather of a brownish black, and shaggy, about four or five inches long; but, on the under parts, of an orange rufous colour: the muzzle black. This individual was killed at the foot of the Tetuan mountains, about twenty-five miles from that of the Atlas. It is considered a rare species in that part, and feeds on roots, acorns, and fruits. Does not climb with facility; and is stated to be very different-looking from any other Bear. The skin, like that of the ‘Sherif al Wady,’ was attempted to be preserved, but unfortunately met with the same fate.”

Dr. Lhotsky then read his paper “On Animal Tuition and Animal Hygiene.”

In the first part of this paper the author makes some observations on the food of animals, and especially with reference to the quality and quantity given to animals in menageries. He next proceeds with remarks upon their abode, dens, cages, &c., the importance of cleanliness, and upon their tuition.

August 24, 1841.

R. C. Griffith, Esq., in the Chair.

Mr. Westwood read his paper entitled "Descriptions of some Coleopterous Insects from Tropical Africa belonging to the Section *Heteromera*."

The insects comprised in this paper are of extreme rarity, and are the giants of the family *Tenebrionidæ*, constituting the genus *Chiroscelis* and other allied groups; some of them, however, appear to lead to *Lagria* in their metallic colouring, &c.

CHIROSCELIS, Lamarck.

Sp. 1. *Chiroscelis bifenestra*, *Lam.*, Ann. du Muséum, iii. p. 260.

Sp. 2. *Chiroscelis digitata*, *Fabricius* (*Tenebrio* d., Syst. El. i. p. 145). Considered by the author as most probably distinct from the preceding, both in size and locality.

Sp. 3. *Chiroscelis bifenestrella*, *W.* *Nigra, nitida, capite minus rugoso, mandibulis minus dentatis, maculis duabus ventralibus ♀ minutis rotundatis, margine antico pronoti haud puncto notato, tibiis quatuor posticis ferè rectis; intermediis ad apicem magis dilatatis.*

Long. corp. vix lin. 14.

Hab. in Guinea. Mus. Westw. Commun. D. Raddon.

Sp. 4. *Chiroscelis Passaloides*, *W.* *Nigra, nitida, vertice trituberculato, tibiis latissimis planis, anticis serratis, posticis intus versus apicem dente armatis.*

Long. corp. lin. $19\frac{1}{2}$ – $20\frac{3}{4}$.

Hab. in Guinea. Mus. Westw. Commun. D. Raddon.

PRIOSCELIS, Hope, Col. Man. iii. p. 128.

Divis. 1. *Clypeus antice haud emarginatus, margine antico in medio 1-tuberculato. Maxillarum lobus internus apice corneo bifido. Prothorax suboctogonus. Elytra ad humeros acute angulata.*

Sp. 1. *Prioscelis Fabricii*, *Hope, l.c.*

Long. corp. lin. 20.

Hab. Sierra Leone. Mus. Hope.

Divis. 2. *Clypeus antice emarginatus, margine antico haud tuberculato. Maxillarum lobus internus apice corneo integro. Prothorax subquadratus magis transversus. Elytra humeris rotundatis. (Iphius, Dej. Cat.)*

Sp. 2. *Prioscelis serrata*, *Fabricius* (*Tenebrio* s.).

Sp. 3. *Prioscelis Raddoni*, *W.* *P. antennis brevibus articulo ultimo quadrato; tibiis anticis curvatis, apice dilatatis; posticis intus serrulatis extus ad apicem subitè dilatatis, prothorace transverso-quadrato, punctis duobus minutis distantibus versus marginem posticum.*

Long. corp. lin. 14.

Hab. in Guinea. Mus. Westw. Commun. D. Raddon.

Sp. 4. *Prioscelis crassicornis*, *W.* *P. atra glabra, antennis longioribus crassioribus femoribus omnibus ante apicem internè bidentatis, tibiis compressis.*

Long. corp. lin. 13.

Hab. in Guinea. Mus. Westw. Commun. D. Raddon.

PYCNOCERUS, Hope, MSS.

(*PACHYLOCERUS*, Hope, Col. Man. iii. p. 186.)

Sp. 1. *P. Westermanni*, *Hope*, *l. c.* (*An Ten. sulcatus, Fabricius?*)

Sp. 2. *P. costatus*, *Silbermann* (*Odontopus* c., *Rev. Ent. Col.*, No. 4.).

ODONTOPUS, Silberm.

Sp. 1. *O. cupreus*, *Fabricius* (*Tenebrio* cu.). *O. violaceus*, *Silb. var.?*

Sp. 2. *O. tristis*, *W.* *O. chalybeo-ater, capite et prothorace opacis, tenuissime punctatis, hujus marginibus lateralibus crenulatis, elytris subviridibus magis nitidis valdè et irregulariter punctatis, sutura lineisque tribus tenuibus longitudinalibus lævibus, femoribus simplicibus, tibiis anticis apicem versus intus dente instructis, tibiis posticis curvatis, intus sinuatis.*

Long. corp. lin. $12\frac{1}{2}$.

Hab. Senegallia? Mus. Westw.

Sp. 3. *O. cyaneus*, *Fabricius* (*Tenebrio* cy.).

Sp. 4. ? *O. speciosus*, *Dejean* (*Pezodontus* sp.).

METALLONOTUS, Gray.

Sp. 1. *M. denticollis*, *Gray*, in *Griff. An. K.*, *Ins. Pl. LXXX. f. 4.*

PRÆUGENA, Laporte, Hist. n. An. Art.

Sp. 1. *Pr. rubripes*, *Laporte.*

Sp. 2. *Pr. carbonaria*, *Klug*, in *Erman's Reise.*

Sp. 3. *Pr. marginata*, *Fabricius* (*Helopus* m.).

Various observations were added by the author relative to the synonymy and generic position of the species above described, and of other tropical African species described by *Fabricius*, *Silbermann*,

Laporte, &c., and long generic and specific characters were given of the majority, accompanied by numerous illustrations of the generic and structural details.

A skeleton of the African Musk Deer (*Moschus aquaticus*, Ogilby), presented by the Earl of Derby, was exhibited. The skeleton is that of a male animal, and its skull exhibits two well-developed canines in the upper jaw, as in other species of the genus.

September 14, 1841.

Prof. Owen, Vice-President, in the Chair.

A letter was read from William Ogilby, Esq., H.B.M. Consulate, Charleston, announcing a present from that gentleman of seven living Water-Tortoises for the Society's Menagerie.

A letter from R. Hill, Esq. was next read. In this letter, which is dated Spanish Town, Jamaica, July 28, 1841, Mr. Hill relates some interesting facts respecting the nests of the birds of Jamaica.

"Naturalists have remarked," observes Mr. Hill, "that in tropical countries there are a greater number of birds that build close nests than in the temperate climate of Europe. In the West Indian islands, with the exception of the Pigeon tribes and the Humming-birds, the nests are almost uniformly circular coverings of dried grass, varied by intermingled cotton, moss, and feathers, with an opening from below, or an entrance at the side. The Banana-bird weaves a hammock of fibres, sometimes of horse-hair, deep and purse-like, and loosely netted; the *Muscicapa olivacea* a hanging cot of withered leaves, straw, moss, fibrous threads, and spiders' webs, fitted together, and the Mocking-bird builds in the midst of a mass of wicker-work a neat nest of straw, lined with hair. The Woodpecker and the Parrots take to hollow trees, but I hardly know an arboreal bird beside that constructs any nest that is not wholly covered or domed over. Very many insects that are exposed to the air during their metamorphoses weave coverings of silk and cotton, in which they lie shrouded, at once impenetrable to moisture, and uninfluenced by the disturbances of the atmosphere. It would seem that the object, whatever it be, is the same in both. It is not for warmth that the insects spin these webs, for they form their coverings of silk and cotton in the hottest period of the year; and I find, that whilst all our birds that build open nests breed early, those that construct the domed and spherical ones, nestle in the season between the spring and autumnal rains, when the air is saturated with electricity, and is in a state of constant change.

"The destructive influence exercised by the active electricity of the atmosphere on the eggs of birds, accords with that organic gradation by which the higher embryonic animals commence vegetative life with an organization similar to that of the lower. The successive stages of development presented by the egg during incubation exhibit the heart and great vessels constructed like those of the Batrachian reptile, with reference to a bronchial circulation. In the descending scale of organization, in animals, where the respiration is low and the irritability high, the electric stimulus is rapidly fatal. Fish and Crustacea perish in numbers under the influence of a thunder-storm (Dr. Marshal Hall on Irritability, Cyclop. Anat. and Phys.),

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and the half-matured embryo in the egg is destroyed by the disturbances which prevail during the activity of the summer lightning.

“Electricity being entirely confined to the surface of bodies, and the quantities they are capable of receiving not following the proportion of their bulk, but depending principally upon the extent of surface over which it is spread, the exterior of bodies may be positively or negatively electric, while the interior is in a state of perfect neutrality. Under isolation the quiescent state of the electricity occasions no sensible change in their properties. The power of retaining the electric fluid depending upon the shape, and the sphere and the spheroid retaining it readily, while it escapes from a point, or is received by a point with facility, the enveloping the eggs of birds in dried and non-conducting materials spread entirely and widely round is a means of steadily maintaining a uniform distribution of the electricity, and with it of preserving that state of quiescence by which no sensible changes are communicated to the embryo within. Thus at a time when the air is excessively disturbed by explosions of lightning and by the shocks of thunder-storms, the business of incubation is carried on in a space completely isolated, and the egg suffers no change of property by the varied electric action that is prevailing in the free atmosphere around.”

Some notes on the Wild Antelope of Khaurism (*Antelope Saiga*, Pall.), by Capt. James Abbott, communicated by K. E. Abbott, Esq., Corr. Memb., were read. The author, after giving a description of the animal, adds, “It lives in large flocks in the steppe between the river Oxus and the Caspian. When pursued it bounds like the Antelope, but being much smaller and less vigorous, is run down by the coarse Persian Greyhound of the Turcoman and Kuzzauk. The Turkish name is Kaigh and Soghoke.”

Mr. Gould exhibited a specimen of the *Apteryx Australis*, in which the beak was shorter, and also more dilated at the base, than in other specimens which he had examined.

Mr. Yarrell read his description of the trachea of a male Spur-winged Goose, *Anser Gambensis* and *Chenalopex Gambensis* of authors.

“A male specimen of this native of Northern and Western Africa died lately in the gardens of the Zoological Society, after living in confinement in the aviary nearly twelve years. Advantage was taken of this opportunity to examine the organ of voice, which is generally found to possess some remarkable variety in form throughout the species of the extensive family of *Anatidæ*, and this expectation was realized. The windpipe of the Spur-winged Goose, which is, I believe, undescribed, measures about sixteen inches in length; the tube flattened throughout, except at the bottom, where it is nearly cylindrical. The bone at the bottom of the trachea, from which the bronchial tubes have their origin, is again flattened, and has on the left side a bony protuberance, forming a hollow labyrinth, about five-eighths of an inch wide, seven-eighths of an inch high, and three-

eighths of an inch thick from front to back. This bony enlargement is perforated with various apertures on each surface, which in a natural state are covered by a delicate semi-transparent membrane."

Col. Hamilton Smith exhibited some drawings of Mammals from the Himalaya Mountains.

Mr. Yarrell exhibited the second fasciculus, and the first and second parts of the letter-press, of Sir William Jardine's 'Scottish Salmonidæ.'

Mr. Waterhouse called the attention of the Members to some imperfect skins of various species of Monkeys from Fernando Po, presented to the Society by George Knapp, Esq. The Curator observed, that he had selected these specimens from a large number of skins, sent from the locality mentioned, and that on a former occasion he had had an opportunity of examining a similar series, from which the specimens were selected which were described in the Proceedings for May 1838, p. 57, under the names *Colobus Pennantii*, *Colobus Satanus*, *Cercopithecus Martini*, and *Cercopithecus erythrotis*. In the present collection is a skin of the *Cercopithecus erythrotis*, in which the face is nearly perfect, and exhibits a transverse red mark, crossing the nose; this mark is not due to the colour of the skin, but to short, bright, rust-coloured hairs. The upper lip is covered with blackish hairs, and a band composed of long blackish hairs runs backwards, from the upper lip, across the cheeks, which in other parts are covered with whitish hairs. The length of the skin is two feet, and the tail measures two feet five inches.

Of the *Colobus Pennantii* there were many specimens in the collection, all of which presented the characters pointed out in the description in the Proceedings.

The skin of the *Cercopithecus Martini*, on the table, Mr. Waterhouse observed, also agreed essentially with specimens formerly exhibited, excepting in being of a larger size, the head and body measuring nearly twenty-six inches, and the tail thirty-one inches in length. The tail is of an uniform black colour, excepting near and at the base, where the hairs are obscurely annulated with gray: the hairs on the under parts of the body are of a grayish soot-colour, obscurely annulated with whitish, and the upper surface of the head, as well as the occipital portion, the shoulders, and fore-limbs, are black: on the fore-part of the head the hairs are distinctly annulated with yellowish white.

September 28, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from the Society's Corresponding Member, J. B. Harvey, Esq., dated South Australia, March 25, 1841, was read. This letter refers to some specimens which Mr. Harvey had forwarded on a former occasion as a present to the Society, and moreover states that he had, at the time of writing the letter, shipped another collection, part of which is also intended for the Society.

A letter from W. V. Guise, Esq., was next read. In this letter, which is dated Sept. 25, 1841, Mr. Guise calls the attention of the Members to the fact that a young Hoopoe (*Upupa Epops*, Auct.) was killed on the eighth of September, at Frampton-on-Severn, by the gamekeeper of Henry Clifford, Esq. of Frampton Court.

Mr. Lovell Reeve then submitted to the Meeting a *Tabula Methodica* of the plan he intended to adopt in his forthcoming CONCHOLOGIA SYSTEMATICA, for the arrangement of the Lepades and Conchiferous Mollusca. He stated, that in reviewing the history of Conchology, which may be dated from the time of Adanson and Linnæus, it was evident that few of these remarkable animals were then known; and although the classification proposed by the latter has been abandoned, from the fact of its having been based almost entirely upon the outward characters of the shells alone, without reference to the anatomy or habits of their animal inhabitants; it may be remembered as a most laudable attempt on the part of that great father of natural history, to introduce into his theory of nature a scientific arrangement of certain shells then before him, which he knew to be the production of certain once living animals. This fallacious method, therefore, was his alternative; he must have been well aware that he could no more arrive at the true history of the Mollusca by their shells alone, than at the natural history of Birds by their feathers alone; but, in the absence of the soft and living parts, he succeeded in establishing an arrangement, by noting such marks and symbols on the shell as could be supposed by analogy to indicate corresponding characters and developments in the organization of its animal. Since the time of Linnæus our intercourse with foreign lands and the general progress of civilization have given increased facilities of obtaining the animals in their native condition; thus, their anatomy and habits have become the popular subject of investigation, raising the study of Conchology to a level with the rest of the natural sciences. From the commencement of the present century various naturalists have assisted in reorganizing the arrangement and division of the Lepades and Mollusca; Bruguière, Lamarck, Cuvier, De Blainville, Deshayes and Gray have successively devoted

themselves to the subject. In illustration of the progress of Conchology, Mr. Reeve exhibited to the Society a series of written tables, showing the systems of classification and nomenclature pursued by these several authors. He observed, that the simple method of Lamarck was that usually adopted, but the last that had been introduced was that of Mr. Gray published in the British Museum Synopsis. The chief object of this author appeared to be to extend the application of the nomenclature, in which he enumerates more than three times the number of genera mentioned by Lamarck. He could not fail to appreciate many useful alterations in Mr. Gray's system of classification, and thought it was entitled to considerable merit on account of the attention with which he had studied the animals; he could not however but express his fears that many of Mr. Gray's changes were founded too much upon conjecture; it was also much to be regretted that the whole matter had not been presented to the notice of scientific men in a fair and satisfactory form. After a careful examination of these authors, and with the view of embodying much new and important matter from various scattered memoirs and monographs, Mr. Reeve proposes the foregoing system of arrangement, considering it only a matter of surprise, that whilst many eminent conchologists are indefatigable in describing new species, a revision in the general distribution of these animals has been so long neglected. The Lepades and Mollusca are to be considered as separate and distinct sub-kingdoms. The Lepades are divided into two orders, according to the established method, the sessile and pedunculated; and the Mollusca into five classes, upon the modifications of the organ of locomotion. The first class is divided, in imitation of Lamarck, according to the number and position of the adductor muscles, as indicated by the cicatrices or points of attachment on the internal surface of the shell. The second class includes but few species, and is distributed at once into families; the animals of this and the former class are all conchiferous, having a bivalve shell; the valves are connected by a ligament in the first class, but not in the second; their general organization too is essentially different. The third class, which comprehends by far the greater part of the Mollusca, is divided into seven orders, according to the varieties of the structure and position of the branchiæ, the system of respiration being the most important feature of distinction in the organization of these animals: this plan of subdividing them was proposed by Cuvier, and has been for the most part followed by subsequent naturalists. The animals of this class are not all conchiferous; some are naked, or entirely destitute of shell, and do not therefore come under the present notice. The fourth class contains but few genera; they include a singular kind of mollusk, having a small glass-like shell, found swimming in myriads on the surface of the ocean by means of a small wing-like natatory fin. The fifth and last class, which contains the Nautili, are divided into two orders, according to the plan of Lamarck. The following Table exhibits the primary distribution of these animals, with their subdivision into families; added to which is the entire classification in detail:—

Tabular Distribution of the Lepades and Conchiferous Mollusca.

<i>Subregna.</i>	<i>Classes.</i>	<i>Orders.</i>	<i>Families.</i>
LEPADES		{ Sessiles	Balanidæ.
		{ Pedunculatæ	Anatiferidæ.
MOLLUSCA CONCHIFERA.	Tropiopoda	{ Bimusculosa	Tubicola, Pholadaria.
			Solenacea, Myaria.
	Brachiopoda	{ Unimusculosa	Macracea, Lithophaga.
			Nymphacea, Conchacea.
	Gasteropoda	{ Cirrhubranchiata	Cardiacea, Arcacea.
			Trigonacea, Naiades.
		{ Cyclobranchiata	Chamacea.
			Tridacnacea, Mytilacea.
		{ Cervicobranchiata	Aviculacea, Pectinacea.
			Ostracea.
		{ Pleurobranchiata	Tendinosa, Adhærentia.
			Dentalia.
{ Nucleobranchiata		Phyllidiana.	
		Fissuracea, Capulacea.	
{ Pulmobranchiata	Macrostomata, Tubispiracea.		
	Bullacea, Semiphyllidiana.		
{ Pectinibranchiata	Aplysiana.		
	Carinariana.		
Pteropoda	{	Limacinea, Colimacea.	
		Cyclostomacea, Auriculacea.	
Cephalopoda	{	Lymnæana.	
		Melaniana, Peristomata.	
		Neritacea, Ianthinea.	
		Plicacea, Turbinacea.	
		Parasitica, Canalifera.	
		Alata, Purpurifera.	
		Columellata, Convoluta:	
		Thecosomata.	
		Polythalamia	Foraminifera, Siphonoidea.
		Monothalamia	Argonautidæ.

Classification in detail.

LEPADES.		Fistulana.	Teredo.
Order 1. SESSILES.		Gastrochæna.	
Tubicinella.	Conia.	Family 2. <i>Pholadaria</i> .	
Coronula.	Balanus.	Xylophaga.	Pholas.
Elmineus.	Clitea.	Family 3. <i>Solenacea</i> .	
Catophragmus.	Creusia.	Solen.	Solemya.
Octomeris.	Pyrgoma.	Solecurtus.	Solenella.
Order 2. PEDUNCULATÆ.		Panopæa.	Glaucanome.
Lithotrya.	Pollicipes.	Glycimeris.	Pholadomya.
Pentelasmis.	Cinaras.	Family 4. <i>Myaria</i> .	
Scalpellum.	Otion.	Mya.	Pandora.
MOLLUSCA CONCHIFERA.		Anatina.	Anatinella.
Class 1. TROPIOPODA.		Thracia.	Myochama.
Order 1. BIMUSCULOSA.		Corbula.	Cleidothærus.
Family 1. <i>Tubicola</i> .		Family 5. <i>Macracea</i> .	
Aspergillum.	Clavagella.	Lutraria.	Gnathodon.
		Mactra.	Crassatella.

Mesodesma. Amphidesma.
Ungulina. Cumingia.

Family 6. *Lithophaga*.
Saxicava. Petricola.

Family 7. *Nymphæa*.
Sanguinolaria. Corbis.
Psammobia. Lucina.
Galeomma. Donax.
Tellina. Capsa.

Family 8. *Conchacea*.
Cyclas. Astarte.
Cyrena. Venus.
Galathæa. Cytherea.
Cyprina. Pullastra.

Family 9. *Cardiacea*.
Cardium. Cardita.
Isocardia. Cypricardia.

Family 10. *Arcacea*.
Cucullæa. Pectunculus.
Arca. Nucula.

Family 11. *Trigonacea*.
Trigonia.

Family 12. *Naiades*.
Unio. Iridina.
Hyria. Mycetopus.
Anodon.

Family 13. *Chamacea*.
Etheria. Chama.

Order 2. UNIMUSCULOSA.

Family 1. *Tridacnacea*.
Tridacna. Hippopus.

Family 2. *Mytilacea*.
Lithodomus. Mytilus.
Modiola. Pinna.

Family 3. *Aviculacea*.
Crenatula. Vulsella.
Perna. Avicula.
Malleus.

Family 4. *Pectinacea*.
Pedum. Plicatula.
Lima. Spondylus.
Pecten.

Family 5. *Ostracea*.

Ostræa. Placunanomia.
Placuna. Anomia.

Class 2. BRACHIOPODA.

Family 1. *Tendinosa*.
Lingula. Terebratula.

Family 2. *Adhærentia*.
Thecidium. Orbicula.
Crania.

Class 3. GASTEROPODA.

Order 1. CIRRHOBANCHIATA.
Dentalium.

Order 2. CYCLOBRANCHIATA.
Chiton. Patella.
Chitonellus.

Order 3. CERVICOBRANCHIATA.

Family 1. *Fissuracea*.
Lottia. Emarginula.
Siphonaria. Fissurella.
Parmophorus.

Family 2. *Capulacea*.
Crepidula. Hipponyx.
Calyptræa. Pileopsis.

Family 3. *Macrostomata*.
Velutina. Stomatia.
Sigaretus. Haliotis.

Family 4. *Tubispiracea*.
Siliquaria. Vermetus.

Order 4. PLEUROBRANCHIATA.

Family 1. *Bullacea*.
Bulla.

Family 2. *Semiphyllidiana*.
Pleurobranchus. Umbrella.

Family 3. *Aplysiana*.
Aplysia. Dolabella.

Order 5. NUCLEOBANCHIATA.
Carinaria.

Order 6. PULMOBRANCHIATA.

Family 1. *Limacinea*.

Parmacella. Testacellus.
Limax. Vitrina.

Family 2. *Colimacea*.

Helix. Bulimus.
Carocolla. Partula.
Anostoma. Achatina.
Pupa. Succinea.
Clausilia.

Family 3. *Cyclostomacea*.

Pupina. Cyclostoma.
Truncatella. Helicina.

Family 4. *Auriculacea*.

Auricula. Chilina.
Scarabus.

Family 5. *Lymnæana*.

Planorbis. Ancylus.
Lymnæa.

Order 7. PECTINIBRANCHIATA.

Family 1. *Melaniana*.

Melania. Melanopsis.

Family 2. *Peristomata*.

Valvata. Ampullaria.
Paludina.

Family 3. *Neritacea*.

Navicella. Neritopsis.
Neritina. Natica.
Nerita.

Family 4. *Ianthinea*.

Ianthina.

Family 5. *Plicacea*.

Tornatella. Pyramidella.

Family 6. *Turbinacea*.

Rissoa. Trochus.
Eulima. Turbo.
Scalaria. Margarita.
Delphinula. Littorina.
Solarium. Phasianella.
Phorus. Turritella.
Rotella.

Family 7. *Parasitica*.

Stylifer.

Family 8. *Canalifera*.

Cerithium. Pleurotoma.
Turbinellus. Pyrula.
Cancellaria. Murex.
Fasciolaria. Ranella.
Fusus. Triton.

Family 9. *Alata*.

Struthiolaria. Pterocera.
Rostellaria. Strombus.

Family 10. *Purpurifera*.

Cassidaria. Trichotropis.
Oniscia. Magilus.
Cassis. Leptoconchus.
Ricinula. Buccinum.
Columbella. Nassa.
Purpura. Planaxis.
Monoceros. Eburna.
Concholepas. Ancillaria.
Harpa. Oliva.
Dolium. Terebra.

Family 11. *Columellata*.

Volvaria. Voluta.
Marginella. Melo.
Mitra. Cymba.

Family 12. *Convoluta*.

Erato. Terebellum.
Cypræa. Conus.
Ovula.

Class 4. PTEROPODA.

Hyalæa. Vaginula.
Cleodora. Cuvieria.
Limacina. Cymbulia.
Creseis.

Class 5. CEPHALOPODA.

Order 1. POLYTHALAMIA.

Family 1. *Foraminifera*.

Orbiculina. Textularia.
Spiroloculina. Nodosaria.
Polystomella.

Family 2. *Siphonoidea*.

Spirula. Nautilus.

Order 2. MONOTHALAMIA.

Argonauta.

Mr. Gould exhibited two skulls of a large species of Kangaroo, from North Australia, which are remarkable for the large size of the nasal cavity, and differ likewise in some other parts of their structure from the more typical species of *Macropus*. Mr. Gould also laid before the Meeting some species of Fishes collected in North Australia.

October 12, 1841.

Professor Owen, Vice-President, in the Chair.

A letter from John Parkinson, Esq., was read. In this letter Mr. Parkinson incloses a communication which had been forwarded to him by Mr. Commissary General Coffin, tending to prove the disposition of the woodcock to return, not only to the same district but to a once-frequented spot. The communication is as follows:—

“In the year 1833 a woodcock with white feathers in the wings was observed in a cover on the manor of Monkleigh, near Torrington, in the county of Devon. The same bird, or one of exactly similar plumage, re-appeared in the same place during the four succeeding seasons, in which period it was so repeatedly shot at by different persons without effect, that it at last acquired among the country-people the name of ‘the witch.’ In the year 1837 however it was killed by John Piper of Monkleigh, while following the owner of the property which it frequented, the Rev. J. T. Pine Coffin of Portledge, who has now the stuffed specimen in his possession.

“The white feathers are the primary quills and bastard winglets of each wing, the remainder of the plumage being of the ordinary hue. These feathers are all of a pure white, and seem to be of a closer and stronger texture than usual, but no other peculiarity is observable. It is however worthy of notice, that the cover which formed its constant haunt, when not disturbed, is a piece of wood not exceeding fifty acres in extent; thus proving the disposition of the woodcock to return, not only to the same district but to the same spot which it has once frequented, and to which it is probably first directed by the parent bird, or by other companions older than itself.”

“Barnstaple, 17th July, 1841.”

A letter from Sir Robert Heron, Bart., was next read. It states that two Rheas in Sir Robert Heron’s menagerie had laid thirteen eggs; but as they showed no inclination to set upon them, eight of them were placed under four turkeys. “When the young Rheas were hatched,” observes Sir Robert Heron, “the turkeys appeared to think them monsters, and in every instance attacked them; but upon their being placed under the turkeys the ensuing night, they took proper care of them.” But one, however, of the young Rheas survived, and this was allowed to range loose with the turkey. It employed its time in catching insects, which is remarkable, since the adult Rhea does not feed upon insects.

The eggs of the Rhea were hatched in five weeks, whilst the Emu sits nine weeks, and Sir Robert Heron supposes the difference of time required to hatch the eggs of these two species may perhaps

arise from the difference in the thickness of the shell of their eggs, the shell of the Rhea being thinner than that of the Emu.

Mr. Gould exhibited four new species of Kangaroos from his collection, and pointed out their chief distinguishing characters. These four species Mr. Gould proposed to name *Osphranter Antilopinus*, *Osphranter* (?) *Isabellinus*, *Halmaturus agilis*, and *Lagorchestes conspicillatus*. The first of these Kangaroos is of large size, and remarkable for the great expanse of the nasal cavity, and consequent dilatation of the bones which inclose that cavity. The bony palate is destitute of the large posterior openings found in the skulls of the typical *Halmaturi*. The incisors are comparatively small; the foremost incisor on each side is rather broader than the second, and the posterior incisor is about equal in width to the other two taken together. On the outer surface of the first and second incisors may be perceived faint traces of longitudinal grooves, and the hindermost of these teeth has a distinct vertical fold situated rather in front of the middle of the tooth. The adult skull presents false molars $\frac{1-1}{1-1}$; true molars, $\frac{4-4}{4-4}$; and the skull of an aged individual has the false molars $\frac{1 \cdot 0}{0 \cdot 0}$; true molars, $\frac{3 \cdot 3}{3 \cdot 3}$.

The muzzle is broad and naked; the muzzle is broad and rather short; the ears are moderate and rounded at the apex. The forelimbs are comparatively long and stout, and the toes and claws are very strong. The hind-limbs are short and muscular; the middle toe of the hind-foot is very large, whilst the lateral toes are but little developed; the two small inner toes (which are united in one common integument as in other Kangaroos) terminate in a line with the small outer toe, or very nearly so. The under surface of the feet is very rough, being covered with small horny tubercles.

These characters, especially the great expansion of the muzzle and the comparatively small development of the lateral toes of the hind-feet, and increase in size of the central toe, Mr. Gould is of opinion should be regarded as generic, or subgeneric, rather than specific; he therefore proposed for the animal the new sectional title of *Osphranter*. The specific name *Antilopinus* was suggested by the peculiar texture of the fur, which resembles that of an Antelope. The principal characters are as follows:—

OSPHRANTER ANTILOPINUS. *Osphr. rhinario lato, nudo; rostro lato, amplificato, caris nasalibus amplis; cauda elongata, valida, pilis brevibus adpressis induta; tarsis posticis mediocribus, digito intermedio permagno, digitis lateralibus parvulis, et inter se eadem longitudine; vellere brevi, aliquanto rigida et adpressa (sicut in Antilope videtur); colore rufo, artubus pallidioribus; corpore subtus, gula, aurium, artuumque partibus internis, nec non caudæ basi infrà, albis vel flavescenti-albis.*

Fœmina *vellere flavescente, apud dorsum fuscescente; capite supernè fusco, albido adperso, occipite, et auribus externè fuliginoso-fuscis; genis, gula, artubus internis corporeque subtus pallidè flavescens; caudæ basi infrà flavescenti-albâ.*

	Masc. unc. lin.	Fœm. unc. lin.
Longitudo ab apice rostri ad apicem caudæ . . .	87 0	66 0
———— caudæ	33 6	26 0
———— tarsi digitorumque	13 0	11 0
———— antebrachii et pedis antici	15 0	9 0
———— ab apice rostri ad basin auris	7 9	5 9
———— auris	4 3	3 6
———— tibiæ	17 6	13 6

Hab. Port Essington, North coast of Australia.

Mr. Gould observed that the *Petrogale robusta* should also be referred to this section.

Of the second species Mr. Gould regretted he was not able to lay before the meeting a perfect specimen; the skin, however, which he exhibited, though imperfect, in his opinion exhibited characters not found in any species hitherto described: they are,

OSPHRANTER (?) ISABELLINUS. *Osphr. vellere aliquantò brevi, molli, splendè fulvo; gula, corpore infrà, artubusque albidis, hic atque illic flavescente levitè tinctis.*

Longitudo corporis circiter 36 unc.

The general colour of the skin is bright fulvous or sandy red; the fur is rather short and soft to the touch; the hairs are uniform in tint to the base: the throat and under parts of the body are white, faintly tinted with yellowish in parts. The fur on the belly is long and very soft: the white or whitish colouring of the under parts, and the uniform fulvous colouring of the upper parts and sides of the body, do not blend gradually. The colour of the tail is nearly the same as that of the body, but is rather paler, and is nearly uniform. The fore-feet and toes above are covered with brown hairs, but on the sides of the toes the hairs are yellowish. The size of the animal is probably about equal to that of the *Macropus Bennetti*.

This skin was procured at Barrow Island, on the north-west coast of Australia, by Capt. Stokes, of H.M.S. 'Beagle,' and transmitted by him to Mr. Gould, that its characters might be published.

The third species is thus named and characterized.

HALMATURUS AGILIS. *Hal. fulvus, suprà nigro adpersus, infrà sordidè albus; aurium apicibus externis et margine antico nigris; strigà fuscè utrinque ab oculis usque ad nares productà, et infra hanc lined albà; clunibus lined albida notatis; caudà longà pilis brevibus albidis, ad basin suprà flavidis, ad apicem nigrescentibus, indutà.*

	unc. lin.
Longitudo ab apice rostri ad apicem caudæ . . .	63 0
———— caudæ	30 0
———— tarsi digitorumque	9 3
———— antebrachii et pedis antici	9 6
———— ab apice rostri ad basin auris	5 6
———— auris	2 9

The above are the principal characters of a male specimen pro-

cured at Port Essington: its fur is rather short, adpressed, and harsh to the touch: the general colour is sandy yellow, but the upper parts of the head and body are freely pencilled with blackish, the hairs being of this colour at the point. The chin, throat, and chest are nearly pure white, and the hairs on these parts are uniform to the base: on the belly the hairs are sandy yellow next the skin, but whitish at the point. The limbs are of a pale sandy yellow tint externally, and white on the inner side. On the fore-feet the hairs are also of a pale sandy yellow tint, but they are pencilled with blackish. The hind-feet are nearly white, but on the toes many of the hairs assume a rusty hue. The upper surface of the head is rather paler than the body; the lips are whitish, and a whitish mark extends backwards from the lips and terminates beneath the eye: running parallel with, and joining this mark, is another mark, which is of a dusky hue. The ears are of moderate size, somewhat pointed, white within, and of the same colour as the upper surface of the head externally, excepting at the apex, where they are rather broadly margined with black, and a narrow black line runs along the anterior edge. On each side of the rump is an oblique whitish line. The tail is rather sparingly clothed with short adpressed hairs, and these are nearly white, excepting on the upper surface at the base, where they are of the same hue as those on the back, and along the dorsal surface is a yellowish line: on the under surface the hairs of the tail are of a dirty white colour, and at the apex they are black.

The last species belongs to the division of the Kangaroos to which Mr. Gould has applied the name *Lagorchestes*, and is remarkable for the circle of bright rust-coloured hairs which surround the eyes, a character which suggested the specific name given.

LAGORCHESTES CONSPICILLATUS. *Lag. vellere ut in Lepore timido; artubus parvis; caudâ ferè quoad longitudinem cum corpore coæquale; capite corporeque suprâ fusciscentibus et flavescenti-albo nigroque adpersis; corporis partibus inferioribus sordidè albis; lateribus ferrugineo-flavescensibus; caudâ pilis brevibus sordidè albis parcè indutâ; tarsis sordidè albis; auribus intùs pilis flavescens-albis; oculis pilis ferrugineis circumdatis; vellere corporis superioris ad radicem nigro.*

	unc.	lin.
Longitudo ab apice rostri ad apicem caudæ . .	32	6
———— caudæ	13	6
———— tarsi digitorumque	5	3
———— antebrachii et pedis antici	3	0
———— ab apice rostri ad basin auris	3	3
———— auris	1	3

This little animal was procured at Barrow Island, on the north-west coast of Australia; in size as well as in the colouring and texture of the fur it very nearly resembles the Common Hare (*Lepus timidus*, Auct.). From *Lagorchestes leporoides* it may be distinguished by the shortness of its ears and the want of a black patch at the base of the fore-leg. As in *L. leporoides*, it has the eyes encircled with reddish

hairs ; but these are of a more brilliant rusty-red colour than in that animal.

The fur is very long, dense, and rather soft to the touch ; on the back it is of a black colour next the skin, yellowish white towards the apex, shaded into deeper yellow still nearer to the point, and black at the point. On the hinder part of the back the portion of each hair, which is yellow on the back, is replaced by white, and there is an oblique white mark on each side of the rump. The fur on the side of the body is deep grey next the skin, brownish yellow in the middle, and this is followed by black, then whitish, and at the point black. On the under part of the body the fur is ash-coloured next the skin, and white externally, excepting on the sides of the belly, where they are of a rusty yellow hue externally. The hair on the upper surface of the head is black, freely pencilled with yellowish white ; a broad space round the eye is covered with bright rusty-red hairs, and this hue, though less bright, is extended backwards beneath the ear. The lips and chin are dirty white ; the throat is white. The ears are very small and somewhat pointed ; internally they are clothed with whitish hairs, and externally with dirty white hairs on the apical portion, but towards the base there is an admixture of black. The fore- and hind-legs and feet are pale, the hairs being dirty white at the point and brown next the skin. The tail is slender, and being but sparingly clothed with short dirty white bristly hairs, exhibits scales ; on the under surface it is more densely clothed, and the hairs are longer and of a dirty yellowish hue.

This new species was transmitted to Mr. Gould for description by Capt. Wickham, of H.M.S. 'Beagle.'

October 26, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

The following communication, entitled, "Description of the Stomach of the *Colobus Ursinus*, Ogilby," by R. Owen, Esq., was read.

"The body of the Ursine Colobus, which there can be little doubt is the Full-bottom Monkey of Pennant (*Colobus polycomos*, Illig.), lately exhibited in the Society's menagerie, having been transmitted to me for examination by Mr. Waterhouse, with a view more particularly to the determination of the form of the stomach, I have much pleasure in communicating to the Society the result of this examination.

"It may render the interest in the dissection of this Monkey more intelligible to some, if I premise, that the genus to which it belongs is one of recent discovery or establishment, the affinities of which to the Doucs (*Semnopithecus*), though strongly illustrated by the general form of the *Colobi*, and more especially by their skull and dental organs, required a knowledge of the anatomy of their digestive system for its full appreciation.

"The *Colobi*, peculiar among all known old world *Simiadæ* by the rudimental development of the thumbs of the fore-hands, were generically separated on that account by Illiger. Cuvier, at the period of publishing the last edition of the 'Règne Animal,' had not enjoyed the opportunity of determining how far the distinctive character, seized upon by the Berlin naturalist, was real and constant. Temminck, however, had assured Cuvier that the *Colobus* of Illiger possessed the skull and dentition of the *Semnopithecæ*. Mr. Ogilby has mainly contributed to establish the Illigerian genus and illustrate its extent by the description of several species founded upon skins transmitted to the Zoological Society; and our excellent establishment has now fulfilled another of its functions, by affording to the anatomist the means of establishing the natural affinities and position of the genus *Colobus*, as it has heretofore done in regard to the *Semnopithecus*.

"The stomach of the *Colobus Ursinus* presents the same complicated saccular structure as in the *Semnopithecæ*: if it was somewhat smaller in the present instance, in proportion to the body, this might arise from the immaturity of the individual examined. The sacculation is produced by the same modification of the muscular fibres of the stomach, combined with a great extent of the digestive tunics. A narrow band of longitudinal fibres traverses the lesser curvature of the stomach, and a second band, commencing at the left or blind extremity of the cavity, puckers it up in a succession of sub-globular sacs along the greater end. I deem it unnecessary to pursue the description more minutely in this case, as it would be merely the

repetition of that which has already been published in our Transactions in reference to the *Semnopithecus Entellus**. The form and size of the cæcum, and the length and disposition of the intestinal canal in the *Colobus* equally corresponded with those parts of the anatomy of the closely allied genus *Semnopithecus*."

Mr. Waterhouse observed, that the animal dissected by Prof. Owen had been presented to the Society by the Earl of Derby, and had lived for some time in the Menagerie. Soon after its death he had carefully examined it with a view to ascertain whether it possessed cheek-pouches. Of these he found not the slightest trace.

Mr. Lovell Reeve then read his "Description of a new species of *Corbis*, a genus of acephalous mollusks of the family *Nymphacea*."

CORBIS SOVERBII. *Corb. testâ transversâ, tumidâ, gibbosâ, lacteâ aut rubellâ; radiis roseis obsoletis ab umbonibus ad marginem divergentibus; lamellis transversis elevatis, remotiusculis, utrinque serratis, anticè valdiùs; striis numerosis radiantibus, intra lamellas; margine subcrasso, profundè crenulato; umbonibus longitudinalibus, minutis, oppositè incurvis; lunulâ parvâ, subcordatâ.*

Long. $2\frac{5}{8}$; lat. $3\frac{1}{8}$ poll. Mus. Stainforth, Nörris.

Junior, testâ depressiusculâ, radiis roseis longitudinalibus plus minusve distinctis.

Long. $1\frac{2}{8}$; lat. $1\frac{7}{8}$ poll. Mus. Stainforth.

Hab. ad insulam Negros, Philippinarum.

Found in loose coral sand on the reefs at low water.

"I have much pleasure in dedicating this beautiful species of *Corbis*, figures of which will appear in the third part of my 'Conchologia Systematica' (pl. lviii.), to that industrious author and artist Mr. G. B. Sowerby, jun. Only one recent species of this characteristic genus of *Nymphacea* has been hitherto known; it is therefore gratifying to be able to make so valuable an addition. The *Corbis Soverbii* differs materially from the *Corbis fimbriata*: instead of the closely fimbriated character of the outer surface, the valves are crossed transversely with distinct elevated lamellar ridges, between which there are numerous striæ running in a longitudinal direction. It is also characterized by being strongly tinged with pink, particularly in an early stage of growth, when the valves are vividly painted with deep-coloured rays passing from the umbones to the margin: as the shell increases in age it increases in convexity, the lamellæ become thickened, and the rays obsolete. This interesting species more nearly resembles the *Corbis lamellosa* of Lamarck, known only in a fossil state; it differs, however, in having the valves much more gibbous or ventricose, and in the lamellæ being strongly serrated on the anterior side. Some little time since I was fortunate enough to obtain, at a public auction at Rotterdam, four specimens of the *C. Soverbii*, two in the young and two in the adult state. The sale consisted of a valuable collection of shells, formed with considerable

taste by the late Dutch governor, General Ryder, stationed at the Moluccas. It included many of extreme rarity and beauty; amongst others, I had the honour of bringing to this country a beautiful new species of the glassy Nautilus, equal in size to the *Carinaria vitrea* that has been seen in this country, a wax model of which has been exhibited in the British Museum for many years, taken from the original, and I believe unique, specimen in the Museum at the 'Jardin des Plantes,' Paris.

"Mr. Cuming has kindly furnished me with the above locality, having met with a few specimens of the *Corbis Soverbii* in his researches amongst the Philippines, at the island of Negros."

The next paper read was from Mr. Stutchbury, and is entitled, "Description of a new Sponge from Barbadoes."

"The Museum of the Bristol Institution having lately become possessed of a very interesting sponge through the liberality of Dr. Cutting, of Barbadoes, to whom we are also indebted for the 'recent' *Pentacrinus*, 'recent' *Pholadomya*, and numerous other valuable donations; and as this tribe has met with the able attention of microscopists, whose researches appear to have excited considerable interest;—I have thought a brief account of the specimen would be acceptable to naturalists."

"The peculiarities of this very beautiful sponge consist in the following distinctive characters; the most remarkable of which is, its being formed entirely of siliceous tubuli, the reticulate structure of the mass being composed of transparent vitreous tubuli, without any admixture of keratose or calcareous matter; the siliceous forming the mass itself, and not, as in other instances, arranged as spicula in the horny membranes; consequently, it is perfectly rigid and sonorous when struck.

"When viewed by a simple lens it exhibits a frothy glass-like appearance: under a magnifying power of seventy-five linear, the net-like meshes are seen to be composed of beautiful glassy tubes, anastomosing one with the other in every direction, the external surface of the cylinders having a rugged aspect; the newer or last formed portions appear to emanate from centres, and at certain distances from spherical masses, from which straight tubes again arise, thus forming the reticulate structure.

"Amidst the interstices of the sponge are found numerous small bodies loose and unattached (also composed of siliceous*), characterized by Ehrenberg under the generic appellation of *Xanthidium*, of which several species in a fossil state are described as occurring in flints and other siliceous minerals; this minute body may be described as

* In testing the mineral character of the sponge a small portion was examined under the microscope; then placed in a test tube, and upon the addition of dilute hydrochloric acid no effervescence occurred: it was then dried, and again placed in the field of the microscope, when no change appeared to have taken place; upon submitting it to the action of the blow-pipe, the only alteration was its losing its glassy aspect by becoming opaque, but it was not altered in form.

a spherical mass of tubuli, arising from a centre, each tubular spine being terminated by an expanded conical aperture, and a strong resemblance is at once observed between these bodies and the mode of extension in the newer portions of the sponge itself; this fact, together with that of the perfect siliceous character of these minute bodies, induces me to come to the conclusion that they are not distinct, free animals, parasites to the sponge, but the *gemmales* of the sponge, in which they are found; and I think their increase, so as to become perfect sponges when ejected from the parent mass, can be readily understood by comparing their present form with the recently formed portions of the sponge. Supposing the *gemmale* (?) to have arrived at that state which commences its individual life, its increase would not be by an extension of the tubuli in a straight line; but from the edges of the terminal aperture of each spine other and similar tubuli would or might be sent off, and thus the end of every spine become a fresh centre and anastomosing point, and in this way a very slight addition would give the newly formed mass the reticulate and vesicular character of the parent sponge.

“Being anxious to identify the peculiar and entire siliceous character of this sponge with its generic appellation, I have adopted the name of *Dactylocalyx*; the principal characters of which may be thus expressed:—

“Sponge fixed, rigid, siliceous; incurrent canals, uniform in size; excurrent canals large, forming deep sinuosities on the outer surface, radiating from the root to the outer circumference.

“For the species the name *Dactylocalyx pumiceus* is proposed.”

A collection of Birds from Australia, presented by J. Olive, Esq., was exhibited.

November 9, 1841.

William Horton Lloyd, Esq., in the Chair.

A letter from E. L. Moore, Esq., dated Newfoundland, September 21, 1841, was read. In this letter Mr. Moore returns his thanks to the Society for having elected him a corresponding member, and observes that no exertion on his part shall be wanting to forward its views.

Mr. Gould exhibited and pointed out the characters of a new species of Goose nearly allied to *Nettapus Coromandelianus* (*Anas Coromandeliana*, Auct.), from N. Australia, which he characterized as

NETTAPUS PULCHELLUS. *Nett. collo, dorso, alisque intensè resplendenti-viridibus; lateribus, fasciis latis lineisque alternatim albis et viridescenti-nigris, conspicuè ornatis; remigibus secundariis cum pogoniis externis albis, undè fascia obliqua alam transcurrens.*

Male: head brownish green, indistinctly barred with light brown, beneath the eye an oval spot of white; neck, back and wings deep glossy green; primaries black; outer webs of the secondaries snow-white; feathers of the chest and back of the neck white, with a number of greenish black circles, one within the other, so numerous that the white is nearly lost; the flanks similarly marked, but in them the bars and circles are broader and more apparent; tail black, glossed with green; abdomen white; under tail-feathers black; irides dark brown; bill dark greenish grey, with a yellowish white nail; under mandible greenish grey, irregularly blotched with a lighter colour; legs and feet blackish brown.

Total length, $12\frac{1}{2}$ inches; bill, $1\frac{1}{8}$; wing, $6\frac{1}{2}$; tail, 3; tarsi, 1.

The female resembles the male, but differs in having the crown, occiput, and a stripe down the back of the neck deep brown; in being destitute of the white spot beneath the eye; in having the chin and upper part of the throat white, mottled with small markings of brown; bill french grey, becoming yellowish at the base; lower mandible bluish grey; tarsi fleshy white on the sides; back and front blackish brown; feet dark brown.

Mr. Waterhouse called the attention of the members to a new species of Rodent from Chile, which had been placed in his hands for description by H. Cuming, Esq. This animal, Mr. Waterhouse stated, evidently belonged to a little family of the *Rodentia* (the *Ocotodontidæ*), which is peculiar to the southern parts of South America, a family of which six species are characterized, and these constitute the four genera, *Ctenomys*, *Poepthagomys*, *Octodon*, and *Abrocoma*.

The present Rodent agrees with the two first of these genera in
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having the fore-feet strong and furnished with large claws formed for burrowing, and approaches most nearly, as regards its external characters, to the genus *Poepthagomys* of F. Cuvier, (which appears to be the *Psammoryctes* of Poepfig,) inasmuch as its ears are of moderate size, whilst those of the species of *Ctenomys* are very small.

The skull presents a very large antorbital opening, enclosed externally by the zygomatic process of the superior maxillary bone, the root of which is thrown out almost horizontally, and is on the same plane as the anterior palatal portion of the cranium: a second, very small opening, for the transmission of the infra-orbital nerve, is pierced through the root of the zygomatic process*; the zygoma is deep and compressed; the portion of the palate situated between the molar teeth is contracted in front, and widest between the posterior molars; and the posterior portion of the palate presents a deep V-formed emargination. The descending ramus of the lower jaw, or that part which lies below and behind the alveolar portion, is thrown out from the outer side of the alveolus of the great inferior incisor, which extends almost to the condyle; its posterior portion is emarginated, and lower and hinder portion is produced in the form of an acute angle, terminating behind the vertical line, dropped from the condyle; the lower boundary of the descending ramus is produced externally and internally in such a manner, as when viewed from beneath, this part presents a horizontal platform of small extent, and which is broadest at about one-sixth of an inch from the angle of the jaw, the platform at this part being produced internally so as to form an obtuse angle. The condyloid portion of the lower jaw has a considerable antero-posterior extent, and the articular surface, which is rather broad, occupies rather more than half of this compressed condyloid process. The coronoid process is in the form of an isosceles triangle, the apex of which is of the same height as the condyle, or very nearly so.

The molar teeth are rootless and four in number on each side of each jaw.

These characters of skull and dentition all indicate the affinities of the animal under consideration with the *Octodontidæ*: the cranium compared with that of the known species of the family presents the modifications observable in the burrowing types, differing from the *Octodons* and *Abrocomas*, which live more on the surface of the ground and ascend trees and bushes, in the smaller size of the cranial cavity, and in the greater strength of all the parts, arising from the comparatively large size of the teeth, and more especially of the incisors, which are fitted for cutting roots†. The auditory bullæ

* This second small opening is found in the skull of *Octodon*, and appears to be represented in the figure (given by Mr. Bennett) in *Ctenomys*, though not so well expressed by the engraver as by the artist of the drawing from which the engraving was made. In *Abrocoma* there is no corresponding opening.

† The burrowing *Sciuridæ* and *Muridæ*, as compared with the typical examples of their respective groups, present a corresponding modification of the skull; the strength of the cranium is greater, and the cranial cavity

ate of moderate size, but rather smaller than in *Octodon*; the lower jaw is larger and much stronger than in the two genera mentioned. In these characters the present animal makes so near an approach to *Ctenomys*, that it might with propriety be placed in that genus were it not that in the structure of the teeth there exists a difference fully as great as that which gave rise to the generic distinction of the little groups of which the family *Octodontidæ* is composed. In *Octodon*, *Poephogomys* and *Ctenomys*, the enamel of the molar teeth enters, in the form of a fold on each side, into the body of the tooth, but the folds from opposite sides do not meet. In the Rodent which forms the subject of these observations, the crown of each molar is divided into two parts by the meeting of the folds of enamel of the outer and inner side, and the surface of these teeth may be compared to a series of cylinders (two to each tooth), which are much compressed in the antero-posterior direction. The three foremost molars in each jaw are equal in size, and the posterior molar is smaller than the rest. In position, the last molar of the upper jaw differs from the others, being as it were twisted, so that the two transverse lobes are placed obliquely.

With our present very limited knowledge of the small Rodents of the southern parts of South America, and especially of the western coast, it is impossible to judge of the value of such a modification of the molar teeth as is here pointed out. It is possible that the species of *Octodontidæ* may vary more or less among themselves in the structure of these teeth, in which case the so-called genera, established as the species are discovered, will require a revision, as do very many of the genera of *Rodentia*; in the mean time, however, it is necessary that sectional names should be imposed on such species as will not agree tolerably well with the definitions of the genera published as such. Agreeably to these views, the subgeneric title *Schizodon** is proposed for the present new Rodent. The principal external characters may be thus expressed:—

SCHIZODON FUSCUS. *Schiz. suprâ griseo-fuscus, subtùs obscure flavo tinctus: pedibus pilis obscurè fuscis tectis; auribus mediocribus; caudâ, fuscâ quoad longitudinem caput ferè æquante, pilis brevissimis tectâ.*

	unc. lin.
Longitudo ab apice rostri usque ad caudæ basin	9 0
caudæ	1 8
tarsi digitorumque	1 $5\frac{3}{4}$
auris	0 $5\frac{1}{2}$

In size and colouring the *Schizodon* greatly resembles the Common Rat (*Mus decumanus*); its fur is rather softer than in that ani-

smaller. It is difficult to estimate the amount of intelligence in these animals, but, judging from the size of the brain, it would appear that there existed an intimate connexion between the food of the animal and its intelligence; the food in one case leading the animal to habits which cause it to be exposed to numerous dangers which do not occur in the other.

* From $\sigma\chi\acute{\iota}\zeta\alpha$, *divido*, et $\acute{o}\delta\acute{o}\nu$, *dens*.

Tup
55-12.21

mal. Both on the upper and under parts of the body the hairs are of a deep slate-grey colour next the skin; those on the belly are of a dirty yellow colour. On the back, the hairs are most of them brownish, or yellowish brown near the point, and black at the point. The ears are covered both externally and internally with fine short hairs. The hind-feet have five toes; the fore-feet also have five toes, but the inner one is very small and has a very short nail; the other toes have long, compressed and powerful nails. The hairs of the moustaches are of a dusky colour.

The discovery of the Rodent above described is due to Mr. T. Bridges, whose notes relating to it are as follows:—"This species of Rodent is very common on the eastern side of the Andes, where it completely undermines the face of the country, especially in dry places, making it very disagreeable for the rider, as the horses are continually plunging into the burrows. It must lay up a winter store, or otherwise migrate, or remain buried in the snow at least three months during the winter season. The specimen is a female."

November 23, 1841.

John Willimott, Esq., in the Chair.

Mr. Lovell Reeve exhibited a beautiful new species of *Mitra*, a genus of pectinibranchiate mollusks, of the family *Columellata*, which he characterized as follows:—

MITRA STAINFORTHII. *Mitr. testâ cylindracco-fusiforâ, exalbida; apice basique cinereo-cærulescentibus; spirâ acuminatâ; anfractibus transversim leviter striatis, longitudinaliter costatis; costis latiusculis, subdistantibus, maculis rufis quadratis vividè pictis; aperturâ angustâ; columellâ triplicatâ; umbilico parvulo; labro externo simplici, fauce ad marginem rubidè maculatâ.*

Long. $2\frac{1}{4}$; lat. $\frac{1}{2}$, poll. Mus. Stainforth.

Hab. ad insulam Burias, Philippinarum. Cuming.

Found in coarse coral sand, 7 fathoms.

“It is with peculiar gratification that I am allowed to introduce into the nomenclature of the Mollusca, the name of my esteemed friend, the Rev. Mr. Stainforth; a zealous conchologist, and one who, perhaps, stands unrivalled in his beautiful collection of Mitres. The *Mitra Stainforthii* is somewhat allied to the *Mitra sanguisuga* of Lamarck: the whorls are longitudinally ribbed as in that species; but in this, they are wider and more distant from each other; they are also eminently distinguished by a series of square red spots running from the top to the bottom. The magnificent specimen which has furnished the above description is two inches and a quarter in length; a few small specimens have been recently found by Mr. Cuming at the island of Burias, one of the Philippines.”

A collection of bird-skins and mammals from Chile was exhibited. The specimens were collected by Thomas Bridges, Esq., in the Andes of Chile, lat. 34° – 35° , and were laid before the meeting at the desire of that gentleman. With this collection Mr. Bridges sent the following notes, which were communicated to the Meeting by H. Cuming, Esq.:—

Canis Azaræ, Pr. Max. Found in valleys on the eastern side of the Andes. This species of Fox appears to differ from the large Fox of Chile, known by the name of “Culpeo,” in the bluntness of its ears.

Schizodon fuscus, Waterh. Proc. Zool. Soc. for November 9, 1841. Mr. Bridges’s notes on the habits of this Rodent will be found in the Proceedings of the preceding meeting.

Mus, ———? This little animal is found about hedges in the province of Colehagua, and is by no means common. There are in Chile at least ten or twelve species of Rats and Mice.

Sturnella loica, Auct. Common in all parts of Chile. Iris brown.

Agelaius Chopi, Vieill. "Tordo" of the natives. Iris dark brown. Common in flocks in all parts of the country.

Chlorospiza xanthogramma, G. R. Gray. Found in valleys near the summit of the Andes on the east and west sides. Iris brown.

Emberiza luctuosa, Gerv. Found in valleys of the Andes. Sings delightfully in summer. Iris dark brown.

Fringilla Gayi, Eyd. and Gerv. Found near the summit of the Andes in valleys amongst bushes. Iris reddish brown.

Muscisaxicola rufivertex, D'Orb. Found on the east and west sides of the Andes near the snow. Iris dark brown.

Agrionis leucurus, Gould. This bird is found in the valleys near the summit of the Andes on the east and west sides. It is called "Mero" by the natives, but differs from the "Zerral Mero" of the warmer parts of the country. Iris brown.

Pterotochos Tarnii, G. R. Gray. This singular bird is found in the woody parts of the Andes, and is very difficult to shoot; its cry is compared to the neighing of a young colt. Iris dark brown.

Caprimulgus bifasciatus, Gould. This bird is found amongst low bushes on the eastern side of the Andes. It is known to the natives by the names of "Plasta" and "Gallina Ciega," *i. e.* Blind Hen. Iris brown.

Upucerthia dumetoria, Isid. Geoff. and D'Orb. Found amongst low bushes and in sandy places in the elevated valleys of the eastern side of the Andes. Iris brown.

Scytalopus fuscus, Gould. Found in hedges in various parts of Chile, also in the Andes. It is called by the natives "Chircan Negro," as the other species common in Chile is light brown. Iris brown.

Geositta canicularia, G. R. Gray. This little bird is found on the plains near the Andes, and is called by the natives "El Caminante," or Traveller, from its running before the traveller on the dry sandy roads of the country. Iris brown.

Alcedo torquata, Auct. Found near the rivers of Chile. Iris brown. Called by the natives "Martin Pescador."

Picus Magellanicus, Vig. Iris brown. This beautiful species of Woodpecker is found in the forests of "Roble" in the Andes, and may always be discovered by its singular scream or call. It is known to the natives by the names of "Concona" and "Carpintero de la Cordillera."

Colaptes Chilensis, Vig. Known to the natives by the name of "Pitigue," so called from its call or note. This bird is common in the woods of *Acacia Cavenia* near the Andes, and is also found in the valleys of the Andes in woody places. Molina says that this bird builds its nest in holes on the ground, which is an error, as I have found the nest in holes of trees like the rest of the genus. The eggs are white. Iris pale green or gray.

Vanellus Cayenensis, Steph. This is the "Queltregue" of the natives, and is one of the most common birds found on the plains near the Andes, also in other parts of the country. Food, worms, locusts, &c. The eggs are excellent eating, and resemble in colour and size those of the Lapwing of England. Iris purple.

Tinocorus D'Orbignyianus, Isid. Geof. St. Hilaire. This is the small Partridge of the Andes, and is called by the natives "Perdix Cordellierana." It comes down to the plains in severe winters. Generally found in pairs in the valleys near the summit of the Andes. The male shows the strongest attachment to his mate, and calls her by a melancholy tone or cry when separated. They are so tame that the natives kill them with stones, and so stupid that a stone may be thrown at them several times before they will rise. Iris brown.

Columba Boliviana, Auct. This little dove is found in small flocks in the valleys of the Andes, and, in the winter, visits the coast. It is known to the natives by the name of "Tortola Cordellierana." This is the smallest of the three species found in Chile. It makes a whistling noise with its wings when it rises from the ground. Iris brown.

Dafila urophasianus, Eyton. Iris brown. Found in valleys on the eastern side of the Andes.

Anas ————— ? Iris brown. Found inhabiting the rapid rivers of the Andes. This bird swims and dives against the rapidity of the mountain torrents in a manner truly astonishing. It seldom or never leaves the rivers of the Andes, and, like the Grebes, seldom makes use of its wings, although when disturbed it flies a short distance. Generally seen in pairs.

Mr. Gould made some observations on this collection, and particularly drew attention to the last species in the list, which Mr. Bridges places in the genus *Anas* with a note of doubt. Mr. Gould observed that this bird was unknown to ornithologists, and presented a most singular combination of characters. In many of its characters it approaches the Ducks (*Anatidæ*), but in others it evinced an affinity to the Mergansers (*Mergus*), especially in its long and stiff tail-feathers, and narrow and pointed beak. It differs, however, from either of the groups mentioned in having, in both sexes, a strong spur on the wing. Mr. Gould proposed for this new bird the name *Merganetta armata*.

GENUS MERGANETTA.

Rostrum haud minùs longum quàm caput, rectum; ferè cylindraceum, ungue apicali distincto, incurvato, at minùs abruptè quàm in genere *Mergus* dicto. Mandibula superior lamelloso-dentata, vel tornio crasso carneo, intùs profundè serrato, instructa; naribus linearibus ferè centralibus.

Alæ mediocres primariis secundo et tertio longissimis; humeris calcare valido et acuto armatis.

Cauda, ut in *mergo*, rigida.

Tarsi aliquantò elongati, squamis hexagonis ad latera obtecti, et anticè scutellis. Digits palmati, medio quàm tarsus paululùm longiore; halluce libero, altè posito, et paululùm lobato.

MERGANETTA ARMATA. *Mas*: vertice nigrescenti-fusco, strigá angustá, albá cincto; hac, lined faciali ejusdem colore, conjunctá;

infra hanc lineam strigā nigrā angustā, ab occipite super oculum ductā vittā nigram facialem efficiente, deinde per mediam gulam excurrente, et super pectus totum diffusā; capitis lateribus, sic et collo albis, hoc apud nucham strigis nigris longitudinalibus tripliciter ornato, quarum centrali latā, reliquis angustis.

Fœm. : vertice et dorso saturatè cærulescenti-cinereis, sic et colli lateribus, his albescente minutè fasciatis; genis infra oculos, gulā, gutture, et corpore subtūs e rufo castaneis.

Male. Crown of the head blackish brown, surrounded by a narrow stripe of white which unites with another line of white running at right angles down the sides of the face; beneath this a narrow line of black which terminates in a point at the occiput, and running over the eye joins a broader band of the same colour down the sides of the face, is continued down the centre of the throat and spreads over the chest; sides of the head and neck white, interrupted at the back of the neck by three longitudinal stripes of black, the centre one being broad and the lateral ones narrow; feathers of the back and scapularies much lengthened, and conspicuously margined with white, the centres being in some blackish brown, in others greyish brown; wings deep grey, with a beautiful green speculum, bounded above and below with a narrow irregular band of white, produced by the tips of the greater wing-coverts and secondaries being tipped with that colour; primaries brown; rump and upper tail-coverts greyish brown, finely freckled with zigzag lines of white; centre of the abdomen dull light chestnut brown, with a blackish brown mark down the centre of each feather; flanks and under tail-coverts blackish brown; tail brown; irides brown; bill reddish brown; feet brown.

Female. Crown of the head, back and sides of the neck dark slate grey, the sides of the neck regularly barred with minute lines of greyish white; the elongated feathers of the back and scapularies margined with deep grey instead of white as in the male; lower part of the back deep slate grey; upper tail-coverts the same, crossed by numerous minute bars of white; wings grey, the coverts tipped with white; sides of the face below the eye, throat, and all the under surface rich reddish chestnut; tail brown.

Total length $18\frac{1}{2}$ inches; bill $1\frac{5}{8}$; wing 7; spur $\frac{5}{8}$; tail 5; tarsus $1\frac{3}{4}$; middle toe $2\frac{1}{8}$.

The female is rather less in all her admeasurements.

The male from which the description is taken had some of the tail-feathers white, but this would seem to have been produced by wearing and exposure, as they were all old feathers.

Mr. Waterhouse observed, that the Fox contained in Mr. Bridges's Collection he felt little doubt is the *Canis Azaræ*, Fr. Max., but it differed from the specimen figured in the 'Zoology of the Voyage of the Beagle,' in not having the black on the chin and angles of the mouth.

December 14, 1841.

Richard Owen, Esq., Vice-President, in the Chair.

A letter from the Society's corresponding member, J. B. Harvey, Esq., was read.

A letter from Mr. Fraser, dated from the mouth of the river Nùn, W. Africa, August 14, 1840, was next read. In the first part of his letter, Mr. Fraser, the naturalist to the Niger expedition, alludes to a collection of specimens which he had formed during his passage out, and which he had forwarded to England. This collection consists of three mammals, nearly fifty birds, twenty-eight reptiles, upwards of thirty fishes, and about forty boxes, bags, &c. containing chiefly insects and shells. The writer expresses a wish that this collection may not be regarded as a specimen of what may be hereafter expected, since he had purposely abstained, as much as possible, from using his materials for preserving specimens until his arrival at the Niger.

The letter moreover contains some interesting facts relating to the habits and habitats of certain animals. Among the skins of Mammalia, Mr. Fraser observes, he had forwarded a *Galago* which was shot at Cape Coast, close to the town, in a tamarind tree, where he also found its nest, built, or rather laid, in a fork formed by the branches. The nest was composed of loose leaves. The animal resembled the *Loris gracilis*, but its limbs were stouter. The following monkeys, Mr. Fraser states, appear to be found in the neighbourhood of Sierra Leone: *Troglodytes niger*, *Colobus ursinus*, *Cercopithecus fuliginosus*, common, *Cerc. Sabæus*, and *Cynocephalus Papio*. The banks of the beach are everywhere perforated with large round holes, which the natives informed Mr. Fraser were inhabited by an animal which they call the Ground-pig, which is the *Aulacodus Swinnderianus* of Temminck. At Bassa, the author of the letter saw some skins of *Cercopithecus Diana*, said to be common in that district; he also saw a skin of an antelope, apparently the *Antelope Ogilbyi*, Waterh. At Cape Coast the *Cercopithecus petaurista* is to be found, and likewise the *Colobus leucomeros*. Skins of the last-mentioned animal as well as of the *Cercopithecus Diana* were extremely plentiful at Accra.

The following paper, by Mr. Lovell Reeve, "On *Lingula*, a genus of Brachiopodous Mollusks," was then read:—

"The *Lingulæ* belong to a group of Bivalve Mollusks differing materially in their system of organization from any other of the great tribe of *Acephala*. They have received the title of 'the *Brachiopoda*,' on account of their being provided with two long

spirally twisted arms, and are distinguished by other not less important particulars. The soft parts are differently arranged within the shell from those of other Bivalves; the valves are not united by any ligament, and there is a very distinct change in the arrangement and position of the breathing apparatus. Although Pallas has given a short anatomical description of the *Terebratulæ*, it was not until the appearance of Cuvier's memoir on the anatomy of *Lingula*, that the true characters of these remarkable animals became known; it was then determined that the *Brachiopoda* should be set apart in a separate and distinct class. The anatomy of the *Terebratulæ* and *Orbiculæ* has since been most elaborately set forth by Prof. Owen in the Transactions of this Society, and agrees in all its essential particulars with that of the *Lingulæ* previously described by Cuvier; subject, however, to certain modifications arising from the different situations they inhabit. The *Lingulæ*, which are provided with a long pedicle, commonly live near the surface, and are found at low water, partially buried in the sand for the protection of their fragile shells against the violence of the tides; the *Terebratulæ*, on the contrary, are found in deep water, attached in clusters to fragments of rocks and corallines by a bunch of short fibrous tendons issuing through an orifice in the shell.

“The essential points in which these animals differ from other Bivalve Mollusks are as follow:—*First*, in the position of the soft parts within the shell: in the *Brachiopoda* the dorsal part of the visceral mass is against one valve, and the ventral part against the other; whilst in most of the *Tropiopoda* the back is placed directly against the hinge, and the sides against each valve. *Secondly*, in being provided with a pair of retractile brachia or arms: in the place usually occupied by the branchiæ, are two long spirally twisted arms, generally more or less fringed, and so strongly resembling in some species the branchiæ of the *Tropiopoda*, that they were at one time thought to be the true organs of respiration. These retractile arms are said to be in constant activity for the purpose of producing an inward current of water for the capture of animalculæ, and other alimentary prey. *Thirdly*, in the arrangement and position of the branchiæ: instead of the organs of respiration being distinctly formed in lateral lamellæ upon the body, as in the *Lamelli-branchiate Tropiopoda*, they consist of a number of beautiful veins and arteries incorporated within the substance of the two lobes of the mantle. The calcifying organ of the *Brachiopoda* therefore has a double function: in addition to its usual property of secreting the calcareous mucus for the formation of the shell, it is made subservient to the circulation of the aërated water. Prof. Owen observes, ‘that in this profuse distribution of vessels over a plain membranaceous surface, we perceive the simplest construction of the *water-breathing* organ, presenting a beautiful analogy with the elementary forms of the *air-breathing* organ in the *pulmoniferous Gasteropoda*.’ In consequence of this new arrangement of the respiratory system, the title of the *Brachiopoda* has been changed by De Blainville for that of the *Palliobranchiata*, or mantle-breathing Mollusca. The

muscular system in these animals appears to be most complex; the *Lingula* and *Orbicula* are provided with three pairs of muscles, and the *Terebratulæ* have four. The large muscles are destined to open and close the shell in the absence of a hinge ligament; and the small ones assist in sliding one valve over the other for the admission of water.

“Until within the last few years only one species of *Lingula* was known, and previous to the publication of Cuvier’s memoir, before alluded to, the shell of this singular animal gave rise to much speculation amongst naturalists. Linnæus, upon the discovery of an odd valve of *Lingula* exhibiting no trace of any hinge ligament, described it as a *Patella*. Both Rumphius and Favanne took it to be the calcareous shield of a *Limax* or land-slug. Chemnitz, upon finding that the shell of *Lingula* was really bivalve, placed it with the *Pinnæ*; and even Dillwyn includes it with the *Mytili*. Bruguière was the first to distinguish it by its present title in the plates of the ‘Encyclopédie Méthodique,’ in which he has been followed by Cuvier, Lamarck, and all succeeding writers.

“With regard both to the situation that the *Brachiopodous Mollusca* should occupy in the natural system, as well as the rank to which they are entitled in the classification, authors have been much divided. By Dumeril and De Roissy they were associated in a particular class with the *Lepades*, on account of a fancied resemblance in their spirally twisted arms to the cirrous tentacula of those animals; they differ however in not being articulated, and their relation altogether with the *Lepades* is one of very remote analogy. Cuvier distinguished them as a new and separate class, but still arranged them next in order to the *Lepades*. Lamarck placed them at the end of his ‘*Conchifères monomyaires*’ merely as a family of that order. Prof. Owen and Deshayes both consider that they are entitled to take the rank of an order; the latter author however admits that there is far less affinity between the *Brachiopoda* and the rest of the acephalous mollusks, than there is between the acknowledged divisions of *Bimuscular* and *Unimuscular*. In the arrangement of my ‘*Systematic Conchology*’ I propose to adopt the still higher rank that was assigned to them by Cuvier, namely, that of a class, placing them according to Lamarck, at the end of the *Acephala*, upon the presumption that their branchial apparatus presents a modification of structure intermediate between that of the proximate classes, the *Tropiopoda* and the *Gasteropoda*.

“The *Lingula* come with great propriety at the commencement of the class, because they have the nearest affinity with the *Tropiopoda*; their body is larger in proportion to that of the rest of the *Brachiopoda*, and although the branchiæ are incorporated within the substance of the mantle, they nevertheless present a certain indication of the lamellar structure. Lamarck placed them at the end of his family of ‘*Les Brachiopodes*,’ because, in having referred the *Crania* to his fossil family of ‘*Les Rudistes*,’ he found it necessary to follow up their affinity with the *Orbicula*; his arrangement of the genera therefore is the reverse of that I have adopted.

“ The *Lingula anatina* was for a long time the only species known ; another one, the *Lingula hians*, was described by Swainson in his ‘ Zoological Illustrations,’ and we are indebted to Mr. Cuming for five new ones ; two, the *Lingulae Audebardii* and *semen*, have been already described by Mr. Broderip in the Transactions of this Society, and I have now the pleasure of introducing three which I believe to be entirely new to science.

LINGULA OVALIS. *Ling. testá angustá, elongato-ovali, glabrá quasi politá, olivaceo-viridi ; apice acuminato ; valvis utrinque clausis.*

Hab. — ?

Long. $1\frac{3}{10}$; lat. $\frac{6}{10}$ poll.

“ This shell, which approaches rather in appearance to that of the *Lingula anatina*, may nevertheless be distinguished by its complete oval form ; though it is somewhat acuminate at the apex, the umbones are much less prominent, and the valves are more compressed, and more closely united all round.

LINGULA TUMIDULA. *Ling. testá corned, tenuissimá, rubro-olivaceá, subquadrátá, versus apicem parim attenuatá, umbonibus vix prominulis ; valvis tumidulis, marginibus irregulariter reflexis.*

Hab. ad oras Novæ Hollandiæ.

Long. $2\frac{1}{10}$; lat. $1\frac{5}{10}$ poll.

Reeve, Conch. Syst. v. i. p. 180. pl. 125. f. 4.

“ The shell of the *Lingula tumidula* differs materially, both in size and composition, from that of any of the previously known species ; it is considerably larger and thinner, and rather horny than calcareous, and the colour of it is a burnt olive-red. From the swollen appearance of the valves I am inclined to think that the shell is perfectly pliable and elastic during the life of the animal.

LINGULA COMPRESSA. *Ling. testá corned, tenuissimá, valdè compressá, fusco-olivaceá, subquadrato-ovali, versus apicem attenuatá, umbonibus depressis, indistinctis ; valvis utrinque clausis.*

Hab. ad Palanam, ins. Masbate, Philippinarum.

Long. $1\frac{8}{10}$; lat. $1\frac{1}{10}$ poll.

“ This curious species was found by Mr. Cuming in sandy mud at low water at Palanas, Island of Masbate, one of the Philippines. Its shell is of the same thin horny composition as that of the *Lingula tumidula* ; in fact I at first took it to be merely a local variety of that species. Upon comparison however I feel assured that it is distinct ; it is more attenuated towards the apex, and from the valves being remarkably compressed and closely united all round, I am induced to suppose that the animal must be proportionably smaller. The two specimens from which the above description is drawn do not exhibit the pallial cilia, which Mr. Cuming’s usual care would have protected ; they may therefore not have been exerted beyond the margin of the valves. He did not succeed in obtaining the pedicle of this species.

“ Mr. Cuming exhibits on this occasion specimens of all the known *Lingula* from his own collection, and I am not aware that four

species out of the seven exist in any other. They belong to a class of mollusks of which few recent varieties are known, and may therefore be highly esteemed for their conchological interest."

The next paper read was from Mr. G. B. Sowerby, jun., and is entitled "Descriptions of nine species of the genus *Pupina*."

Gen. PUPINA, Vignard.

Molluscum terrestre.

Testa subcylindrica, vitrea, nitidissima, anfractibus quinque ad sex, penultimo inflato, ultimo paululum coarctato; aperturâ circulari, margine crasso, reflexo, ad basin columellæ inciso, vel emarginato.

Operculum corneum, spirale.

The glassy enamel, which gives a brilliant polish to the small, terrestrial shells composing this genus, seems to distinguish them even from those species of *Cyclostoma* which most nearly resemble them, in having a pupiform shape, and a notch at the base of the columella. The question has been asked, "Why not make this marginal notch the criterion of the genus?" The answer is found in the following facts: first, the notch is found in *Cyclostomata*, which have no other character in common with *Pupina*; second, that several *Cyclostomata* have a canal at the lower part of the whorl, which if continued would form a similar notch; third, that our *Pupina lubrica*, which could scarcely be separated from the genus, has but a very slight emargination.

The first species described under this generic name was *P. Keraudrenii*, published by Vignard in the 'Annales des Sciences,' 1829.

Mr. Grateloup subsequently described *P. Nunezii* under the generic name *Moulinisia*, neither of these naturalists being acquainted with the operculum.

All the species here described, with the exception of *P. antiquata* and *P. Keraudrenii*, were recently brought to this country by Mr. Cuming from the Philippines.

* Species spirâ axe retrorso.

PUPINA NUNEZII. *Moulinisia Nunezii*, Grateloup, Ann. Soc. Linn. Bordeaux, 1840. *P. Nunezii*, Sow. jun., Thesaurus Conchyliorum, part 1. f. 8, 9, 10, 11. Published May 1842. *Testa globosa, obliqua; aperturâ magnâ, margine validè expanso, reflexo, complanato, incisurâ triangulari penitùs diviso; labio columellari concavo: anfractu ultimo propè aperturam subcomplanato.*

Long. .50; lat. .35 poll.

Hab. ad insulas Samar, Luzon, Catanduanus et Siquijor, Philippinarum.

Var. a. *Fusca margine flavido.* Samar.

Var. b. *Flavida, margine aurantiaco.* Albay, ins. Luzon.

Var. c. *Fulva rufescens.* Ins. Catanduanus.

Var. d. *Alba, propè aperturam purpureo-cincta, margine flavido.*
Ins. Leyte.

More globose than any other species, the spire turned backwards,

the penultimate whorl elevated, the last whorl flattened in front, the incision of the peritreme deep, the columella grooved, varying in colour from bright orange to cream-white and dark brown; the margin always either orange or yellow. Found on leaves of small plants and low bushes in several of the Philippine Islands.

PUPINA PELLUCIDA, Sow. jun., Thesaurus Conch. part 1. f. 18, 19, 20. *Testa obliqua, subglobosa, pellucida, spiræ axe valdè retrorso, anfractu penultimo elevato, ultimo complanato margine reflexo, incisurâ diviso; columellâ latâ convexâ.*

Long. .30; lat. .20 poll.

Hab. ad insulas Luzon et Zebu, Philippinarum.

Var. *a. Fulva.* Daleguete, ins. Zebu.

Var. *b. Grisea fulvescens, minor.* Bongabon, ins. Luzon.

Smaller, more transparent, and with the spire more bent than the last; the outer lip less expanded, the notch completely dividing the peritreme, and the columella convex. Found on small plants in woods.

* * Spirâ penè rectâ.

PUPINA LUBRICA, Sow. jun., Thesaurus Conch. part 1. f. 12 to 16. *Testa subobliqua, cylindrica; spirâ brevi obtusâ, aperturâ rotundatâ; margine anticè subexpanso, paululùm incrassato, ad basin columellæ vix emarginato; columellâ callosâ.*

Long. .35; lat. .25 poll.

Hab. ad insulas Panay, Siquijor, et Luzon, Philippinarum.

Var. *a. Fulva.* Ins. Panay.

Var. *b. Fulva, minor.* Ins. Siquijor.

Var. *c. Alba, translucida.* Ins. Siquijor.

Var. *d. Grisea fulvescens.* Ins. Luzon.

Var. *e. Alba.* Calauang, Laguna, ins. Luzon.

In this species the notch is scarcely perceptible, and there is a rounded callosity behind the columellar lip. The inner lip is thickened on the body whorl. Found in dense woods on small plants.

PUPINA VITREA, Sow. jun., Thes. Conch. part 1. f. 6, 7. *T. subelongata, recta, anfractibus subrotundatis, margine expanso, reflexo, complanato, incisurâ diviso.*

Long. .50; lat. .25 poll.

Hab. Ins. Mindinao et Luzon, Philippinarum.

Var. *a. Fulva, margine luteo.* Albay, ins. Luzon.

Var. *b. Fulva, margine aurantiaco.* Cagayan, pr. Misamis, ins. Mindinao.

The spire is straight and elevated, gradually tapering towards the obtuse apex; the peritreme is expanded and flattened, the notch deep.

PUPINA SIMILIS, Sow. jun., Thes. Conch. part 1. f. 4, 5. *Testa fulva, subelongata, recta, anfractibus subrotundatis, margine pallidè fulvo, expanso, reflexo, rotundato, crasso, incisurâ usque ad dorsum diviso.*

Long. .45; lat. .26 poll.

Hab. Bolino, provinciam Zambales, ins. Luzon.

Resembling *P. vitrea*, but the margin not flattened, and the notch so deep that it is seen at the back of the shell. Found on leaves of bushes and trunks of trees in the island of Luzon.

PUPINA EXIGUA, Sow. jun., Thes. Conch. f. 17. *Testa parva, translucida, alba, cylindrica; anfractu penultimo inflato; margine aperturæ paululùm incrassato, incisurâ diviso.*

Long. .26; lat. .16 poll.

Hab. St. Nicholas, ins. Zebu, Philippinarum.

This small, transparent white species has the margin very little thickened, and the notch deep. Found on small plants.

*** Spirâ rectâ, aperturâ bicanaliculatâ.

PUPINA HUMILIS, Jaquenot, Sow. jun., Thes. Conch. part 1. f. 2. *Testa ovalis, solida, pallidè lutea, anfractibus subrotundatis, ultimo propè aperturam paululùm complanato; aperturâ rotundatâ, margine crasso, expanso, reflexo; labio interno crasso, posticè plicato; columellâ crassâ, latâ, tortuosâ, reflexâ; incisurâ ad dorsum latâ.*

Long. .60; lat. .40 poll.

Hab. — ? Mus. Cuming.

This being a dead shell has lost the brilliancy of the enamel. The teeth or folds at the posterior part of the inner and outer lips form a very distinct canal. The columella is tortuous and turned backwards, and the notch is seen at the back like the canal of a *Buccinum*.

PUPINA KERAUDRENI, Vignard, Sow. jun., Thes. Conch. part 1. f. 2. *Testa parva, cylindrica, griseo-rufescens; spirâ obtusâ rectâ; aperturâ parvâ, margine incisurâ diviso; labio externo levitèr incrassato, posticè subplicato; labio interno plicato.*

Long. .30; lat. .15 poll.

Hab. Manilla and Singapore ? Mus. Stainforth, Sowerby.

A pupiform species with a posterior canal.

PUPINA BICANALICULATA, Sow. jun., Thes. Conch. part 1. fig. 1. *Testa parva, ovalis, alba, translucida; anfractibus ventricosis; aperturâ magnâ, margine subexpanso, subincrassato, ad basin columellæ inciso; labio interno posticè plicato.*

Long. .26; lat. .16 poll.

Hab. St. Nicholas, ins. Zebu, Philippinarum.

This species differs from *P. Keraudrenii* in shape, being more ventricose, having a tapering spire, and a very strong fold on the inner lip. Found on small plants in the island of Zebu.

The following paper, entitled "Descriptions of four species of the genus *Chiton*, brought by H. Cuming, Esq. from the Philippine Islands," also by Mr. G. B. Sowerby, jun., was then read:—

CHITON PULCHERRIMUS. *Ch. Testâ ovali, angulatâ, ad dorsum elevata, pallidè subviridi, fasciis binis rubris distantibus dorsalibus,*

maculis rubris dorsalibus et lateralibus nonnullas intus viridi; areis centralibus longitudinaliter foveolatim sulcatis; areis lateralibus prominentibus, utrinque granulatim tricostatis; areis terminalibus costis moniliformibus numerosis radiatis; margine minutè squamoso, maculis rubris fasciato.

Long. .95; lat. .55 poll.

Hab. Gindulman, ins. Bohol, Philippinarum. H. Cuming legit.

The few specimens of this shell which have been brought in fine condition present an appearance of exquisite finish and great beauty, both in sculpture and colouring. They were found in the crevices of rocks at low water.

CHITON LAQUEATUS. *Ch. testá ovatá, depressá, granulatá, pallidè fulvá vel viridescente, purpureo et viridí maculatá; costá dorsali purpureá, sublævi; valvá primá costis quinque laqueatá; valvis medianis unicos-tatis ad latera quadratis; valvá ultimá valdè depressá, margine lato, irregulariter rugoso, rubro, viridí, alboque maculato. Variat testá angustiore, margine roseá.*

Long. .55; lat. .45 poll.

Hab. Calapan, ins. Mindoro, Philippinarum. H. Cuming legit.

Remarkable for the character of the first valve, which is broadly fluted by five radiating ribs. The four or five central valves, in several specimens, are nearly covered by a dark purple colour, the two last patched with green, and the first nearly white, but subject to some variations. Found in coarse sand among small stones at a depth of nine fathoms.

CHITON FLOCCATUS. *Ch. testá ovali depressá, anticè unguatá, pallidè fulvá; nigro, fusco, viridí, roseoque maculatá: valvis terminalibus radiatim sulcatis, valvis medianis utrinque unicos-tatis, areis centralibus longitudinaliter sulcatis; areis lateralibus granulatis, marginibus serratis; valvá terminali obtusè elevatá; margine rubro vel fusco, maculis et punctis albis fasciato.*

Long. .80; lat. .45 poll.

Hab. Cagayan, Misamis, ins. Mindinao, Philippinarum. H. Cuming legit.

This species is found at Mindinao, under stones at low water, and at Calapan on small stones, at a depth of fifteen fathoms. The margin is sprinkled with white patches resembling flakes of snow, on a reddish brown ground.

CHITON LUZONICUS. *Ch. testá ovali, angulatá, straminè, viridí longitudinaliter strigatá: valvarum areis terminalibus et lateralibus radiatim granulatim; arcis centralibus acutè longitudinaliter sulcatis, margine sublævi.*

Long. .35; lat. .20 poll.

Hab. Sorsogon, pr. Albay, ins. Luzon, Philippinarum. H. Cuming legit.

This small and apparently insignificant shell is very sharply ribbed in the central areas, and presents a very nicely sculptured surface when viewed through a magnifying glass. The specimens were taken on dead shells at a depth of fifteen fathoms.

Mr. Waterhouse laid before the Meeting his descriptions of numerous species of Coleopterous insects from the southern parts of South America, which had been placed in his hands for that purpose by H. Cuming, Esq. and C. Darwin, Esq. Those from Mr. Cuming formed part of a collection made by Mr. Thomas Bridges, who expressed a wish that the specimens should be laid before the Zoological Society. Unfortunately, the exact localities of the insects are not mentioned in Mr. Bridges's notes, but there is reason to believe they were collected in the neighbourhood of Petorca. The species described belong to the genera *Nyctelia* and *Listroderes*, or are nearly allied to those two groups.

Section HETEROMERA.

Family NYCTELIIDÆ.

Genus NYCTELIA.

Species from the collection of Thomas Bridges, Esq.

NYCTELIA LÆVIS. *Nyct. atra, nitida*; capite anticè punctis sparsis notato; thorace mediocritè convexo, latiore plusquàm longo, parte anticà angustiore, ad latera modicè rotundato, margine anteriore, pilis brevibus flavescentibus fimbriato, angulis et anticis et posticis productis et subacutis, dorso punctis parvulis dispersis: elytris lævibus convexis, brevibus, ovatis, apice producto et subacuto; carinâ laterali crenulatâ; segmentis abdominalibus rugis irregularibus longitudinalitè impressis.

Long. corp. $11\frac{1}{2}$ lin.; lat. $6\frac{3}{4}$; lat. thoracis, $4\frac{2}{3}$; long. ib. $2\frac{3}{4}$.

Black and glossy; general form ovate; thorax and elytra convex above, and presenting no distinct sculpturing. Head with scattered punctures in front, smooth behind. Thorax with very fine scattered punctures, and these most numerous on the fore part: parallel with, and at a short distance from the lateral margins of the thorax is an indistinct line on each side, formed by the somewhat abrupt termination of the convex discoidal portion at this part; the space between this line and the outer margin is nearly plane, and presents a few indistinct irregular rugæ, having a tendency to a transverse disposition. The thorax is broader than long, the width to the length bearing very nearly the proportion of 8 to 5; the middle of the thorax and hindermost part are about equal in width, but from the middle to the front the width gradually decreases; in front it is emarginated, and the anterior margin is furnished with a fringe of short, dense, yellowish hairs; the posterior margin presents an undulating line, encroaching on the body of the thorax on each side about midway between the mesial line and the posterior angle, which is produced. The elytra are very convex, and nearly of an ovate form; they are widest in the middle, and the apical portion is produced; the lateral keel (which forms the outer boundary of each elytron, viewing the insect from above) is not very prominent, and is indistinctly crenulated: this ridge does not extend to the apex of the elytron, but terminates about two and a half lines from that point: between the

apex and the terminal point of the keel is an oblique ridge : the sutural portion of the elytra is distinctly indented near the scutellum, and less distinctly so at other parts. The mentum is coarsely punctured : the prosternum and mesosternum are coarsely punctured in the middle, and the punctures are confluent : the metasternum has small and somewhat irregular longitudinal rugæ in the middle, and similar rugæ are observable on the first, second, and anterior half of the third abdominal segments. The legs are black, but the tip of the femora and base of the tibiæ are pitchy.

Very many specimens of this species were sent to this country by Mr. Bridges, and as I have reason to believe they will be distributed in most of the public and private entomological collections, I shall regard it as a type for comparison in describing some other species of the same genus.

NYCTELIA LÆVIS, var. RUFIPES. Many specimens of a *Nyctelia* agreeing with the *N. lævis*, but differing in having the legs and antennæ of a pitchy red colour, were contained in Mr. Bridges's collection. Of these red-legged specimens, as well as of those having the legs concolorous with the body, there are males and females ; but the red-legged specimens are generally rather narrower, and often have a slight trace of transverse depressions on the outer side of the elytra ; the difference of form and sculpturing, however, is not constantly combined with the red colouring of the legs and antennæ, and as in some other species of *Nyctelia* and *Epipedonota* I have found a similar difference in the colouring of the legs, &c., I cannot regard that character as specific.

NYCTELIA TRANSVERSO-SULCATA. *Nyct. atra, nitida ; capite anticè sparsim punctato : elytris vix duplò latioribus quàm longis, anticè potiusquàm posticè angustioribus, angulis productis, subacutis : elytris mediocritè convexis, brevibus, ovatis, apice producto, sulcis haud ad medium attingentibus, profundis et levitè undulatis, transversim insculptis ; segmentis abdominalibus ferè lævibus.*

Long. corp. 9 lin. ; lat. $5\frac{1}{4}$.

This species is smaller than the *N. lævis*, and the thorax and elytra are less convex. The head has a few scattered punctures in front, and numerous very fine punctures on the hinder part, near the eyes ; the remaining portions are smooth. The thorax is impunctate, but little convex above, and has two indistinct foveæ on each side near the posterior angles, and joining the hinder margin. The elytra are ovate and slightly convex ; the apical portion is produced, and has the outer margin slightly reflected : the lateral keel of the elytra is very prominent, and distinctly crenulated : extending inwards from this keel, to about the middle of the elytron, are a series of transverse and slightly irregular grooves, about fourteen in number, on each elytron ; the length of these grooves (the interstices of which are convex) varies so, that they all terminate nearly at the same distance from the suture. On the space between these transverse *sulci* and the suture are two longitudinal striæ, which are somewhat indistinct, and interrupted in parts, excepting on the apical

portion of the elytron, where the innermost of the two striæ is well marked, and the suture of the elytra is at this part somewhat elevated. Numerous oblique furrows are observable on the produced apical portion of the elytra. The portion of the elytra which lies below the keel presents no distinct sculpturing. The abdominal segment presents scarcely any trace of longitudinal rugæ. The legs are black, but have a slightly pitchy hue.

Species of *Nyctelia* from the collection formed by C. Darwin, Esq., during the voyage of H.M.S. Beagle.

NYCTELIA PLICATA. *Nyct. ovata, nigra, nitida; capite anteriore crebrè punctato, posteriore ferè lævi; thorace transverso, elytris angustiore; angulis posticis productis, obtusis, suprâ ad medium paulò convexo, et crebrè punctato; elytris latis, subovatis, convexis, sulcis profundis transversalibus, a margine externo ferè ad suturam ductis, plagâ suturali profundè indentatâ.*

Long. corp. (♂) 13 lin.; lat. $7\frac{1}{2}$; vel, long. $11\frac{1}{2}$ lin., lat. $6\frac{1}{2}$ lin.

Long. corp. (♀) $12\frac{2}{3}$ lin., lat. $7\frac{1}{2}$ lin.

Hab. Port Desire.

This species is considerably larger than *N. lævis*; the thorax is proportionately broader and shorter, and the produced apical portion of the elytra is dilated and depressed. The head is thickly punctured in front, and there are numerous punctures at the sides above and behind the eyes. The thorax is about twice as broad as long; the broadest part is behind, but till anterior to the middle it scarcely decreases in width; from the middle to the fore-part the transverse diameter is gradually lessened, so that the lateral margins form a gentle curve; the anterior portion is emarginated, and the posterior margin is rather strongly sinuated; the anterior angles are acute, and the posterior angles are rounded. The upper surface of the thorax is convex in the middle, but towards the sides it is slightly concave; it is thickly punctured, and the punctures are many of them confluent; on the disc the punctures are much less numerous. The elytra are about one-fourth broader than the thorax (rather less in the male sex), and about one-fourth longer than broad; they are very convex, indented at the suture, and furnished with a series of nearly transverse indentations, about eighteen or twenty in number, which commence at the lateral keel and terminate about one-eighth of an inch short of the suture; the space between these transverse folds and the suture is apparently smooth; but with a moderately strong lens some very minute tubercles may be observed scattered on this part, as well as on the interspaces of the transverse indentations, which are about equal in width to the grooves: the apical portion of the elytra is considerably produced, and the produced part is broad and somewhat depressed, and has the upper surface rugose. The mentum is coarsely punctured, and the under side of the head is thickly punctured: the prosternum is coarsely punctured in the middle, and has some irregular rugæ at the sides; at the lateral margin is a series of small transverse rugæ: the mesosternum and metasternum have irregular rugæ in the middle, and the two first and half of

the third abdominal segments have small irregular longitudinal rugæ ; the remaining two abdominal segments are finely punctured.

NYCTELIA SOLIERI. *Nyct. ovata, nigra, nitida ; capite anticè punctato, posticè lævi ; thorace transverso, elytris angustiore ; angulis posticis productis, suprà apud medium paulò convexo, et lævi ; elytris anticè apud plagam suturalem levitè impressis, et sulcis transversis paulo irregularibus a margine laterali ferè ad suturam ductis.*

Long. corp. $11\frac{3}{4}$ lin. ; lat. $6\frac{3}{4}$ lin.

Hab. Patagonia.

This species resembles the *N. plicata*, but differs in having the thorax smooth ; the elytra are rather narrower, and the apical produced part is shorter and broader ; they are scarcely indented at the suture, excepting in a slight degree towards the scutellum ; the transverse folds are less regular, often dividing into two branches, and approach more near to the suture. A transverse section of the elytra of *N. plicata* would present a convex upper surface near the suture, but at the part where the grooves commence the line would be straight (though sloping downwards to the lateral keel), or even slightly concave ; whilst in *N. Solieri* a similar section would present an even convex curve. Scattered punctures are observable on the fore-part of the head, and a shallow transverse depression is situated between the eyes ; the thorax is nearly twice as broad as long, convex in the middle, but slightly concave towards the lateral margins : with a moderately strong lens some minute punctures are visible, rather thinly scattered over the surface. The elytra are ovate, the length to the width bearing about the proportion of 7 to 9.

NYCTELIA DARWINII. *Nyct. breviter ovata, convexa, nigra, nitida ; capite subpunctato ; thorace paulò ad partem anteriorem quàm posticam angustiore, lævi, convexo ; elytris subrotundatis, valdè convexis, lævibus, marginibus lateralibus crenulatis.*

Long. corp. $11\frac{2}{3}$ lin. ; lat. 8 lin. ; vel, long. 11 lin. ; lat. $7\frac{1}{4}$ lin.

Hab. Port Desire.

This species is remarkable for its broad and very convex form and deficiency of sculpturing, having the upper surface of the thorax and elytra smooth and glossy. The head is finely punctured : the thorax is twice as broad as long, and convex ; a groove runs parallel with and close to the lateral margins, and a similar groove is observable on the anterior margin, though here it is less strongly marked. Elytra rather more than one-third broader than the thorax, and the length and breadth are very nearly equal, if we exclude the produced apical portion, which is broad, depressed, and nearly of a semicircular form. The lateral keel is distinctly crenulated, and separated by an adpressed line. The underside of the thoracic segments are rugose in the middle, and the first and second abdominal segments have irregular longitudinal rugæ ; the third segment presents a faint trace of similar rugæ at the base ; the other segments are smooth.

The spines at the apex of the posterior tibiæ are longer than usual in the genus.

Nyctelia Darwinii, var. ? minor (long. corp. $8\frac{2}{3}$; lat. $6\frac{1}{3}$); elytris rotundatis apice paulò producto et angustiore.

Hab. Port Desire.

NYCTELIA FITZROYI, Curtis, MSS. *Nyct. subrotunda, convexa, nigra, nitida; capite utrinque punctis paucis adperso; thorace lævi, convexo, anticè latiore, unguis posticis acutis; clytris rotundatis, ad apicem productis, convexis, levibus, margine externo crenulato; antennis pedibusque piceo-rubris.*

Long. corp. $10\frac{1}{2}$ lin.; lat. 8 lin.

Hab. Port Desire.

This species was first discovered by Capt. King, and will be hereafter described in detail by Mr. Curtis, whose MS. name I have adopted. Two specimens were found by Mr. Darwin at Port Desire: it approaches very near in size and general characters to *N. Darwinii*, but differs in having red legs and antennæ, in being of a broader form, in having the legs less rough, the lateral keel of the elytra less prominent, and not so distinctly crenulated, and the spurs or spines at the apex of the posterior tibiæ are much smaller. The length of the elytra is rather less than the width, if the produced apical portion be omitted; and if included in the measurement, the length very slightly exceeds the width; they are very convex and smooth, and so is the thorax, which is twice as broad as long, and considerably narrower before than behind. The head is sparingly punctured.

NYCTELIA GRANULATA, Curtis, MSS. *Nyct. atra, nitida, subrotundata; capite transversim impresso, anticè punctato; thorace subquadrato, ad latera crenulato, suprà convexo, lævi; elytris rotundatis, apice paulò productis, suprà convexis, ad suturam depressis, rugis validis et irregularibus obsitis, his in dorso plerumque longitudinalibus et prope latera obliquè dispositis.*

Long. corp. $8\frac{1}{4}$ lin.; lat. 6 lin.

Hab. Cape Negro.

This, together with several nearly allied and very remarkable species of *Nyctelia*, occurs in Capt. King's collection, and will be hereafter characterized in detail by Mr. Curtis. The specimen from which the above short description is taken forms part of Mr. Darwin's collection, and was found at Cape Negro. The legs are very rough, being thickly covered with tubercles, and they are shorter than in most of the species of *Nyctelia*. The whole upper surface of the elytra is covered with rugæ, and these are very strongly marked, and though very irregular, they have a general longitudinal direction on the depressed space on the middle of the elytra. This sutural depression, which is about two lines in width, is bounded on each side by a broad and slightly elevated ridge; between this ridge and the outer margin the rugæ have a tendency to form oblique lines. A few fine punctures are observable on the fore-part of the thorax, and on the sides are two grooves placed closely together, and parallel

with and near the lateral margin; the narrow ridge between the two grooves, as well as the marginal ridge, is crenulated.

NYCTELIA PUNCTICOLLIS. *Nyct. ovata, atra, nitida; thorace distinctè et crebrè punctato; elytris tuberculis minutis, et ad latera rugis transversis irregulariter impressis, his non forte distinctis.*

Long. corp. $9\frac{3}{4}$ lin.; lat. 6 lin.

Hab. Bahia Blanca.

This species is rather smaller than the *N. lævis*, and has the thorax and elytra less convex. The head is rather thickly and coarsely punctured, excepting on the vertex. The thorax is thickly and coarsely punctured, and the punctures are for the most part confluent; a distinctly impressed line runs parallel with and close to the margins; the lateral margins are obscurely crenulated. The elytra are of a broad ovate form, and the apical produced portion is convex and rounded at the apex. The lateral keel of the elytra is distinctly crenulated, and transverse shallow furrows run inwards from this margin, leaving interspaces rather broader than the furrows, which, for the most part, are about a line, or rather less, in length. On the interspaces between the furrows, and the whole upper surface of the elytra, are very minute scattered tubercles; these are very indistinct towards the suture, near which are one or two very faint striae. The labrum is coarsely punctured, and the underside of the head is also punctured. The under surface of the prothorax is covered with small tubercles, from each of which springs a hair; between the legs, the under side of the prothorax and mesothorax is coarsely punctured. The first, second and third of the abdominal segments are covered with distinct longitudinal rugæ, and the apical segments are punctured beneath.

Several specimens of this species were collected at Bahia Blanca by Mr. Darwin, who says they are 'tolerably abundant on sand-hillocks.' A *Nyctelia* in Mr. Darwin's collection, from Rio Negro, resembles the present species, excepting that it has pitchy red legs and antennæ.

NYCTELIA SUBSULCATA. *Nyct. ovata, atra; thorace transverso distinctè punctato; elytris rugis tuberculisque minutissimis; sulcis transversis aliquanto irregularibus ad latera insculptis.*

Long. thoracis elytrorumque, $9\frac{1}{3}$ lin.; lat. $5\frac{2}{3}$ lin.

Hab. Mendoza.

This species is very closely allied to the *N. puncticollis*, and it is with considerable hesitation that I venture to describe it as distinct, more especially as Mr. Darwin's collection contains but one specimen, and that has lost its head and legs; this specimen, however, differs considerably in form from any of the numerous examples of *N. puncticollis* which I have before me. The thorax is narrower and less thickly punctured; the elytra are more elongated, and the lateral transverse grooves are more distinct and regular.

The thorax is transverse, and the length is equal to rather more than half the width; the middle and hinder parts are very nearly equal in width, and the anterior portion is contracted; the surface is

distinctly punctured, and there are two irregular foveæ on each side of the middle, rather nearer to the mesial line than the outer margin. The elytra are one-fourth longer than broad; the apical portion is moderately produced and somewhat pointed: the whole upper surface of the elytra is covered with very minute rugæ, and there are moreover some minute tubercles; on the outer half of each elytron is a series of transverse furrows, with convex interspaces equal in width to the furrows.

NYCTELIA SAUNDERSII. *Nyct. atra, oblongo-ovata, nitida; thorace punctato; elytris sulcis transversis pauld irregularibus a margine laterali usque ad medium ductis.*

Long. corp. $7\frac{1}{2}$ lin.; lat. 4 lin.

Hab. Bahia Blanca.

Head distinctly punctured in front. Thorax rather coarsely punctured, excepting on the disc, which is almost impunctate; emarginated in front, the emarginated portion in the form of a segment of a circle; the lateral margin slightly rounded. The hinder part of the thorax and the middle are equal in width; the fore-part is slightly contracted. The elytra are ovate, and but little convex; they are depressed at the suture, most distinctly so near the scutellum. The lateral keel is very prominent, and extending from this keel to the middle of the elytron are distinct transverse furrows, the interspaces of which are convex, and about equal in width to the grooves. The apical portion of the elytra is moderately produced. The three basal segments of the abdomen, as well as the metasternum, are covered with slightly irregular longitudinal rugæ: the terminal segment is punctured. The prosternum and mesosternum are coarsely punctured, and the punctures are confluent.

This is a small species compared with *N. laevis* (being about the size of *N. nodosa*); its form is more elongated and much less convex. The lateral margins of the thorax form an even curve from the front to the back.

The specimens from which the above description is drawn up were found by Mr. Darwin in the month of September, on the sandy plains of Bahia Blanca.

NYCTELIA RUGOSA. *Nyct. nigra, opaca, ovata; thorace distinctè punctato; elytris valde rugosis, sulcis duobus, suturam prope, longitudinalibus et interruptis, impressis.*

Long. corp. $7\frac{3}{4}$; lat. $4\frac{2}{3}$.

Hab. San Blas (near Rio Negro) and Bahia Blanca.

This, which is a small species compared with *N. laevis*, approaches that species in general form, but the thorax and elytra are less convex. The head is coarsely punctured in front. The thorax is coarsely punctured, and the punctures are numerous, excepting on the disc: a groove runs parallel with and close to the margins, but at the posterior margin it is interrupted in the middle. The elytra are convex, and of a short ovate form, and the apical portion is but little produced; their width is about one-fifth less than the length: the whole upper surface is covered with coarse and very irregular rugæ.

Four somewhat interrupted and irregular striæ run parallel with and near the suture, and there are two abbreviated oblique striæ near the scutellum. Besides the ordinary rugæ of the elytra, there are more marked rugæ, which, though very irregular, have a tendency to a transverse disposition, and these cover the outer half of each elytron. The prothorax is punctured beneath and rugose between the legs, as well as the mesosternum and metasternum. The three basal segments of the abdomen are covered with fine but distinct rugæ, and though these rugæ, for the most part, have a longitudinal direction, they are much more irregular than in most species of the genus. The two terminal segments are punctured, but in the penultimate segment the punctures are very few in number, and confined to the sides. The spines at the apex of the anterior tibiæ are more slender and proportionately longer than in *N. levis*.

Besides the two specimens, one from Bahia Blanca and the other rather further south (San Blas), Mr. Darwin's collection contains a specimen from Tierra del Fuego which is smaller (length $6\frac{3}{8}$ lin., width $3\frac{3}{4}$ lines) and proportionately narrower; but these differences are combined with a greater length of tarsus, and are precisely such differences as exist between the sexes of other species; in fact, it is no doubt the male of the insect from which the above description is taken.

NYCTELIA WESTWOODII. *Nyct. breviter ovata, nitida, atra; capite subpunctato; thorace transverso, posticè paulò latiore quam anticè, leviter convexo, levi, margine laterali imperspicuè crenulato; elytris ovatis, profundè striatis, interstitiis convexis, striis utrinque ad suturam duabus longitudinalibus, striis reliquis obliquis.*

Long. corp. $7\frac{1}{2}$ lin.; lat. $4\frac{3}{4}$ lin.

Hab. Port Desire.

Head with a few punctures in front. Thorax convex, about twice as broad as long, with the middle and hinder parts about equal in width, and the fore-part contracted; the anterior part emarginated, the emarginated portion in the form of a segment of a circle; the hinder margin but slightly waved; a distinct groove runs close to the anterior and lateral margins, which latter are crenulated. Elytra short and rounded; the length and width equal, if the produced apical portion be omitted in the measurement; the apex is moderately produced: the whole surface of the elytra is covered with deep striæ, leaving convex interspaces which are scarcely broader than the grooves; on each side of, and parallel with the suture, are two of these striæ; the remaining grooves are oblique, and for the most part converge towards the apical portion of the elytra: on the sides of the elytra, and more especially towards the apex, the grooves have a tendency to a transverse disposition. The mentum is very coarsely punctured, and there are some distinct punctures on the sides of the head beneath. The prothorax presents a few large scattered punctures beneath, some short irregular (but for the most part transverse) rugæ at the lateral margin, and some longitudinal rugæ near the base of the legs; between the legs the prosternum has some confluent

punctures; the mesosternum and metasternum have irregular rugæ, and the three first abdominal segments have minute longitudinal furrows; the penultimate segment is smooth, and the apical one is finely punctured, but the punctures are by no means numerous. The legs and antennæ are rather shorter than usual in the genus.

NYCTELIA STEPHENSII. *Nyct. atra, nitida, levis; thorace subquadrate; clytris rotundato-ovatis, convexis, carinâ laterali prominenti et crenulatâ; clytrorum apicibus productis latis et subcomplanatis.*

Long. corp. 7 lin.; lat. $4\frac{1}{3}$ lin.

Hab. St. Cruz.

Head with scattered punctures in front. Thorax transverse, the width being rather less than double the length; the upper surface is but little convex; the anterior and posterior margins are nearly straight, but the anterior angles are produced and the posterior angles are slightly produced. The width of the fore and hind parts of the thorax is nearly equal, it being but slightly narrower in front, and the sides deviate but little from a straight line; a faint dorsal channel is observable, and a groove runs parallel with and close to the lateral and anterior margins. With the assistance of a strong lens, minute punctures may be observed scattered over the upper surface of the thorax, and some minute tubercles on the under. The elytra are convex, and of a short rounded form, the width and length being very nearly equal, if we do not include the produced apical portion, which is more dilated than in most of the genus, and is nearly flat. A groove runs close to and parallel with the lateral keel, both above and below, and this keel is distinctly crenulated. The upper surface of the elytra presents numerous indistinct and very shallow foveæ. The abdominal segments are almost smooth. The legs are proportionately rather longer than in *N. levis*.

Mr. Darwin found this species at St. Cruz in the month of April.

NYCTELIA NEWPORTII. *Nyct. elongato-ovata, nigra, nitida; capite transversè impresso; thorace lato plus quàm longo, lateribus rotundatis; anticè et posticè latitudine compari; supernè minimè convexo, impunctato, ad latera rugis parvulis obliquis; elytris ovatis, levibus, plagâ suturali valdè impressis, marginibus lateralibus crenulatis.*

Hab. Patagonia.

Long. corp. 10 lin.; lat. 6 lin.

This species is rather smaller than *N. levis*, and differs moreover in being of a more elongated form, and most especially in the form of the thorax, which is narrower and nearly equal in width, in front and behind: the apical portion of the elytra is much less produced, and the produced portion is broader. The head is sparingly punctured at the sides, and has a curved impression, the chord of which is rather in front of the insertion of the antennæ. The thorax nearly one-third broader than long (taking the length from the anterior and posterior angles); it is broadest in the middle, and a trifle nar-

rower in front than behind ; the lateral margins form an even curve ; the anterior part is emarginated, the emarginated portion being in the form of a segment of a circle, and a little less than a semicircle : the anterior angles acute, and the posterior angles form very nearly right angles : the hinder margin of the thorax is nearly straight, but the line descends slightly towards the angles. The surface of the thorax is very little convex, and almost impunctate, there being but a few scattered very minute punctures ; on the sides, running inwards and upwards, are a series of minute grooves, like scratches, and on the hinder margin a faint trace of very short longitudinal grooves is visible. The elytra are ovate, convex, smooth, and glossy ; the region of the suture is broadly and rather deeply depressed ; the lateral keel is prominent and distinctly crenulated, and joining this keel are a series of shortish transverse furrows. The under surface of the body and thoracic segments is remarkable for the almost total want of sculpturing, if we except some longitudinal furrows on the under side of the prothorax at the sides.

The exact habitat of the specimen from which the above description is taken is not known, but in Mr. Darwin's collection is a specimen which I am inclined to regard as specifically identical, and which is from St. Julian. It has the elytra proportionately rather broader and the thorax narrower, and the short longitudinal furrows on the hinder margin of the thorax are distinct ; the sutural portion of the elytra is less depressed.

NYCTELIA GUERINII. *Nyct. atra, nitida, ovata ; capite transversim impresso ; thorace subquadrato in medio pauld dilatato, anticè emarginato, posticè ferè recto ; ad marginem lateralem sulcis minutis valdè obliquis insculpto ; elytris ovatis, convexis, ad apicem pauld productis, ad latera rugis transversis in seriebus tribus dispositis.*

Long. corp. $9\frac{1}{2}$ lin. ; lat. $5\frac{3}{4}$ lin.

Hab. St. Cruz.

Rather smaller than *N. levis*. Head with small punctures very thinly scattered over the upper surface, and with a transverse impression rather in front of the line of the eyes. Thorax subquadrate, the breadth not quite equal to twice the length ; the emarginated portion in front in the form of a segment of a circle ; the hinder margin nearly straight ; the posterior angles scarcely produced, and forming nearly right angles ; the anterior angles acute. The thorax is contracted in front, broadest in the middle, and the lateral margin from the middle to the posterior angles forms nearly a straight line : on the hinder part of the upper surface are some extremely minute punctures, and at the sides are some small oblique grooves. The elytra are ovate and moderately convex, and the apical portion is but little produced ; the region of the suture is very slightly indented : the sides of the elytra are covered with transverse grooves having narrow convex interspaces ; these grooves extend inwards to about the middle of each elytron, and are arranged in three series, being divided by two longitudinal lines ; the innermost

series is indistinct: the lateral keel is distinctly crenulated. The mentum is distinctly punctured; the prosternum, as well as the other thoracic segments, and the abdominal segments, have the usual sculpturing, but it is less strong than usual.

It is with some hesitation that I name this insect, since it approaches very near to the *N. Newportii*; it differs, however, in having the thorax smaller and proportionately narrower, the elytra less convex, and furnished at the sides with three rows of transverse impressions instead of one; the region of the suture is less depressed.

NYCTELIA SULCICOLLIS. *Nyct. ovata, atra*; thorace transverso, ad latera rotundato, anticè angustiore, sulcis minutis longitudinalitèr impresso; elytris crebrè punctatis (punctis confluentibus), tuberculisque minutis instructis: capite, thorace elytrorumque lateribus pilis vestitis, pedibusque etiam pilis instructis.

Long. corp. $8\frac{1}{4}$ lin.; lat. $5\frac{1}{2}$ lin.

Hab. St. Cruz.

Much smaller than *N. levis*, and of a shorter and more rounded form. The upper surface of the head is very thickly punctured throughout, and the punctures run into each other so as to form irregular rugæ. The thorax is twice as broad as long, and has a deep and almost semicircular emargination in front; the anterior angles are acute, and the posterior angles are obtuse, and not produced as in many species of the genus, the hinder margin of the thorax presenting a nearly straight, or but very slightly waved line: the broadest part of the thorax is near the posterior angles, the narrowest part is in front, and the lateral margins are rounded in such a manner that the thorax might almost be described as semicircular, and having the fore-part emarginated. The whole upper surface of the thorax is covered with small but distinct grooves, leaving convex ridges between them about equal in width to the grooves; these furrows are longitudinal in their direction, or very nearly so, excepting in the fore-part, where they diverge from the mesial line and run up to the anterior margin, and at the sides of the thorax, where the grooves are irregular, but have a tendency to a transverse disposition. The under side of the thorax presents similar longitudinal grooves, excepting in the middle, where it is rugosely punctured; scattered hairs cover this under surface of the thorax; and towards the lateral margin the hairs, which are moderately long, are much more numerous and form a projecting fringe, which is visible when the insect is viewed from above. The elytra are of a short ovate form, about one-fourth broader than the thorax, and scarcely one-fifth longer than broad; the apical portion is but little produced: the upper surface is convex, and is thickly covered with small confluent punctures, amongst which minute tubercles are scattered; towards the lateral keel, which is very little prominent, the tubercles are distinct. The sculpturing of the portion of the elytra beneath the keel resembles that above it, but here the tubercles give origin to small hairs*. The meso- and metasternum present irregular rugæ.

* Probably similar hairs originally sprang from the tubercles on the upper surface, but have been worn off.

On the first and basal half of the second abdominal segments are distinct longitudinal rugæ, and a slight trace of similar rugæ is observed at the base of the third segment; on other parts of these segments are some minute scattered punctures. The terminal segment is rather thickly though finely punctured. The legs are clothed with longish ash-coloured hairs.

Nyctelia nodosa, Latr. *Zophosis nodosa*, Germar?

Five specimens of this species are contained in the collection of Mr. Darwin, and these are from three different localities, viz. Maldonado (La Plata), Bahia Blanca, and Mendoza.

NYCTELIA ANGUSTATA. *Nyct. atra, elongata, nitida; capite distinctè punctato et transversim impresso; antennis piceis; thorace subquadrato, lateribus ferè rectis, anticè emarginato, suprà punctis minutissimis; elytris subelongatis, et cum thorace quoad latitudinem ferè coequalibus, costis aliquantùm irregularibus subelevatis interstitiis rugulosis, ad latera plicis transversalibus.*

Long. corp. $7\frac{1}{4}$ lin.; lat. $3\frac{2}{3}$ lin.

Hab. Patagonia?

The specimen from which the above characters are taken is a male, and by accident its label, containing the habitat, is lost; it is most probably from Patagonia. In general appearance the *N. angustata* greatly resembles the *N. nodosa*, but it differs in being of a narrower form, and in having the terminal joints (the fifth to the tenth inclusive) broader; the anterior tibiæ are also broader and rather shorter, and the thorax is longer in proportion to the width.

The head is distinctly and very thickly punctured in front. The thorax approaches to a quadrate form, but is slightly narrower in front than behind; the lateral margins form a very slight curve, and in fact are nearly straight; in front it is emarginated, and the emarginated portion is in the form of a segment of a circle; the hinder margin is but little waved; the anterior angles are acute, and the posterior angles are slightly produced and rounded at the point; a faint impressed line borders the anterior and lateral margins: the upper surface is but little convex and finely punctured, but on the disc the punctures are scarcely traceable: the length of the thorax is about equal to three-fifths of the width, whereas in *N. nodosa* the length is about equal to half the width. The elytra are very little broader than the thorax, being scarcely dilated in the middle, and are about one-third longer than broad; they have interrupted and somewhat irregular longitudinal grooves or striæ, and the interspaces are convex; the third and fifth most distinctly so: the striæ and interspaces on the lateral half of each elytron have distinct irregular rugæ, the largest of which are for the most part transverse in direction: the legs are long; the claws are of a pitchy colour. The fifth, sixth, seventh and eighth joints of the antennæ are somewhat compressed, broader than long, and produced in front so as to present nearly a triangular form; the ninth and tenth are still broad, but of a somewhat rounded form.

GENUS EPIPEDONOTA.

EPIPEDONOTA RUGOSA. *Epip. atra, opaca: capite rugoso; thorace lato plusquàm longo, posticè angustiore, depresso supernè rugis valdè irregularibus, illis apud marginem exteriorem plerùmque longitudinalibus, illis apud discum ferè transversis, et utrinque costâ majore sublongitudinali definitis; elytris subovatis undatim rugis plerùmque transversis, et utrinque costâ apud discum valdè elevatâ, deindè alterâ minus elevatâ inter illam et carinam lateralem.*

Long. corp. $8\frac{1}{2}$ lin.; lat. $3\frac{3}{4}$ lin.; vel, long. $11\frac{1}{3}$; lat. $5\frac{3}{4}$.

Hab. Petorca?

The whole upper surface of this insect is covered with well-marked irregular rugæ; these are for the most part longitudinal in their direction on the clypeus, and there is a transverse indentation marking the posterior boundary of this part: a little behind the line of the eyes is a somewhat irregular transverse ridge, and in the middle, between this ridge and the transverse groove just mentioned, is a short longitudinal ridge. The labrum is rugosely punctured. The thorax is very nearly twice as broad as long; its anterior and posterior margins are nearly straight, excepting near the lateral angles, which are produced. Besides the ordinary rugæ on the thorax, there are two large longitudinal and slightly curved ridges, situated one on each side, nearly midway between the mesial line and the outer margin; and on each elytron is a strongly elevated costa or ridge, extending from the base very nearly to the apex, and running nearly parallel with the lateral keel of the elytron, on the mesial line of which they are placed. The spaces between these costæ is somewhat concave, and so is the interstice of the costa and the lateral keel of the elytron, which is crenulated or irregularly indented. The mentum is very coarsely punctured, and the punctures are confluent. The under side of the head is punctured, and there are numerous coarse punctures on the prosternum between the legs. The basal segments of the abdomen have small longitudinal sulci beneath.

Besides the great difference in size and form indicated by the dimensions, there occurs sometimes a difference in the sculpturing of the thorax and elytra, which I could scarcely have believed to exist in the same species had I not had an opportunity of examining many specimens. In a specimen before me, the rugæ on the head, thorax and elytra are much less distinct than in the individuals from which the above description is taken; and this is combined with a convexity of the elytra (which are almost always concave between the two dorsal costæ and also between these costæ and the lateral keel), giving a very different aspect to the specimen under consideration.

In having the thorax distinctly contracted behind, and in the more truly moniliform structure of the antennæ, the present insect approaches more nearly to *Callyntra* than to *Epipedonota*, but the terminal joint of the antennæ is decidedly smaller than the rest. I have before me specimens of the *Callyntra multicostata* and *Call. vicina* (which I scarcely think a distinct species), and do not find so marked

a difference in the size of the terminal joint of the antennæ as compared with the penultimate joint, as that represented by M. Solier's figure—indeed the penultimate joint and terminal appear to me to be equal in size, or *most* nearly so.

EPIPEDONOTA AFFINIS. *Epip. atra, nitida*: capite anticè punctis sparsis, et posticè rugis transversis undulatis, notato; thorace latiore quàm longo, ad medium depresso, rugis vel plicis ferè longitudinalibus, ad latera transversis notato; elytris thorace latioribus, propè suturam ferè lævibus, singulorum dimidio externo sulcis transversis, his costâ longitudinali, in duas series divisus; prosterno sulcis distinctis longitudinalibus; segmentis abdominalibus leviter longitudinali-sulcatis.

Long. corp. $9\frac{1}{2}$ lin.; lat. $5\frac{1}{3}$ lin.

Hab. Petorca?

This species is of a shorter and broader form than *Epip. ebenina*, the furrows on the thorax are smaller and more numerous, and the elytra present but one distinct costa besides the lateral keel, the ridge corresponding to that nearest the suture in *E. ebenina*, being here obliterated, or very nearly so.

The head presents some scattered punctures in front, and, generally, there are some waved transverse impressions towards the hinder part, leaving narrow ridges between them. The thorax is twice as broad as long, has the sides distinctly rounded, the fore-part emarginated in the form of a segment of a circle; the anterior angles are acute, and there is a small indentation in the outer margin close to the angle; the posterior margin is nearly straight in the middle, but the angles are produced: the upper part of the thorax presents a slightly concave surface, and is covered with small sulci; those in the middle are oblique, converging to or towards the hinder part of the mesial line; about midway between this line and the outer margin they become longitudinal in their direction, and a space bordering the lateral margin is covered with oblique but nearly transverse narrow grooves and ridges. The width of the elytra, compared with that of the thorax, is nearly as seven to five, and the elytra are about one-fourth longer than broad, or rather less; the dorsal surface is plane and almost destitute of sculpturing; on the sides are two series of transverse furrows, which are separated by a strong costal ridge; the innermost of these two series of transverse grooves is obliterated towards the base and apex of the elytron, but in the middle they are strongly marked, as are also the transverse grooves between the costal ridge and the lateral keel: on the apical half of each elytron a faint trace of the costa, corresponding to the innermost one in *E. ebenina*, is observable.

Numerous specimens of this new species were contained in Mr. Bridges's collection.

Epipedonota ebenina, Solier. *Nyctelia ebenina*, Auct.

Four specimens of this species were brought by Mr. Darwin from Mendoza; two of these are females, and present a character I have not before observed in the species, viz. some zigzag white lines at

the apex of the elytra; these lines are observable in the grooves between the costæ: in one specimen there are three of the white lines on each elytron, corresponding with the number of interspaces of the costæ; they are interrupted, and form dots as they recede from the apex of the elytron. In the other specimen there are but two of these lines visible.

Epipedonota erythropus, Solier. *Nyctelia erythropus*, Auct.

Mr. Darwin also found this species (if it be really distinct from *ebenina*) at Mendoza.

EPIPEDONOTA BONARIENSIS. *Epip. atra, nitida; thorace suprâ irregulariter et longitudinaliter multiplicato, ad latera crenato; elytris utrinque costis duabus elevatis, et sulcis transversalibus ordine triplici.*

Long. corp. $11\frac{1}{2}$ lin.; lat. $5\frac{3}{4}$ lin.; vel, long. $9\frac{2}{3}$ lin.; lat. 5 lin.

Hab. Monte Video and Bahía Blanca.

The species nearly resembles the *E. ebenina*, but differs in being larger and proportionately broader; as in *E. ebenina*, each elytron has two longitudinal elevated costæ besides the lateral keel; but the interspaces of all the costæ are indented with transverse furrows, whereas in *E. ebenina* only the two outermost interspaces have these furrows, and here they are much less strongly marked. The lateral keel in *E. ebenina* presents a nearly even line, but in *E. Bonariensis* the keel is distinctly indented; the sulci on the thorax are less strongly marked and more numerous.

Seven specimens of this species occur in Mr. Darwin's collection.

EPIPEDONOTA LATA. *Epip. atra, nitida, lata; capite punctis dispersis anticè, apud medium sulco transverso, et posticè sulcis paucis obliquis; thorace sulcis, his obliquis, illis apud medium longitudinalibus, illis margini proximis transversis, insculpto; elytris convexis costis latis pauld elevatis posticè subobliteratis, spatio inter costam secundam et carinam externam, sulcis profundis transversis notato.*

Long. corp. $9\frac{3}{4}$ lin.; lat. 6 lin.; vel, long. $8\frac{2}{3}$ lin.; lat. 5 lin.

Hab. Port Desire.

This species is larger and proportionally much broader than *E. ebenina*. The thorax, in proportion to the size of the insect, is much broader than in any other species of *Epipedonota* here described, the width being nearly equal to two-thirds of the length of the elytra; whereas in *E. affinis*, which I have described as a shorter and broader species than *E. ebenina*, the width of the thorax is scarcely more than equal to half the length of the elytra.

The head is punctured in front and has some waved transverse grooves and ridges between the eyes. The thorax is about twice as broad as long, emarginated in front nearly in the form of a segment of a circle; the lateral margins are rounded; it is widest a little behind the middle and narrowest in front; the anterior and posterior angles are acute; the upper surface is nearly flat, but the lateral margins are slightly reflected; the anterior mesial portion is a little convex, and

the posterior mesial portion is sometimes slightly concave; the whole surface is covered with narrow grooves and ridges; those on the dorsal part of the thorax are longitudinal but slightly irregular, towards the sides they are oblique, diverging slightly behind, and a broadish space at the sides is covered with sub-transverse grooves, these being directed inwards and slightly upwards from the lateral margin. The width of the elytra, as compared with the length, is as 4 to 5; their upper surface is convex, excepting at the base, where they are somewhat depressed: on each elytron are three longitudinal narrow grooves, these are distinct and wavy at the base of the elytra; the first groove, or that nearest the suture, is obliterated on the hinder half of the elytron; the second is continued nearly to the apex, but from the base it becomes gradually less distinct; the third extends to the apex, and forms as it were the outer boundary to the convex portion of the elytra for the space between the last-mentioned line and the lateral keel, which is nearly equal in width to one-third of that of the elytron, is nearly flat, or even slightly concave in the males; on this space is a series of deep transverse indentations, leaving convex interstices of a width corresponding to that of the grooves. The two interspaces between the first, second and third striæ of each elytron are very broad and slightly convex; and on the second or outermost of these interspaces are a few oblique furrows, which are not very distinct, and for the most part rather widely separated. Besides the longitudinal striæ mentioned, there are some others, but these are short and confined to the base of the elytra; in the males about five or six longitudinal grooves may be seen at the base of each elytron, and all of these grooves are more or less wavy. The sides of the prosternum present distinct longitudinal sulci, and narrow longitudinal sulci are observable on the abdominal segments.

Three specimens of this new species were brought from Port Desire by Mr. Darwin.

Genus CALLYNTRA, Solier.

Callyntra vicina, Solier. One specimen of this species was brought from Valparaiso by Mr. Darwin.

Genus CEROSTENA, Solier.

CEROSTENA PUNCTULATA. *Cer. atra, elongato-ovata; capite crebrè punctato et transversim impresso; thorace transverso, anticè profundè emarginato, suprâ ferè plano, punctato; marginibus lateralibus reflexis, disco foveis duabus impresso; elytris oblongo-ovatis, pauld convexis, suprâ punctulatis, singulis costis duabus dorsalibus subobliteratis; carinâ laterali pauld prominente.*

Long. corp. $8\frac{3}{4}$ lin.; lat. $4\frac{3}{4}$ lin.

Hab. St. Cruz.

In general appearance the present species resembles the *Blaps obtusa*, but the thorax is much shorter and the body more depressed. On the hinder part and sides of the elytra is an ashy pubescence, and I think it probable that small hairs have originally been scattered over the whole upper part of the elytra and have been rubbed off the most exposed parts. On the under side of the head and body

small hairs are also perceptible in the less exposed parts. The prosternum is very rugose beneath on the fore-part, and has distinct longitudinal furrows at the sides, as has also the mesothorax; the abdominal segments are thickly punctured, and there are longitudinal rugæ on the basal segments. The legs and tarsi are moderately well clothed with small yellowish hairs.

Unfortunately the antennæ are not perfect in the only specimen which Mr. Darwin brought home of this species; in the characters afforded by other parts, however, it agrees with M. Solier's genus *Cerostena*: the absence of sulci on the upper surface of the thorax would serve to distinguish it from the species of that genus hitherto described.

Psectrascelis pilipes, Solier. *Nyctelia pilipes*, Guerin. Numerous specimens of this species were brought from Coquimbo by Mr. Darwin.

Entomoderes Erebi, Solier. Mr. Darwin's collection contains one specimen of this curious insect, and this was found at Mendoza.

Mr. Waterhouse next proceeded to characterize the following new species of *Curculionidæ* from the collections of Mr. Darwin and Mr. Bridges.

Divisio CLEONIDES, Schoenherr.

GENUS LISTRODERES, Scho.

LISTRODERES SUBCOSTATUS. *Listr. niger, opacus, fusco-squamosus; antennis piceis; rostro brevi, carinato; thorace punctatissimo, subquadrato, posticè angustiore, setis fuscescentibus instructo; elytris punctato-striatis, fusco-setosis, interstitiis alternatis subelevatis.*

Long. corp. et rostri, 6 lin.; lat. $2\frac{1}{4}$ lin.; long. $4\frac{3}{4}$, lat. 2 lin.

Hab. Valleys of Petorca.

Rostrum about half as long again as the head, with three costæ above, the central one but little developed, and the lateral costæ indistinct; the space between the costæ finely rugose; the whole surface of the rostrum covered with distinct yellowish hairs. Head thickly punctured, the punctures confluent, and with an impressed point between the eyes. Thorax about one-third broader than long, emarginated in front, nearly straight behind, but slightly indented in the middle; the broadest part of the thorax is about the anterior third; from this point it is contracted in width, both before and behind, in nearly equal proportions; the upper surface is nearly flat, and very thickly and distinctly punctured; the punctures more or less confluent; a faint dorsal ridge is sometimes perceptible; small spiny semierect hairs cover the thorax; elytra moderately long, with the humeral angles forming right angles; the apex rounded, the width about one-fourth greater than that of the thorax; the upper surface moderately convex, covered with brown scales, and having interspersed erect spiny hairs; punctate-striated, the interstices very finely shagreened; the third, fifth, and the seventh from the suture, raised; a few black spots are irregularly scattered over the elytra,

and in some specimens are some whitish spots arranged in lines on the apical portion of the elytra.

From the collection of Mr. Bridges.

LISTRODERES PILOSUS. *Listr. niger, opacus, setosus, fusco-squamosus; antennis tarsisque fuscescentibus; rostro indistinctissimè carinato; thorace crebrè punctato, subquadrato, lateribus subrotundatis; elytris punctato-striatis. Capite, thorace, elytrisque squamis fuscis atque nigrescentibus densè tectis.*

Long. corp. et rostri, $3\frac{1}{3}$ lin.; lat. $1\frac{1}{4}$ lin.

Hab. Valleys of Petorca.

About equal in size to *Sitona fusca*. Rostrum a trifle longer than the head, slightly rugose, and with a very indistinct longitudinal carina. Head thickly punctured, the punctures confluent, and an impressed line between the eyes. Thorax subquadrate, and somewhat depressed; very thickly, but not coarsely punctured, the punctures confluent; the width greater than the length; the sides nearly straight and parallel, excepting near the base and apex of the thorax, where the width is gradually contracted. Elytra but little wider than the thorax, somewhat convex and elongated; the humeral angles rounded, and the apical portion rather attenuated, but with the tip rounded; the sides subparallel; punctate-striated; the punctures, of moderate size, are rather close together; the interstices of the striæ nearly flat, and apparently slightly rugose.

The sculpturing of the rostrum, head, thorax and elytra is with difficulty examined, all these parts being densely clothed with scales; these are chiefly of a brown colour, but in parts they are of a blackish hue. On the thorax is an indistinct dusky line in the middle, and one or two dusky patches at the sides; the elytra are variegated with deep and pale brown.

From the collection of Mr. Bridges.

Listroderes costirostris, Scho. Several specimens of this species are contained in Mr. Darwin's collection, having been collected at Maldonado; and there are, moreover, specimens collected at Coquimbo which present no distinguishing character, excepting in being of a larger size, viz. total length $5\frac{1}{2}$ lines, width $2\frac{1}{4}$ lin.; those from Maldonado being $4\frac{1}{2}$ lines in length and $1\frac{3}{4}$ in width.

LISTRODERES ROBUSTUS. *Listr. breviter ovatus, niger, opacus, fusco-squamosus, setosus; antennis fuscescentibus; rostro longiusculo, carinato, pilis minutis decumbentibus tecto; thorace crebrè punctulato, brevi, vittâ albâ ornato, lateribus subrotundatis; elytris breviter ovatis, punctato-striatis, fasciâ albescente, ad latera interruptâ, ornatis, singularim tuberculo subapicali instructis.*

Long. corp. et rostri, $4\frac{1}{3}$ lin.; lat. $2\frac{1}{5}$ lin.

Hab. Coquimbo.

In size and form this species may be compared to the *Phytonomus punctatus*. Rostrum about twice as long as the head, covered with minute decumbent brownish hairs, and with a longitudinal carina. Thorax rather broader than long, very suddenly contracted in front, and broadest near the fore-part; the sides slightly rounded, or nearly

straight; the posterior angles rounded, and the posterior margin indistinctly produced in the middle; the surface very thickly punctured and covered with pale brownish scales, and having interspersed minute hairs; in parts the scales assume a deeper hue, and in the middle is a whitish line. Elytra about one-third broader than the thorax, convex, and of a short ovate form; punctate-striated; the interstices obscurely punctured, and slightly convex; they are covered with brownish scales, and have interspersed minute pale hairs; rather behind the middle is a broadish curved mark, which is obliterated on the sides of the elytra; and towards the apex is a small angular tubercle.

From the collection of Mr. Darwin.

LISTRODERES APICALIS. *Listr. squamosus, fusco-albescens; antennis piceis; rostro carinâ longitudinali fuscâ; capite notis duabus fuscis anticè convergentibus; thorace anticè quam posticè latiore, ad latera ferè recto, anticè foveâ incurvatâ, lineâ albâ longitudinali; elytris thorace duplo latioribus, punctato-striatis; singulis notâ nigrescente obliquâ, ad apicem albescente, tuberculo distincto subapicali.*

Long. corp. et rostri, $3\frac{1}{4}$; lat. $1\frac{1}{3}$ lin.

Hab. Monte Video.

This species is considerably less than the *L. costirostris*, being about equal in size to the *Phytonomus rumicis*. The rostrum is rather slender, nearly twice as long as the head, covered with minute decumbent hairs, which are of a whitish brown colour; in the middle is a longitudinal carina. The thorax is broader than long; the broadest part is considerably in front of the middle; in front it becomes somewhat suddenly contracted; the sides of the thorax converge from near the anterior part towards the base, and are nearly parallel; the posterior margin is slightly rounded, being produced in the middle; the hinder angles are obtuse; the upper surface of the thorax is nearly plane, presenting scarcely any convexity, and in the fore-part is a curved impression, the extremities of which lead up to the anterior angles; it is densely clothed with scales, and these are of a very pale brownish colour; in parts the scales are of a deep brown colour, and in the middle is a longitudinal line, formed of whitish scales; besides the scales are some very minute, semirect, scattered dusky hairs; the sculpturing cannot well be seen, owing to the covering of scales, but the thorax appears to be very thickly though not coarsely punctured. The elytra are oblong, about one-third broader than the thorax; the humeral angles are prominent and rounded; the sides nearly straight, and the apex rounded; the surface is convex, but somewhat depressed at the basal portion of the elytra; punctate-striated; covered with pale brownish scales, having moreover some very minute scattered spines; the third and fifth interstices of the striæ on each elytron are slightly raised; rather behind the middle is an oblique deep brown patch, behind which the scales are white, or nearly so; a distinct angular tubercle is observable on each elytron, at a short distance from the apex. The legs and antennæ are brown,

and covered with minute palish hairs; near the apex of each of the femora is a whitish ring.

In the collection of Mr. Bridges are several species of *Curculionidæ* closely allied to *Listroderes*, but differing in having the antennæ more slender and elongated; the club is very long, distinctly jointed, and very slightly incrassated; the legs are longer, and the body is covered with minute hairs, or hair-like scales, whilst all the species of *Listroderes* examined by me have the body distinctly clothed with scales. Moreover, in none of the insects under consideration do I find the tubercles on the apical portion of the elytra, which are so common in the *Listroderes*. Such differences, though readily seen, it is impossible to express by a generic term. I have determined to designate this new genus by the name

ADIORISTUS*, nov. gen.

Antennæ longæ, tenues; scapus ad apicem subincrassatus; articuli funiculi obconici, 1^o longo; clava elongata distinctè triarticulata.

Rostrum capite ferè duplo longius, crassiusculum, subarcuatum, versus apicem incrassatum, suprâ carinatum: mandibulæ tenues paulo elongatæ.

Oculi subovati, subdepressi.

Thorax transversus, ponè oculos lobatus, suprâ subdepressus.

Elytra elongato-ovata, convexa, ad apicem rotundata.

Tarsi elongati, subtenuis, subtùs spongiosi.

ADIORISTUS PUNCTULATUS. *Ad. niger, fusco-pilosus; antennis, tibiis tarsisque piceis; rostro brevi, crasso, carinato; thorace punctulato, brevi subquadrato, anticè angustiori, posticè utrinque submarginato; elytris oblongo-ovatis, convexis, punctato-striatis, interstitiis alternatis maculis parvulis nigris atque albescentibus ornatis.*

Long. corp. et rostri, $6\frac{1}{3}$ — $8\frac{2}{3}$ lin.; lat. $2\frac{1}{2}$ — $3\frac{1}{3}$ lin.

Hab. Valleys of Petorca.

The whole insect is covered with minute decumbent hairs, and these are of an ashy-brown colour. The rostrum is stout, considerably dilated at the apex, and about twice as long as the head; rugose, and has fine longitudinal keels on the upper surface, of which the central one is most strongly developed, and the one next it on each side indistinct. The head is convex above, and thickly punctured. The thorax is about one-third broader than long; the anterior margin is straight, and the lateral margins are very nearly straight; the anterior part is rather narrower than the hinder part; the hinder margin is in the form of a segment of a circle, being produced in the middle, and joins the lateral margin so as to form a somewhat salient but obtuse angle; the upper surface is but very slightly convex, and thickly and distinctly punctured. The elytra are convex, and of an elongate-ovate form, and scarcely one-third broader than the thorax; the upper surface is densely clothed with minute hairs; punctate-striated, the punctures not very large, and distinctly separated; the interstices are plane, or indistinctly convex,

* From ἀδιόριστος, undefined, &c.

and are very finely punctured. On each stria is a series of small black and whitish spots, and these most of them are oblong.

ADIORISTUS ANGUSTATUS. *Ad. niger, fusco-pilosus; antennis, tibiis tarsisque fuscescentibus; rostro brevi, crasso, carinato; thorace punctulato ad latera et posticè subrotundato; elytris thorace pauld latioribus, elongatis, subovatis, punctato-striatis, maculis parvulis nigris ornatis.*

Long. corp. et rostri, $5\frac{1}{2}$ lin.; lat. 2 lin.

Hab. Valleys of Petorca.

This species closely resembles the last in many respects, and especially in its colouring, and in being covered with minute ashy-brown decumbent hairs, but it is of a narrower and more elongated form, and of a much smaller size.

The rostrum is about half as long again as the head, rugose, and has three parallel keels on the upper surface, of which the central one is the most prominent. The head is thickly punctured. The thorax is scarcely one-third broader than long, slightly emarginated in front; the sides are nearly straight and parallel, but near the anterior part they gradually converge, so as slightly to contract the width of the thorax at this part; about the posterior third of the thorax the sides also converge towards the posterior margin, so that the thorax may be described as obliquely truncated on each side behind: the posterior margin is straight; the upper surface is nearly flat, and thickly and distinctly punctured. The elytra are moderately convex and of an elongated ovate form, and about half as broad again as the thorax; punctate-striated, the punctures of moderate size and distinctly separated, excepting on the hinder part of the elytra; they are densely clothed with decumbent ashy-brown hairs, and on each stria is a series of oblong blackish spots; the interstices are very delicately but thickly punctured.

ADIORISTUS CONSPERSUS. *Ad. niger, subopacus, fusco-pilosus; antennis tarsisque fuscescentibus; rostro brevi, crasso, carinato; thorace punctatissimo, subquadrato, posticè pauld angustiore, modicè convexo, lateribus subrotundatis; elytris quoad latitudinem thorace ferè coequalibus, lateribus subparallelis, punctato-striatis, interstitiis planis.*

Long. corp. et rostri, $5\frac{1}{2}$ lin.; lat. $2\frac{1}{4}$ lin.

Hab. Valleys of Petorca.

Rostrum about half as long again as the head, much dilated at the apex, with three distinct carinæ, and the two outer carinæ converging slightly towards the base of the rostrum; between the carinæ are minute longitudinal rugæ, but these are hidden by the numerous small brownish hairs which cover this and other parts of the insect. The head is thickly punctured, and there is a minute oblong depression between the eyes. The thorax is subquadrate, about one-fourth broader than long; the anterior margin is straight; the sides are slightly rounded, but nearly straight towards the hinder part of the thorax; the greatest width is at the anterior third; the posterior

margin is straight, and the posterior angles are very nearly right angles; the upper surface is nearly flat, being but very slightly convex, and thickly but rather finely punctured. The elytra are moderately elongated, but little broader than the thorax, and moderately convex above; the sides are nearly parallel, being very little dilated in the middle; the apical portion is rounded; they are punctate-striated, and the interstices are finely punctured; a series of small blackish spots is observable on each of the striæ; on other parts the very minute hairs which cover the elytra are brownish.

ADIORISTUS SIMPLEX. *Ad. piceo-niger, pilis fuscescentibus tectus; antennis piceis; rostro brevi, carinato, ad basin transversim impresso; thorace rugoso-punctato, subcylindraceo, lateribus pauld rotundatis; elytris oblongo-ovatis, punctato-striatis, punctis aliquantd profundis, interstitiis ferè planis et punctulatis.*

Long. corp. et rostri, $3\frac{3}{4}$ lin.; lat. $1\frac{2}{5}$ lin.

Hab. Valleys of Petorca.

A small species, about equal in size to *Phyllobius alneti*. The rostrum short and stout, being but little longer than the head, is furnished with a central carina and a carina on each side, which is less distinct, and the space between these ridges has longitudinal rugæ, which are partially hidden by the scattered hairs which cover this and all other parts of the body. The head is thickly punctured, and the punctures are confluent; a small oblong impression is observable between the eyes, and in front of the eyes is a transverse depression, separating, as it were, the rostrum from the head. The thorax is nearly cylindrical, broader than long, and slightly narrower behind than near the fore-part; the anterior and posterior margins are straight; the upper surface is thickly and rather coarsely punctured, and the punctures are many of them confluent. The elytra are of an elongated ovate form, convex, somewhat attenuated, but rounded at the apex; punctate-striated, the punctures moderately large and rather deep, and nearly joining each other; the interspaces between the striæ are nearly plane, indistinctly punctured in parts and slightly rugose; the minute but somewhat spiny hairs which cover the elytra are not sufficiently abundant to hide the sculpturing, and are semi-erect.

A species of the present genus is contained in Mr. Darwin's collection, which differs from either of the above: it is almost destitute of the small hairs which give the brownish colouring to the other species here described.

ADIORISTUS SUBDENUDATUS. *Ad. oblongus, niger, pilis minutissimis atque squamulis albescentibus adpersus; antennis tarsisque fuscescentibus; rostro carinato, punctulato; capite inter oculos transversim impresso, crebrè punctulato; thorace subcylindraceo in medium pauld dilatato, punctis minutis impresso; elytris oblongo-ovatis, punctato-striatis, interstitiis pauld convexis, obsolete punctulatis.*

Long. corp. et rostri, $6\frac{1}{2}$ lin.; lat. $2\frac{1}{2}$ lin.

Hab. Mendoza.

This insect is intermediate in size between the *Ad. punctulatus* and *Ad. angustatus*, and is readily distinguished from either of the species here described by its denuded appearance; the scales and hairs, which are sparingly scattered over the body, only become visible with the assistance of a moderately strong lens.

The rostrum is about twice as long as the head, very thickly though finely punctured, and the punctures are confluent; in the middle is a distinct carina. The head is separated from the rostrum by a transverse and somewhat shallow depression, and in the middle of this depression is a small fovea: the upper surface of the head, as well as the thorax, is very thickly and finely punctured, and the punctures are confluent. The thorax is rather broader than long, subcylindrical, truncated before and behind; the upper surface is slightly convex, and the sides are somewhat rounded, being slightly dilated a little in front of the middle. The elytra are of an elongate-oval form, moderately convex, somewhat attenuated at the apex, but with that part rounded; they are distinctly punctate-striated; the punctures are arranged closely together, and the interstices of the striæ are narrow, slightly convex, and very delicately punctured.

Cylydrorhinus angulatus.—Under this name M. Guerin-Meneville describes, in the 'Revue Zoologique' (No. 7, 1841, p. 217), a species of *Curculio*, from Port Famine, which I am inclined to regard as specifically identical with specimens brought by Mr. Darwin from St. Cruz and St. Julian.

M. Guerin states that the elytra are covered above with large deep punctures arranged in longitudinal striæ, at the base of each of which is a very small tubercle, and which are united together by an indistinct transverse impression.

In the specimens brought by Mr. Darwin, the elytra are deeply punctate-striate at the base, but from the base towards the apex the punctures gradually decrease in size; the minute tubercles are situated on the anterior margin of each puncture, and in addition to the striæ of punctures, the elytra are for the most part covered with somewhat irregular transverse rugæ; these are most distinct on the sides of the elytra (or rather what appears to be the side, for the elytra are strongly keeled at some little distance from the lateral margin, so that that part is hidden as we view the insect from above), less distinct on the apical portion, and do not extend to the disc. The apical portion of each elytron is slightly produced, and the elytra appear as it were terminated by a tubercle; near the apex, on each side, is another tubercle. The thorax has a distinct fovea on each side, in the middle and near the lateral margin. The size of the specimens from Port St. Cruz varies from length $9\frac{1}{2}$ lin., width $4\frac{1}{3}$ lin., to length $7\frac{3}{4}$ lin., width $3\frac{1}{3}$ lin.

A specimen from St. Julian differs in being considerably smaller and more deeply sculptured, and in having a small patch of white scales near the apex of the elytra; the interstice between the fourth and fifth striæ is somewhat raised. Length 7 lines.

In the collection is a specimen, without label, which agrees with this variety, as I presume it is. Length $6\frac{1}{2}$ lines.

Two out of three specimens from St. Cruz have pitchy red colour legs; in the third the legs are black. The specimen from St. Julian has also black legs.

Mr. Darwin found this *Curculio* "lying dead by thousands on all parts of the plains at St. Julian, both far in the interior and near the coast."

December 28, 1841.

No Meeting took place.

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The names of New Species and of Species newly characterized are printed in Roman Characters: those of Species previously known, but respecting which novel information is given, in *Italics*: those of Species respecting which Anatomical Observations are made, in CAPITALS.

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January 11, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from the Society's corresponding member, H. J. Ross, Esq., was read. In this letter (which is dated Lamson, Nov. 28th, 1841,) Mr. Ross announces his receipt of various papers forwarded to him by the Society, and observes, that as he is going to a part of Kaissarich where collectors have not yet been, he hopes to procure specimens that may be acceptable to the Society. Mr. Ross also states in his letter that the Common Green Woodpecker of Europe (*Picus viridis*, Auct.) is to be found in great numbers at Trebizond, and that he has shot them as high as Gumushkhaugh, which is between Erzeroom and Trebizond. At the last-mentioned place Mr. Ross has left some specimens of birds in spirits to be forwarded to the Society.

A letter from J. Frembly, Esq., R.N., corresponding member, was next read. It is dated Gibraltar, December 8th, 1841; and chiefly refers to a collection of Brazilian Fishes, which Mr. Frembly had forwarded for the Society's Museum.

The collection of Fishes referred to in Mr. Frembly's letter was laid before the Meeting.

M. P. Gervais exhibited a drawing representing the details of a new genus of Marsupial animals, and communicated to the Meeting, in his own name and that of M. Jules Verreaux, the description of this new Mammal, which formed part of a collection brought from Swan River, and, in the opinion of the authors of the paper, will constitute among the *Marsupialia* the type of a distinct family, for which these naturalists propose the name *Tarsipedidæ*, and for the species the name of *Tarsipes rostratus*.

In general appearance, observe the authors, the *Tarsipes rostratus* bears some resemblance to a Shrew (*Sorex*); but the head is longer, and the muzzle is much elongated. The head and body together measure $4\frac{1}{2}$ French inches, and the tail $3\frac{1}{2}$ inches. The fur is tolerably dense, and composed of shortish silky adpressed hairs,

which are of a slate-grey colour next the skin, and yellowish externally. The back is of a brownish yellow colour, and a dorsal black stripe extends from the shoulders to the base of the tail, and on each side of this stripe the fur assumes a paler hue : the upper part of the head and muzzle are of the same brownish colour as the back ; the under side of the body as well as the inner side of the limbs are yellowish ; the hairs of the moustaches are brown, and tolerably long, some about one inch in length. The muzzle is terminated by a little *muffle* ; the nostrils are laterally pierced and virguliform ; the inter-nasal furrow is nearly equal in length to the nostrils. The tail is furnished at the base with fur like that of the body, but the greater portion is covered with short hairs, as in the rat tribe : its extremity is naked beneath, but the naked portion is but a few lines in length. The ears are tolerably short, somewhat rounded, and may be compared to those of the Shrews.

The animal is plantigrade ; its hinder limbs are rather longer than those in front. The palm of the hand is naked, as well as that of the foot, which is rather narrow and somewhat elongated, as in certain climbing Mammals. The fore-feet are provided with five toes, which are free, moderately short, and naked beneath as well as the part above, on the ungueal phalanx of which the digital pad is large, and forms a little cushion, as in the fingers of the *Lemuridæ* which are provided with three pairs of mammæ (*Tarsius*, *Galago*, and *Cheirogale*) : the thumb has the same direction as the other fingers, and like them it has a little depressed nail, which covers but a small portion of the apical fleshy pad. The middle finger is the largest, the fingers joining it are nearly equal in length, and the thumb is rather shorter than the outer finger.

The principal peculiarities in the hinder limbs consist in the smallness of the middle toe and that next it on the inner side, and these toes are united as far as the last phalanx, as in the *Syndactile Marsupialia*, and like these animals, are provided each with a pointed nail bearing some resemblance to a little hoof. The thumb is opposeable to the other toes, has no nail, but terminated by a fleshy pad : the fourth and fifth toes are provided with a pad similar to that of the corresponding toes of the fore-feet ; they have moreover small depressed nails, which do not extend to the outer margins of the pad : the fourth toe is the largest, and the fifth, though shorter, extends beyond the line of the two syndactile toes.

Before pointing out certain peculiarities of the skeleton of the *Tarsipes*, we may add, that in the male the scrotum is suspended in advance of the penis, and that in the female the mammæ, four in number, are placed in an abdominal pouch. There is but one opening for excretion and defecation.

In Paris there are several specimens of this singular animal. The skull of a female studied by MM. Gervais and Verreaux had the hinder part, as well as the lower portion in the mesial line, injured ; and this circumstance, combined with its small size, observes these authors, renders it difficult of examination ; they were able, however, to observe many of its essential characters.

The skull is much elongated, especially its facial portion; and studying it isolately, one would be tempted to refer it to an animal of the Edentate order, and probably to the family of Ant-eaters, *Myrmecophaga*, &c. The sutures of its bones are not obliterated as those of the *Monotremata* of the same age, but their distinction is less marked on the face than in the cranial region properly so called. The nasal bones are elongated, and terminate in an angle projecting at their point of junction with the anterior margin of the frontals; these are contracted at the interorbital portion, but they present no postorbital process to contribute towards the formation of a complete circular orbit: their antero-posterior development exceeds the transverse diameter.

The skull is broader in the parietal region, and the brain appears to have been more voluminous than in most other marsupial animals. In this form of cranium we perceive an analogy in the genus *Macroselides*. The cranial cavity is proportionally more ample than in the great Ant-eater (*Myrmecophaga jubata*). The occipital vertebra in the individual described is not perfect, and does not extend beyond the anterior occipital or interparietal, which is large and much broader than in the *Myrmecobius*. The ex-occipital, or, more correctly perhaps, the mastoid, articulates with the lateral margin of that bone. There is neither parietal crest nor occipital. The two temporal fossæ communicate by a nearly circular opening. The palatine portion of the intermaxillaries, and the anterior portion of the maxillary bones, have two small incisive foramina, and these are somewhat elongated; there is moreover in the palate two elongated openings, separated only by a very narrow bony ridge; the posterior boundaries of these openings and the termination of the palate, owing to the fractured condition of the skull, could not be seen. The suture between the nasal and maxillary bones, as well as the lachrymal, which is rather small, are nearly obliterated; the lachrymal canal is visible. The maxillaries, the length of which is proportionate to the nasal bones, give origin to a zygomatic process, and in fact there exists a complete zygomatic arch. The malar bone is of moderate thickness and depth; its posterior portion gives off a small process which projects above the temporal apophysis, and appears to represent, in a rudimentary condition, the little osseous temporal process observed in the *Echidna*, rather than a true orbital process of the zygoma, which in fact is wanting, as well as the orbital process of the frontal; and in this respect the *Tarsipes* differs from the *Myrmecobius*, with which there exists an analogy as regards some other characters. The alveolar portion of the maxillaries is very hard and presents a cutting edge, which is elevated in such a manner as to give to the palate a slightly concave surface.

The infra-orbital opening is small, and placed in a longitudinal groove of the maxillary bone situated a little in advance of the bone of the zygomatic process through which it is perforated. The auditory bullæ are convex, and nearly continuous with the squamous portion of the temporal. The tympanic circle is complete, and communicates in a direct manner with the bullæ by a large canal, which

permits of the interior of the chamber being seen. The articulation of the squamous portion with the great ala of the sphenoid, is oblique from the inferior margin of the zygomatic process in the anterior central portion of the bone of the auditory chamber. The lower part of the squamous element and this outer portion of the pterygoid are on the same plane, and though bulbous, they do not form a second auditory chamber, as in some marsupials, but merely an inflated portion of the cranial cavity. The glenoid cavity for the articulation of the lower jaw is indistinct. This jaw resembles in general form that of *Myrmecophaga jubata*, and it moreover bears a considerable analogy to that of the *Monotremata*. It is sublinear, slender, almost without a trace of coronoid process, and there being no angular process, it does not present the peculiar conformation of this part of the lower jaw which characterizes all the known marsupials; and the condyle, instead of being transverse as in these animals, is situated at the apex of a little curvature formed by the entire masseteric portion of the maxillary, approaches to a circular form, and is somewhat oblique in its direction, as in the *Myrmecophaga jubata* and in the *Monotremata*. In the *Myrmecobius* an approach to this disposition of the condyle is observable. The masseteric depression is in the form of a longitudinal cleft, which is much longer than the cleft found in certain species of *Macropodidæ*, and very much resembles that which we observe in the lower jaw of some birds. The two inferior maxillary are joined at the *symphysis* by a ligament only, but their junction appears to be more perfect than in the *Edentata* in general: these bones are as remarkable for their compact structure as for their transparency.

Of the remaining portion but few parts are known, viz. the radius and the inferior portion of the cubitus; these are separated in their whole length; the tibia and the fibula, which are also separated as far as their articulation with the tarsus; the fibula is much compressed at its upper extremity.

The dental system of the *Tarsipes* is most anomalous: the lower jaw presents in front a pair of cultriform teeth which have the same horizontal direction as the jaw; the basal portion of these teeth is narrower than the other portion, and the root is very deeply inserted into the jaw; the apical portion is unfortunately broken. These teeth are applied one against the other by their internal surface. Near the posterior third of the dental portion of the same jaw is a small transparent gemmiform tooth, which has the appearance of a little process recurved angularly outwards.

On the anterior third of the left side of the upper jaw are three small teeth; the first, which appears to be in the incisive bones, and which is in a line with the incisive openings, is in the form of a minute simple tubercle; the third, which is situated at the hinder extremity of the anterior third of the dental portion of the jaw, is also gemmiform, rather slender, longer than the first, and somewhat inclined forwards. Between this and the foremost tooth is another tooth, which is smaller than either, and situated nearer to the third than the second tooth. All these teeth are transparent and have but

one root; they are all which could be found in the specimen examined; and it is only by inspecting several individuals that the dental formula of this little animal could be correctly ascertained. It is supposed by the authors, that in front of the foremost pair of teeth of the upper jaw here described, another tooth exists, the root of which only is visible; if such should be the case, there would then be three pairs of incisors of unequal size in the upper jaw, and behind these a canine, which is the largest of those teeth.

The Tarsipes, as has been shown, presents characters which could scarcely be supposed to exist in a single species, and affords an additional proof that the inspection of a single portion of any animal is not sufficient for the determination of the peculiarities of other parts. Its feet are those of an animal elevated in the scale of organization, and nearly resemble those of the *Tarsius*, differing only in the union of the second and third toes of the hind-feet. The Tarsipes also having these two toes shorter than the others and provided with subulated nails; the singular form of its teeth, and, above all, the analogy which its skull bears with that of the *Monodelph Edentata* and *Monotremata*, render it difficult to determine the rank which the Tarsipes ought to occupy among the *Syndactylous Marsupialia*. It may be observed that it makes a considerable approach to *Myrmecobius*, an animal which, in some respects, has likewise affinities with the *Edentata*; but here the feet nearly resemble those of the *Dasyuri*. The Tarsipes in all probability had a long tongue, as in the *Echidna* and the *Myrmecophaga*; and it appears, according to the observations made by Lieutenant Dale and Mr. Gilbert, and communicated to M. Gervais by Mr. Waterhouse, that the tongue of the *Myrmecobius* is also very long.

Mr. Gould exhibited a new species of *Petrogale*, which he characterized as follows:—

PETROGALE INORNATA. *Petr. facie et dorso arenaceo-cinereis; humeris canescente irroratis, lateribus pallidioribus absque notis conspicuis; antibrachiis tarsisque arenaceo-cinereis digitis ad apicem saturatè fuscis; caudâ dimidiâ basali arenaceo-fuscâ.*

Hab. North coast of Australia.

General colour of the upper parts sandy grey, grizzled over the shoulders, and becoming much lighter on the flanks; an indistinct line, of a lighter hue, along the face under the eye; a dusky red patch behind the elbow; under surface sandy white, inclining to rufous on the lower part of the abdomen; arms and tarsi sandy grey, passing into dark brown at the extreme tips of the toes; basal half of the tail sandy brown, the remainder black, the former colour extending along the sides of the tail for some distance towards the tip; ears sandy grey, bordered by a very narrow line of dark brown on their inner edge; a dark patch at the occiput, passing into a dark line down the forehead.

	Female.	
	Feet.	Inches.
Length from the tip of the nose to the extremity of the tail }	3	2
Length of tail	1	$3\frac{1}{4}$
Length of tarsus and toes, including the nails	0	$5\frac{1}{4}$
Length of arm and hand, including the nails	0	5
Length of face, from the tip of the nose to the base of the ear }	0	$4\frac{1}{2}$
Length of ears	0	$1\frac{7}{8}$

This new species, for which I am indebted to the kindness of B. Bynoe, Esq., of H.M.S. Beagle, differs from all the other members of the genus in the unusual uniformity of its colouring. Mr. Bynoe collected it on the north coast of Australia, and this is all that is at present known respecting it. In size it is about equal to the *P. lateralis* of the western coast, to which, as also to *P. penicillata*, it is very nearly allied, but differs from both in being destitute of any markings on the sides, in the absence of any dark colouring behind the ears, and in the light colouring of the arms and tarsi.

The following "Descriptions of some new species of *Helicina*, in the collection of H. Cuming, Esq.," by Mr. G. B. Sowerby, jun., was read:—

HELICINA STRIATULA, Thesaurus Conchyliorum, by G. B. Sowerby, jun., fig. 43. *Hel. testá subdepressá, concentricè substriatá, fulvo-rufescente; aperturá subquadrátá, margine albo, crasso, reflexo, integro, subsinuato, posticè subdepresso.*

Alt. .23; lat. .30 poll.

Hab. — ? Mus. Cuming.

The margin of the aperture in this species is slightly lobed, and sinuous above and below.

HELICINA MAXIMA, Sow. jun., Thes. Conch. fig. 11. *Hel. testá globosá, subdepressá, lavi, albá; aperturá magná, semilunari, margine reflexo, acuto; labio interno crassiusculo; columellá obtusè angulatá.*

Alt. .50; lat. 1 poll.

Hab. — ? Mus. H. Cuming.

Rather more depressed and larger than *H. Major*, with the base of the columella angulated instead of being notched.

HELICINA ACUTISSIMA, Sow. jun., Thes. Conch. fig. 92 to 95. *Hel. testá plus minusve depressá, concentricè leviter striatá, angulari, acutissimè carinatá, infra angulos paululùm complanatá; aperturá triangulari; labio interno tenuissimo; columellá subcomplanatá, ad basim subundatá; labio externo acuto, validè reflexo, expanso, super angulùm subdepresso.*

Hab. apud ins. Philippinas. H. Cuming legit.

Var. *a.* *T. luteá, rufescente, fasciá rubrá infra angulo positá.* Alt. .35; lat. .70. *Hab.* Jacna, ins. Bohol.

Var. *b.* *T. lutea, rufescente, fasciis rubris tribus ornatá. Hab.* Jacna, ins. Bohol.

Var. *c.* *T. pallidè lutea, fasciá rubrá infra angulum, et alterá propè suturam positá. Alt.* 25; *lat.* 40 poll. *Hab.* Siquijor.

Var. *d.* *T. pallidè luteá. Hab.* Argao, ins. Zebu.

Var. *e.* *T. luteá, subtùs rubrá; cariná alba. Hab.* Argao, ins. Zebu.

Var. *f.* *T. fusca, nigricante. Hab.* Loboc, ins. Bohol.

Var. *g.* *T. rubrá, absque fasciis. Hab.* Loboc, ins. Bohol.

The above are found on leaves of small shrubs.

HELICINA TROCHIFORMIS, Sow. jun., Thes. Conch. f. 90. *Hel. testá luteá, Helicinæ acutissimæ simillimá, sed spirá altiori; labio externo posticè subdepresso.*

Alt. 20; *lat.* 30.

Hab. Ins. Negros, Philippinarum. H. Cuming legit.

Found on leaves of palms on mountains. It differs from *H. acutissima* principally in being much more conical, and in having the upper part of the outer lip more depressed.

HELICINA MINUTA, Sow. jun., Thes. Conch. f. 40, 41. *Hel. testá parvá, depressá, subangulatá, rubrá vel stramineá; margine crasso, effuso; labio interno calloso; columellá ad basim submarginatá.*

Alt. 10; *lat.* 15 poll.

Hab. —? Mus. H. Cuming.

HELICINA AGGLUTINANS, Sow. jun., Thes. Conch. f. 83 to 85. *Hel. testá depressá, angulatá, obtusè carinatá, supra infraque æqualiter convexá, minutè concentricè striatá; aperturá quadrilaterali; labio interno tenuissimo; columellá triangulari, complanatá, subumbilicatá, ad basin obtusè angulatá; labio externo effuso, reflexo, posticè leviter depresso; operculo crassiusculo, irregulariter quadrilaterali; epidermide aliquando per adhæSIONEM rupium fragmentorum ní carinam latam præruptam productá.*

Alt. 45; *long.* 75 poll.

Hab. apud ins. Philippinas. H. Cuming legit.

Var. *a.* *T. lutea. Ins.* Guimaras.

Var. *b.* *T. aurantiá; subtùs fuscá rubescente. Hab.* Loboc, ins. Bohol.

Var. *c.* *T. aurantiá-rubescete. Hab.* Dingley, Panay.

The shells of this species are found on rocks, the decomposed particles of which are agglutinated to the epidermis in some specimens, so as to form a broad broken keel on the angle of the whorls.

HELICINA LAZARUS, Sow. jun., Thes. Conch. f. 91. *Hel. testá pallidè fulvá, H. agglutinanti simillimá, sed magis elevatá; columellá angustiori.*

Alt. 28; *lat.* 40 poll.

Hab. Bongabong, N. Ecija, ins. Luzon, Philippinarum.

Found on leaves of palms.

HELICINA POLITA, Sow. jun., Thes. Conch. f. 76 to 81. *Hel.*

testá politá, tenui, pellucidá, plus minusve depressá et angulatá; anfractibus supernè subcomplanatis, infra ventricosis; labio interno tenui, anticè paululùm inflato; columellá angulatá, ad basim leviter angulatá; labio externo tenui, expanso, reflexo, super angulum plus minusve depresso; operculo internè rubro, externè submargaritaceo.

Hab. apud ins. Philippinas. H. Cuming legit.

Var. *a.* *T. aurantiá, magná, angulatá.* Alt. .40; lat. .60. Sorso-gon, pr. Albay, ins. Luzon.

Var. *b.* *T. aurantiá, minori.* Alt. .20; lat. .25. Sinaít, Ilocos, ins. Luzon.

Var. *c.* *T. aurantiacá, supernè rubrá.* Misamis, ins. Mindanao.

Var. *d.* *T. aurantiá; fasciá rubrá in medio super angulum anfractuum.* Abulug, pr. Cagayan, ins. Luzon.

Var. *e.* *T. aurantiá, fasciis albis binis ornatá.* St. Nicholas, ins. Zebu.

Var. *f.* *T. aurantiá, supernè pallidè roséá.* Abulug, pr. Cagayan, ins. Luzon.

From the large, somewhat angulated, orange variety, down to the more globose and small varieties, the gradation is so slow that it is impossible to find a line of demarcation sufficiently distinct to admit of specific separation, although the two extremes differ considerably in general appearance.

HELICINA SIMILIS, Sow. jun., Thes. Conch. *Hel. testá H. politæ simillimá, sed impolitá, concentricè leviter striatá, fuscá.*

Hab. apud insulam Guadaloup. Mus. Cuming.

HELICINA PARVA, Sow. jun., Thes. Conch. f. 82. *Hel. testá H. politæ simillimá, sed magis rotundatá, labio externo minimè depresso.*

Hab. Argao, ins. Zebu. H. Cuming legit.

Found on leaves of bushes, and differs only from the smaller varieties of *H. polita* in being globular, and having the outer lip not at all depressed above.

HELICINA GUADALOUPENSIS, Sow. jun., Thes. Conch. f. 65, 66.

Hel. testá lævi, depressá, subangulatá, concentricè leviter striatá; columellá ad basin subnodosá; labio externo crasso, reflexo; anfractibus gradatim crescentibus, supra infraque subventricosis; operculo fusco.

Hab. apud insulam Guadaloup. Mus. H. Cuming.

Var. *a.* *T. rubrá, lutescente, majori.* Alt. .35; lat. .60.

Var. *b.* *T. pallidè brunneá, minori.* Alt. .20; lat. .35.

A memoir on the family of *Touracoos*, by Dr. E. Ruppell, was next read. In this memoir the author characterizes the following two new species of the genus *Chizærhis* from Abyssinia:—

CHIZÆRHIS PERSONATA. *Chi. regione ophthalmicá, genis, mento et gulá, pennis denudatis, cute nigricante, vibrissis brevissimis vestita; pileo crista plicatilis, plumis laxis, elongatis, colore mu-*

rino; nucha, regione parotica, juguloque albidis, jugulo et pectore viridi-glaucis; abdomine et tibiis rufo-cervinis; achenio, dorso et alis caesio-umbrinis, reatricibus olivaceis; cauda elongata, subrotundata, supra cinerea, infra luteo-virenti, rostro et pedibus nigris; iride albo-cinerascente.

The most characteristic peculiarity in the present species, observes Dr. Rüppell, consists in the absence of feathers on the face and throat, the skin of these parts presenting only small scattered hairs, and apparently being of a blackish purple colour. The feathers of the upper surface of the head are elongated, and have the plumelets soft and flowing; they no doubt are erectile, and form a crest at the will of the bird. The two sexes agree perfectly, both in size and colouring. The dimensions in French measure are as follow:—

	in.	lin.
Total length from the tip of the beak to the tip of tail	19	0
Tail	10	0
Length of the beak, measuring along the upper curvature	1	1
Greatest height of the two mandibles	0	7½
Length of the wing from the bend to the extremity of } the fourth wing-feather, which is the longest }	8	0
Length of the tarsus	1	6
Length of the middle toe, including the nail	1	10

CHIZERHIS LEUCOGASTER. *Chi. pileo crista plicatilis, plumis apice truncatis, capite, gutture, collo, cervice, dorso et alis caesio-umbrinis; reatricibus medianis nigro-marginatis, remigibus dimidio basali albis, dimidio apicali umbrino-nigris; cauda subrotundata, supra et subtus nigra, fascia alba lata transversa; reatricibus duabus intermediis caesio-umbrinis; abdomine et tibiis albis; rostro et pedibus nigricantibus, iride umbrina.*

A peculiarity in this species consists in the truncated form of the feathers which constitute the crest. Both sexes agree in size and colouring. The dimensions are as follow:—

	in.	lin.
Total length	18	9
Tail	9	9
Beak	0	11½
Height of beak	0	6½
Length of the wing to the end of the fifth wing-feather	7	9
Tarsus	1	8
Middle toe, including the nail	1	10

A series of twenty-five Orang Outan skulls, from Borneo, which had been presented by James Brooke, Esq., together with fourteen skeletons, were exhibited, and also a collection of Fishes from Brazil, presented by J. Frembly, Esq., R.N.

January 25, 1842.

William Horton Lloyd, Esq., in the Chair.

A letter from the Society's Corresponding Member, Alexander N. Shaw, Esq., of the H. C. Civil Service, was read, in which that gentleman calls attention to the advantages which would ensue from the appointment of agents at different ports, for the transmission of animals for the Society, and requests to be informed what animals would be most acceptable from the part of India in which he is at present stationed, observing that he will endeavour to procure them, and should he succeed, will forward them free of expense to Bombay.

Mr. W. D. Cooper communicated to the Meeting some notes, by T. S. Thomson, Esq., relating to the habits of the *Bassaris astuta* of Lichtenstein. These notes are confirmatory of the observations of Mr. Charlesworth, made at a former meeting of the Society*. The animal, Mr. Thomson has been informed, is found in most parts of the republic of Mexico, but is not known beyond the habitations of man. Besides fowls, butchers' meat, &c., it will eat bread, fruit, and sugar; it breeds principally in outhouses, and particularly in neglected spots, producing three or four at a birth. Sometimes it is tamed, and used like the domestic cat to destroy rats, mice, &c.

Mr. Gould exhibited several Australian Mammals, from his own collection, which he considered to be new to science. The first to which he drew attention was a species of the genus *Macropus*, as now restricted, which, from the sooty black colouring of the face, he proposed to describe under the name

MACROPUS MELANOPS. *Macr. vellere molli obscurè griseo; dorso, collo, plagæque magnâ ad basin femoris, fuliginoso-lavatis; lateribus corporis indistinctè fulvo tinctis; capite fuliginoso; rhinario nigro; auribus intus pilis albis vestitis, eatus pilis albis, nigro irroratis, ad basin nigris; gulâ pectoreque albescens; tibiis tarsisque fusco-albis, digitis nigris; caudâ robustâ, suprâ fuliginoso-fusca, subtus pallidiore, dimidiâ apicali nigrâ.*

	unc. lin.
Longitudo ab apice rostri ad caudæ basin . . .	33 0
————— <i>caudæ</i>	20 6
————— <i>tarsi digitorumque</i>	11 9
————— ab apice rostri ad basin auris . . .	5 9
————— <i>auris</i>	3 9

* Proceedings for July 13, 1841, p. 60.

The most striking character in this species is the general deep hue of the fur of the upper parts of the body and neck; the colour may be described as sooty grey, but having moreover a brownish tint; the whole upper surface and sides of the head are nearly black; on the sides of the body and outer side of the hind legs, at the base, a very faint fulvous tint is observable; a large space on the haunch is of the same deep hue as the back; the throat and chest are whitish, the visible portion of the hairs on these parts being white; at the base, or next the skin, they are of a deep grey colour, and so are those on the abdomen; but here, though the hairs are tipped with white, the grey tint shows itself to a greater degree. The ears are thickly clothed with long white hairs on the inner side; externally they are pencilled with black and white, in about equal proportions, but at the base they are clothed with the same dense fur as that of the head, and this is black. The fore-legs, like the outer surface of the ears, are pencilled with black and white, the black becoming more conspicuous towards the toes, which are covered with black hairs. The hind-legs and tarsi are chiefly of a brown-white hue, but on the toes there is a considerable admixture of black; the hairs which cover the nails and the sides of the toes are almost entirely black. The tail is of the same colour as the body at the base, and has the apex black; the portion covered with black hairs is rather less than that clothed with the paler fur.

The following new Australian Mammals were also characterized by Mr. Gould:—

BELIDEA ARIEL. *Bel. pallidè cinerea, lineâ dorsali, a basi rostri ferè usque ad basin caudæ extensâ, circulo interrupto ad basin auris, membrandque laterali suprâ nigrescentibus, hac ad luterâ flavescenti-albâ; corpore subtùs pallidè flavo; caudâ gracili ad apicem nigrâ; auribus mediocribus; pedibus pallidis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin.	6	0
———— caudæ	7	0
———— auris	0	8
———— ab apice rostri ad basin auris	1	3½

Two specimens of this species of Flying Phalanger were received by Mr. Gould from Port Essington. In size and proportions it approaches most nearly to the *Belidea breviceps*, being considerably less than the *Petaurus sciureus* of authors; but it is readily distinguished by its general pale colouring, and more especially by the pale yellow tint of the under parts of the body. The tail is slender as in *B. breviceps*, Waterh.; the fore and hind-feet are of a pale yellowish hue in one specimen; in the other the fore-feet have a pale brownish tint: a narrow black mark, commencing between the eyes, runs along the back, and extends nearly to the root of the tail; a narrow blackish line surrounds the eyes, and a black ring encircles the base of the ears, but is interrupted under the ear, which is sparingly clothed with minute hairs, excepting at the base externally, where they are covered with

fur like that on the head, and which is of a black colour, forming a portion of the dark ring before mentioned; and on the hinder margin of the ear, at the base, is a fringe of pale yellowish hairs. The upper surface of the head is of a paler hue than the upper parts of the body, which are of a pale ash-colour, slightly tinted with yellowish; the upper surface of the lateral membrane is blackish, and so is the anterior portion of the fore-arm and region of the wrist; a dusky tint is also observable on the posterior part of the hind-leg.

MUS PENICILLATUS. *Mus griseo-fuscus, vellere ferè ut in M. decumano; corpore subtùs pedibusque albis flavo lavatis; auribus mediocribus, posticè subemarginatis; caudà corpore capiteque paulo longiore, gracili, dimidià apicali pilis longis nigris vestitá.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin. . . .	7	3
———— caudæ	7	9
———— ab apice rostri ad basin auris	1	5½
———— tarsi digitorumque	1	8
———— auris	0	7¾

Hab. Port Essington.

This species of Rat is rather less than the *Mus decumanus*; in the character of its fur it nearly resembles that animal, but the hairs are rather more adpressed; the colouring of the upper parts of the body also nearly resembles that of *M. decumanus*; there is, however, a rusty tint in the region of the occiput and on the back of the neck. Around the angle of the mouth, the chin, throat, and all the under parts of the body, as well as the feet and inner side of the legs, are white, with a faint yellow tint, which might be described as cream-colour; and the hairs on these parts are of an uniform colour to the roots, excepting on the chest, where they are grey next the skin. The tail is long and slender, sparingly clothed at the base with minute bristly hairs, as in most species of the genus; but about the middle of the tail the hairs assume a black colour, and are longer, and towards the apex they soon attain a considerable length, measuring at and near the tip half an inch or more. The ears are narrower than usual, somewhat pointed, and slightly emarginated behind; they are sparingly clothed with minute hairs.

MUS HIRSUTUS. *Mus vellere hirsuto, corpore suprà fuscescente pilis nigris crebrè commixtis, subtùs fulvenscens, fusco rufoque tincto; auribus mediocribus; caudà longá pilis nigris, aliquanto longis, vestitá; dimidià apicali pilis longioribus, his ad apicem caudæ rufescentibus.*

Of this large and curious Rat, Mr. Gould regretted that he did not possess a perfect skin; the somewhat mutilated skin which he exhibited, together with a perfect skeleton, however, displayed characters very distinct from other species of *Mus*. Compared with the known species of that genus, he observed it approached most nearly to the *Mus giganteus* of Hardwicke; it is equal in size to that animal, and has the same coarse shaggy fur, but is readily distinguished by its well-clothed tail, the hairs on this part being much longer than

usual in the genus, especially on the apical half, where the scales are hidden by them; those at the point of the tail measure upwards of an inch in length, and at the distance of two inches from the point they average about an inch in length; on this part they have a rusty hue, but on the remaining portions they are black. On the upper parts of the body the shorter hairs are of a yellowish brown colour, but the longer interspersed hairs being numerous, and of a black colour, give a deep general tint to these parts. The under parts of the body are of a rusty yellow colour, tinted with brownish on the neck and chest, and having a more decided rust-colour on the abdomen.

The skull approaches that of *Mus giganteus* in general form, but is rather narrower and longer; the palatal portion is broader, and the incisive foramina are shorter, terminating posteriorly, about one-eighth of an inch anterior to the foremost molars; whilst in *M. giganteus* these foramina terminate in a line with the front molars, or rather behind that line; the nasal bones are longer and rather narrower, and the occipital portion of the cranium is decidedly smaller. The principal dimensions, taken from the skeleton, are as follow:—

	in.	lin.
Length from tip of nasal bones to end of sacral vertebræ	10	4
Length of tail	13	0
Length of tarsus and claws	2	8½
Length of skull	2	6½
Width of ditto	1	3¾
Length of nasal bones	1	0½
Distance between incisors and molars of the upper jaw	0	9½
Width between molars	0	3½
Length of incisive foramina	0	5
Width of occiput	0	8

MUS DELICATULUS. *Mus suprâ pallidè fusco-flavus; corpore ad latera flavescente, subtùs albo; caudâ mediocri suprâ fuscâ, subtùs ad basin albescenti; auribus parvulis; pedibus gracilibus, albis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	2	5
caudæ	2	2
tarsi digitorumque	0	8
ab apice rostri ad basin auris	0	8
auris	0	3¾

In colouring the present species greatly resembles the *Mus sylvaticus* of Europe, but it is a trifle paler; its size is less than that of the common mouse (*Mus musculus*, Auct.). The fur is soft and short; that on the upper parts of the body is of a pale yellow-brown colour. The sides of the body are of a delicate yellow tint, and the lower parts of the sides of the muzzle, the chin, throat, and whole under parts, as well as the feet, are pure white; along the mesial line of the abdomen and on the throat the hairs are of an uniform colour to the base. The feet are slender, and the ears are rather

small. The tail is slender, and nearly equal in length to the head and body.

Two specimens exhibiting the above characters were exhibited by Mr. Gould.

The reading of Prof. Owen's memoir on the Myology of the Apteryx was commenced.

February 8, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

Some notes on the habits of the Horned Screamer (*Palamedea cornuta*, Linn.), by William Martin, Esq., Secretary to the Clifton Zoological Gardens, were read.

These notes were communicated by the President, the Earl of Derby, and are drawn up from observations made upon a specimen of the *Palamedea* living in the Clifton menagerie.

“The Horned Screamer was presented to the Society early in June 1839, by Capt. Rees of Bristol. On its arrival in this country it was exceedingly thin and weak. It had been fed during the voyage principally upon Indian corn, but had a little chopped boiled meat occasionally. The weather being very mild, it was placed in a turfed aviary, used generally for pheasants, some water-cresses and other aquatic plants being procured; but it was soon evident that we had not discovered a proper substitute for its natural food. Thinking one day that it manifested a desire to get at some roses which were trained upon the aviary, I gave it one of the flowers, which it ate eagerly. It was then thought, that, as it was so domesticated and familiar, the feathers of one wing should be cut, and the bird turned loose into the garden and watched, to see what plants it would prefer. The rose-trees were the favourite plants, the flowers, young shoots and leaves being eagerly eaten. Since this time it has always been turned out every morning in mild weather to roam about the garden, and it is very fond of creeping up close to the gardeners, and watching them at work, although it does not appear to be from any desire to obtain worms or insects. It seldom wanders very far from its aviary, and in the afternoon is always found waiting to be let in. In winter it is allowed its liberty in the parrot aviary, which is heated by one of the Arnott stoves, and close to which it may generally be found. Even in moderately sharp weather, if it be dry, we find it better to let it go out for a short time; but then, instead of creeping leisurely about, it bustles off to its favourite plants, and very soon returns; but it will not bear confinement in a cage. At the present time *lettuce* is its principal food, but it has also Indian corn, hemp-seed, sopped bread, and a little boiled sheep's head. Small stones seem also necessary, and it is very fond of swallowing small pieces of the coal used in the stove, which is anthracite. Owing to the difficulty and expense of procuring a sufficient quantity of lettuce during the frost of last winter and that of the year before, the poor bird became very thin and weak, but quickly rallied upon again getting this food. In the summer, when on the lawns, it will eat grass, which it chips off with its beak in a very singular

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manner. I have tried it several times with a frog, but it has always been refused. When we first had it the horn upon the head was about four inches long; but as it used to stand so close to the stove, it became burnt down to about an inch, and is now grown again considerably.

“The spurs upon the elbows of the wings are nearly two inches long, and of amazing strength and hardness; they are truly formidable weapons. We have several varieties of dogs, which are kept in single kennels, in different parts of the garden, but they always retreat upon the approach of the Screamer; and whilst the bird continues close, nothing will induce them to come out, at least those that have once felt the spur. I have several times seen it standing close to a door of a kennel, with its head erect and looking very proud, making a sound which one could only look upon as a challenge to the dog to come forth. As the mode of attack is so sly and unexpected, none are at first prepared for it. Throwing its neck and head backwards and forwards, and uttering at the same time a low note, it advances sideways up to the dog, and when close enough turns half-way round, and quietly raising its wing, delivers such a blow that no dog that we have will face it a second time. It is not meant that a dog could not be made to resent such an attack, but only that of their own accord they seem unwilling to do so.

“It is, however, exceedingly familiar, and would become attached to any one that would notice it kindly, and with me will often make a kind of purring noise when being patted and caressed. Still I have seen it run after children when they have been teasing it.

“On one or two occasions it has recovered the use of its wing sooner than expected, but it never flew beyond the garden—alighting upon the top of its aviary, flying off again, wheeling round in a circle and returning. In their wild state I should consider these birds good flyers; their long wings and light bodies, with a most complete apparatus of external air-cells, would conduce to that result. I hardly know why it should be called a screamer; no noise that I have ever heard it make could be called a scream. It has certainly a tolerably sharp cry, and also a lower note or cry, somewhat resembling the trumpet-note of a peacock, but not so loud; both appear to be notes of pleasure and satisfaction, and may generally be called forth in the following manner. If for instance the bird is on the lawn, and any of those known to it should pass close by, it will utter one or two of the lower notes, and if encouraged by the person endeavouring to imitate the same note, it will utter two or three more, and finish with one of the shrill notes; it will then often lie down to be patted and caressed. Its walk is rather ludicrous, partaking both of stateliness and awkwardness. The head is carried high and well, but as its toes are so long it is compelled to raise each foot very high, in order to get it clear of the other, and this produces the appearance described. In standing, the toes of one foot are crossed a good deal over those of the other.

“It has evidently more confidence in man, and seems also to have more intelligence than most birds.”

The reading of Professor Owen's memoir on the Myology of the *Apteryx* was continued.

Mr. Gould then brought before the notice of the Meeting some additional ornithological novelties from Australia, and characterized an *Artamus*, conspicuous for the white colouring of the rump, as

ARTAMUS LEUCOPYGIALIS. *Art. capite, guld, et dorso fuliginoso-cinereis; pectore, partibus inferioribus, et uropygio albis; rostro pallidè cæruleo-cinereo.*

Head, throat and back sooty grey; primaries and tail brownish black, washed with grey; chest, all the under surface, and rump, pure white; irides brown; bill light bluish grey at the base, black at the tip; legs and feet mealy greenish grey.

Total length, $5\frac{1}{2}$ inches; bill, $\frac{1\frac{5}{8}}$; wing, $5\frac{1}{8}$; tail, $2\frac{1}{2}$; tarsi, $\frac{5}{8}$.

Hab. Australia.

A new *Pitta*, being the third species of that form from the Australian continent, as

PITTA IRIS. *Pitt. capite, collo, pectore, abdomine, lateribus, et femoribus nigerrimis; fasciâ superoculari, ad occiput ductâ ferrugined; corpore suprâ, alisque ex aureo viridibus, humeris metallice cæruleis et fasciâ inferiore lazulinâ ornatis.*

Head, neck, breast, abdomen, flanks and thighs deep velvety black; over the eye, extending to the occiput, a band of ferruginous brown; upper surface and wings golden green; shoulders bright metallic cærulean blue, bordered below with lazuline blue; primaries black, passing into olive-brown at their tips; the third, fourth, fifth and sixth having a spot of white about the centre of the feather; tail black at the base, green at the tip, the former colour running on the inner web nearly to the tip; rump-feathers tinged with cærulean blue; lower part of the abdomen and under tail-coverts bright scarlet, separated from the black of the abdomen by yellowish brown; irides dark brown; bill black; feet flesh-colour.

Total length, 7 inches; bill, $1\frac{1}{8}$; wing, 4; tail, $1\frac{3}{4}$; tarsi, $1\frac{1}{2}$.

Hab. Cobourg Peninsula, north coast of Australia.

Mr. Gould then pointed out the generic characters of two new genera of Finches, the first of which he proposed to designate

GENUS EMBLEMA.

Rostrum ferè quàm caput longum, conicum (ut in genere *Ploceus*).
Alæ mediocres; remige primâ parvulâ, quatuor proximis inter se æqualibus; tertiariis elongatis. *Cauda* mediocris, et ferè quadrata, vel paululùm rotundata. *Pedes* plantigradi, digitis gracillimis; digito intermedio externis longiore, illis inter se æqualibus.

EMBLEMA PICTA. *Emb. facie et guld saturatè miniaceis; vertice et corpore suprâ fuscis; pectore et corpore subtùs nigris crebrè alboguttatis, abdomine medio miniaceo adperso.*

Face and throat deep vermilion red; the base of all the feathers of the throat black, giving that part a mingled appearance of black and red; crown of the head, all the upper surface and wings, brown; rump deep vermilion-red; tail dark brown; chest and all the under surface jet-black, the flanks numerously spotted with white, and the centre of the abdomen dashed with vermilion-red; feet light red; upper mandible black, under mandible scarlet, with a triangular patch of black at the base.

Total length, $3\frac{1}{8}$ inches; bill, $\frac{9}{16}$; wing, $2\frac{1}{4}$; tail, $1\frac{5}{8}$; tarsi, $\frac{5}{8}$.

Hab. The north-west coast of Australia.

From the collection of B. Bynoe, Esq.

And the second,

Genus POËPHILA.

Gen. char.—*Rostrum* ad basin tumidum, et igitur ferè tam latum et profundum quàm longum. *Alæ* mediocres, remige primâ parvulâ, secundâ tertiâ quartâ et quintâ inter se ferè æqualibus; digitis gracilibus, medio externis longiore, illis inter se æqualibus; digito postico, medio valdè brevior. *Cauda* cuneiformis, rectricibus duabus intermediis productis.

This form is nearly allied to *Erythura* and *Estrela*.

Type, *P. acuticauda* (*Amadina acuticauda*, Gould in Proc. Zool. Soc., Part VII. p. 143).

POËPHILA PERSONATA. *Poë. rostro ad basin fasciâ irregulari nigerrimâ circumdato, vertice, dorso, alis, caudâque pallidè cinnamomino-fuscis.*

Base of the bill surrounded by an irregular ring of deep velvety black; crown of the head, upper surface and wings, light cinnamon-brown; lower part of the abdomen banded with deep velvety black; lower part of the rump and under tail-coverts white; upper tail-coverts white, striped longitudinally with black on the outer side; tail graduated, and of a deep blackish brown; irides red; bill bright orange; legs and feet flesh-red.

Total length, $3\frac{1}{8}$ inches; bill, $\frac{3}{8}$; wing, $2\frac{1}{4}$; tail, 2; tarsi, $\frac{9}{16}$.

Hab. The northern parts of Australia.

Mr. Gould then characterized two new species of the genus *Ptilinopus*, Swainson, as *P. Swainsonii* and *P. Ewingii*; the first in honour of the founder of the genus, and the second in honour of the Rev. T. J. Ewing, of Van Diemen's Land.

PTILINOPUS SWAINSONII. *Ptil. fronte et vertice splendidè coccineis, hoc colore lineâ angustâ flavâ nisi apud frontem cincto; pectore sordidè viridi, singulis plumis ad apicem bifidis, more furculæ, cujus apices maculâ triangulari argenteo-cinereâ notantur; abdomine medio aurantiaco; caudæ apice latè flavissimo.*

Forehead and crown deep crimson-red, surrounded, except in front, with a narrow ring of light yellow; back of the neck greyish green; all the upper surface bright green tinged with yellow, the green becoming deep blue towards the extremities of the tertiaries, which

are broadly margined with yellow; primaries slaty grey on their inner webs, green on the outer, very slightly margined with yellow; tail deep green, largely tipped with rich yellow; throat greenish grey, stained on the chin with yellow in some specimens; in others the chin is white; breast dull green, each feather forked at the end, and with a triangular silvery grey spot at either extremity; flanks and abdomen green, with a large patch of orange-red in the centre of the latter; under tail-coverts orange-yellow; thighs green; irides reddish orange; bill greenish black, horn-colour at the tip; feet olive-brown.

Total length, 9 inches; bill, $\frac{5}{8}$; wing, $5\frac{3}{4}$; tail, $3\frac{3}{4}$; tarsi, $\frac{5}{8}$.

Hab. The brushes of the River Clarence and Moreton Bay.

PTILINOPUS EWINGII. *P. fronte et vertice roseis, hęc colore lineę flavę nisi ad frontem cincto; pectore virescenti-cinereo plumis bifidis, et ad apicem pallidę cinereis; fasciá infra pectorali pallidę sulphurę; abdomine medio saturatę aurantiaco, cum lunulá centrali helvo-cęruleá; caudę rectricibus ad apicem flavis, non sine tincturá viridi presertim in rectricibus duabus intermediis notandá.*

Forehead and crown of the head rose-pink, bordered, except in front, by a narrow line of yellow; back of the head and neck greenish grey; all the upper surface bright green, passing into deep blue on the tertiaries; primaries, secondaries and tertiaries slightly margined with yellow; tail largely tipped with yellow tinged with green, particularly on the two centre feathers; chin pale yellow; sides of the neck and chest greenish grey, each feather forked at the end and tipped with grey; below the chest an indistinct band of sulphur-yellow; flanks and lower part of the abdomen green; centre of the abdomen rich orange, in the middle of which is a lunar-shaped mark of lilac; under tail-coverts orange; thighs and tarsi green; irides reddish orange; feet olive.

Total length, $7\frac{3}{4}$ inches; bill, $\frac{3}{4}$; wing, $4\frac{5}{8}$; tail, 3; tarsi, $\frac{5}{8}$.

Hab. Port Essington.

Mr. Gould next instituted a new genus among the *Columbidę*, under the appellation of

GENUS GEOPHAPS.

Gen. char.—*Rostrum* perbreve et robustum. *Oculi* cute denudatá circumdati. *Alę* perbreves et rotundatę, apicibus latis. *Tarsi* mediocres digitis longiores. *Digitus* internus paululùm cęteris longior.

Of this form a new species was described as

GEOPHAPS PLUMIFERA. *Geo. capite cristá occipitali ornato; hęc sic et vertice, colli lateribus, pectore et alarum paginá inferiore pallidę ferrugineis; gulá alternatim albo nigroque fasciato; pectore lunulis duabus albis inter se junctis cuspidemque mediam efficientibus, ornato.*

Lores and orbits naked, and of a yellowish red; head furnished with a lengthened occipital crest, which, with the crown, sides of the

neck and chest, and under part of the wing, is light ferruginous; chin black; throat banded alternately with white and black, the latter colour extending to the ear-coverts; on the chest two semilunar marks of white, which, meeting, form a point in the centre; middle of the abdomen light buff; under tail-coverts brown, with lighter edges; back of the neck, back, rump and upper tail-coverts, rufous brown; wings light ferruginous, with the basal half of the feathers silvery grey, the two colours separated by a transverse band of black; primaries rufous brown; secondaries rufous brown, with a large patch of bronzy purple towards their tips; tail black; bill black; feet reddish brown.

Total length, 7 inches; bill, $\frac{3}{4}$; wing, $3\frac{1}{8}$; tail, $2\frac{5}{8}$; tarsi, $\frac{7}{8}$.

Hab. The north-west coast of Australia.

From the collection of B. Bynoe, Esq.

A second genus of this tribe of birds was then characterized as

Genus OCYPHAPS.

Gen. char.—*Caput cristâ occipitali elongatâ. Alæ paulò breves, remige tertiâ gradatim ad apicem coarctatâ. Cauda mediocriter elongata, et rotundata. Tarsi et digitus intermedius eadem longitudine. Digitus internus externo brevior.*

Type, *Columba Lophotes*, Temm.

A second example of the genus *Pedionomus* was described as

PEDIONOMUS MICROURUS. Ped. à P. Torquato diversus, staturâ minore, collo haud torque circumdato, caudâ ferè carente.

Crown of the head, back and upper surface mottled with black, brown, and fawn-colour, the latter occupying the external edge of the feathers, and the black and brown forming alternate circular markings on each feather; throat, neck, chest and flanks dull fawn-colour; the feathers of the neck and chest blotched with brown; flanks marked with the same colour, assuming the form of bars; tail-feathers, which are almost invisible, marked the same as the back; centre of the abdomen and the under tail-coverts buffy white, without spots or markings; irides straw-yellow; bill yellow, passing into black at the point; feet greenish yellow.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{1\frac{1}{6}}$; wing, $3\frac{1}{4}$; tarsi, $\frac{7}{8}$.

The above are the measurements of an old male.

Hab. Plains of the interior of South Australia.

Differs from *P. torquatus* in its smaller size, in the absence of the collar, and in the almost total absence of tail.

Mr. Gould also brought before the notice of the Meeting a new species of *Megapodius*, from the north coast of Australia, which he characterized as *M. Tumulus*, and read a very interesting account of its habits, which tends to confirm the opinion he had previously expressed, that *Megapodius Talegalla* and *Leipoa* form part of one great family of birds, whose range will be found to extend from the Philippines to Australia.

MEGAPODIUS TUMULUS. M. capite, et cristâ saturatè cinnamomino-

fuscis; nucha, et corpore subtùs saturatè cinereis; dorso, alisque cinnamomino-fuscis; tectricibus caudæ, crissoque saturatè castaneis; pedibus permagnis.

Head and crest very deep cinnamon-brown; back of the neck and all the under surface very dark grey; back and wings cinnamon-brown; upper and under tail-coverts dark chestnut-brown; tail blackish brown; irides generally dark brown, but in some specimens light reddish brown; bill reddish brown, with yellow edges; tarsi and feet bright orange, the scales on the front of the tarsi, from the fourth downwards, and the scales of the toes dark reddish brown.

Total length from 15 to 17 inches; bill from $1\frac{1}{8}$ to $1\frac{1}{4}$; wing from $9\frac{1}{2}$ to 10; tail from 4 to $4\frac{1}{2}$; tarsi from $2\frac{1}{2}$ to $3\frac{1}{8}$.

Hab. Cobourg Peninsula, on the north coast of Australia.

February 22, 1842.

William Horton Lloyd, Esq., in the Chair.

The reading of the Second Part* of Prof. Owen's Monograph on the *Apteryx australis*, Shaw, including its Myology, was completed.

The following is the descriptive portion of this communication:—

MUSCLES OF THE SKIN.

No detailed description of the muscles of the skin in Birds has been given either in the systematic works on comparative anatomy, or in particular treatises; these muscles appear indeed in general to be too irregularly or too feebly developed to have attracted much attention; brief notices are recorded of some peculiarly developed cutaneous muscles, as those which spread the plumes of the peacock, and erect the hackles of the cock; the compressors of the subcutaneous air-cells are noticed in the anatomical account of the Gannett (*Sula Bassana*†), and a more constant cutaneous muscle, viz. that which supports the crop in gallinaceous birds, is briefly mentioned and figured by Hunter‡.

In the *Apteryx*, the subject of the present Myography, the cutaneous system of muscles presents a more distinct and extensive development than has hitherto been met with in the class of Birds—a condition which is evidently connected with the peculiar thickness of the integument, and probably with the burrowing habits of the present species, which possesses in this structure the power of shaking off the loose earth from its plumage, while busy in the act of excavating its chamber of retreat and nidification.

Constrictor colli.—The whole of the neck is surrounded by a thin stratum of muscular fibres, directed for the most part transversely, and extending from an attachment along the median line of the skin at the back of the neck, to a parallel raphé on the median line of the opposite side: this muscle is strongest at its commencement or anterior part, where the fibres take their origin in a broad fasciculus from the outer part of the occipital ridge; these run obliquely downwards and forwards on each side of the neck, but are continued uninterruptedly with those arising from the dorsal line of the skin above mentioned; the direction of the fibres insensibly changing from the oblique to the transverse. The outer surface of this muscle is attached to the integument by a thin and dense layer of

* See Transactions of the Zoological Society, vol. ii. part 4. p. 257, Splanchnology and Osteology.

† Proceedings of Zoological Society, 1832, p. 91.

‡ In description of pl. 10, vol. i. of Physiological Catalogue of Hunterian Collection, by Owen, 4to. 1833–1841.

cellular tissue, devoid of fat; the under surface is more loosely connected with the subjacent parts by a more abundant and finer cellular tissue.

Use.—To brace the cervical integument, raise the neck feathers, and in combination with the following muscle to shake these parts.

Sterno-cervicalis.—*Origin.* Fleshy, from the posterior incurved process of the sternum, from the ensiform prolongation and middle line of the outer and posterior surface of the same bone. *Insertion.* The fibres pass forward, and diverging in gently curved lines, ascend upon the sides of the broad base of the neck, and are inserted by a thin but strong fascia into the median line of the dorsal integument. This muscle is a line in thickness at its origin, but becomes thinner as it expands; the anterior part is covered by the posterior fibres of the *constrictor colli*.

Use.—To retract the skin of the neck, and brace that portion which covers the base of the neck; when these are the fixed points, it will depress and protract the sternum, and thus aid in inspiration.

Obs.—In its position and the general course of the fibres, this muscle is analogous to that which supports and assists in emptying the crop in the common fowl; but the œsophagus presents no partial dilatation in the *Apteryx*, and the situation of the crop is occupied by a large mass of fat enclosing one or two absorbent glands.

Sterno-maxillaris.—This muscle appears at first view to be the anterior continuation of the preceding, but is sufficiently distinct to merit a separate description and name. *Origin.* Fleshy; from the anterior part of the middle line of the sternum. *Ins.* It passes directly forwards along the under or anterior part of the neck, expanding as it proceeds, and gradually separating into two thin symmetrical fasciculi, which are insensibly lost in the integument covering the throat and the angle of the jaw. It adheres pretty closely to the central surface of the *constrictor colli*, along which it passes to its insertion.

Use.—To retract the fore-part of the skin of the neck, and also the head. Each lateral portion acting alone would incline the head to its own side: the whole muscle in action would bend the neck; but the movements of the head and neck are more adequately and immediately provided for by the appropriate deeper-seated muscles, and the immediate office of the present muscle is obviously connected with the skin. Nevertheless, in so far as this muscle acts upon the head, it produces the same movements as the *sterno-mastoideus* in Mammalia; and it is interesting to observe, that in the long-necked Ruminants (as the Giraffe), the sterno-mastoid muscles arise by a common origin, and the insertion is by an extended fascia into the angles of the jaw: I consider, therefore, that the sterno-mastoid is represented by the *sterno-maxillaris* in the *Apteryx*, the only bird in which this muscle has hitherto been described.

Dermo-transversalis.—The skin covering the dorsal aspect of the lower two-thirds of the neck, besides being acted upon by the *constrictor colli*, is braced down by a thin stratum of oblique and somewhat scattered fibres, which take their origins by fasciæ attached to

the inferior transverse processes of the sixth to the twelfth cervical vertebræ inclusive; the fibres pass obliquely upwards and backwards, and are inserted by a thin fascia into the median line of the skin, covering the back of the neck.

Platysma myoides.—The representative of this cutaneous muscle is a thin triangular layer of muscular fibres, taking their origin from the outer side of the ramus of the jaw, and diverging as they descend to spread over the throat, and meeting their fellows at a middle raphé of insertion beneath the upper larynx and beginning of the trachea, which they thus serve to compress and support.

Dermo-spinalis.—*Origin*. By a thin fascia from the ends of the spinous processes of the three anterior dorsal vertebræ. *Ins*. The fibres slightly converge to be attached to the integument covering the scapular region.

Dermo-iliacus.—*Origin*. Fleishy, from the anterior margin of the ilium. *Ins*. The fibres pass forwards and slightly converge to be inserted into the scapular integument.

Dermo-costalis.—A muscle resembling the preceding in form. *Origin*. Fleishy, from the costal appendages of the seventh and eighth ribs. *Ins*. The fibres pass forwards and join those of the preceding muscle, to be inserted into the scapular integument.

Obs. The three preceding muscles are broad and thin, but well-defined; they would appear to influence the movements of the rudimentary spur-armed wing through the medium of the integument, as powerfully as do the rudimental representatives of the true muscles of the anterior extremity.

There are also two muscles belonging to the cutaneous series, and inserted directly into the bones of the wing. One of these, the *dermo-ulnaris*, is a small, slender, elongated muscle, which takes its origin from the fascia beneath the *dermo-costalis*; its fibres pass backwards, and converge to terminate in a very slender tendon which expands into a fascia, covering the back part of the elbow joint. *Use*. To extend the elbow joint and raise the wing.

The *dermo-humeralis* is also a long and narrow strip, deriving its origin from scattered tendinous threads in the subcutaneous cellular tissue of the abdomen: it passes upwards, outwards and forwards, and is inserted fleshy into the proximal part of the humerus, which it seems to depress*.

* In Mammalia the cutaneous muscles form a more continuous stratum than in the *Apteryx* and other birds, and hence have been grouped together under the common term *panniculus carnosus*; they have also, in general, both their origins and insertions in the integument; but in Birds, in which the integument supports so extraordinary an abundance of the epidermic material under the form of feathers, the muscles destined to its especial motions require a more fixed attachment from which to act. The Rhinoceros, in which the integuments, from the thickness and density of its corium, is in a similar condition as regards the resistance to be overcome by the skin-muscles, presents an analogous condition of its *panniculus carnosus*, having it divided into several distinct muscles, most of which take their origin from bone or fasciæ attached to bone.

MUSCLES OF THE TRUNK.

A. On the Dorsal Aspect.

The muscles on the dorsal aspect of the vertebral column in Birds have only of late years received any attention from Comparative Anatomists: they have been mentioned rather than described by Tiedemann and Meckel: Carus has given a side-view of the superficial layer of muscles in the Sparrow-hawk; their best description is contained in the second edition of the 'Leçons d'Anatomie Comparée' of Cuvier.

The muscles of the back are in general so feebly developed in birds of flight, that they were affirmed by Cuvier to be wanting altogether in the first edition of the 'Leçons.' And this is almost true as respects their carneous portion, for they are chiefly tendinous in Birds of Flight. In the Struthious birds, and in the Penguin, in which the dorsal vertebræ are unfettered in their movements by anchylosis, these muscles are more fleshy and conspicuous; but they attain their greatest relative size and distinctness in the *Apteryx*.

From the very small size of the muscles which pass from the spine to the scapula and humerus in the *Apteryx*, the true muscles of the back, which correspond to the second layer of the dorsal muscles in Man, become immediately visible on removing the dorsal integuments and fasciæ; they consist of the *sacro-lumbalis*, *longissimus dorsi*, and *spinalis dorsi*. The first two muscles are blended together at their posterior origins, but soon assume the disposition characteristic of each, as they advance forwards.

The *sacro-lumbalis* is a strong and fleshy muscle, six lines in breadth, and three or four lines in thickness: it is, as usual, the most external or lateral of the muscles of the back, and extends from the anterior border of the ilium to the penultimate cervical vertebra. *Origin.* By short tendinous and carneous fibres from the outer half of the anterior margin of the ilium, and by a succession of long, strong, and flattened tendons from the angles of the fifth and fourth ribs, and from the extremities of the transverse processes of the third, second, and first dorsal vertebræ; also by a shorter tendon from the transverse process of the last cervical vertebra; these latter origins represent the *musculi accessorii ad sacro-lumbalem*; they have not hitherto been described in the class of Birds: to bring them into view, the external margin of the *sacro-lumbalis* must be raised. These accessory tendons run obliquely forward, expanding as they proceed, and are lost in the under surface of the muscle.

Insertion. By a fleshy fasciculus with very short tendinous fibres into the angle of the sixth rib, and by a series of corresponding fasciculi, which become progressively longer and more tendinous, into the angles of the fifth, fourth, third and second ribs, and into the lower transverse processes of the first dorsal and last two cervical vertebræ; the last insertion is fleshy and strong; the four anterior of these insertions are concealed by the upper and outer fleshy portion of the *sacro-lumbalis*, which divides into five elongated fleshy bundles, inserted successively into the upper transverse processes of

the first three dorsal and last two cervical vertebræ. These last insertions seem to represent the continuation of the *sacro-lumbalis* in Man, which is termed the *cervicalis descendens* or *ascendens*.

Longissimus dorsi.—This muscle is blended posteriorly both with the *sacro-lumbalis* and the *multifidus spinæ*, and anteriorly with the outer portion of the *spinalis dorsi*. It extends as far forward as the thirteenth cervical vertebra. *Origin*. From the inner or mesial half of the anterior margin of the ilium; from a strong aponeurosis attached to the spines of the eighth, seventh and sixth dorsal vertebræ; and from the transverse processes of the sixth, fifth, fourth and third dorsal vertebræ. *Ins*. The carneous fibres continued from the second origin, or series of origins, incline slightly outwards as they pass forward, and are inserted into the posterior articular processes of the first three dorsal vertebræ, receiving accessory fibres from the *spinalis dorsi*. The fasciculi from the transverse processes above mentioned incline inwards, and are also inserted into the posterior oblique processes of the vertebræ anterior to them; they soon begin to form a series of oblique carneous fasciculi, which become more distinct as they are situated more anteriorly; they are at first implanted in the vertebra next in front of that from which they rise, and then into the vertebra next but one in front; so that the most anterior of these tendons of insertions, to which can be traced any of the fibres of the main body of the *longissimus dorsi*, is that which is implanted into the thirteenth cervical vertebra; it is this fasciculus which is joined by the first or most posterior of the fasciculi of the *longus colli posticus*.

A series of oblique carneous fasciculi, evidently a continuation of, or part of the same system with those in which the *longissimus dorsi* terminates anteriorly, is continued between the upper transverse and the oblique processes of the vertebræ as far forward as the fourth cervical vertebra. This series of muscles seems to represent the *transversalis colli**, which is the anterior continuation of the *longissimus dorsi* in Mammalia, but it differs in being inserted into the oblique, instead of the transverse processes. In the direction of their fibres these fasciculi resemble the *semispinalis colli*, but are inserted into the oblique processes instead of the spines of the vertebræ. There are no other muscles with which they can be compared in the Mammalia than these two, with neither of which however do they precisely correspond; they seem however clearly to represent the second series of oblique muscular fasciculi in the trunk of Fishes. Rather than hazard expressing an incomplete or false analogy, I shall term these collectively the *fasciculi obliqui*.

Obliquus colli.—The fasciculi which rise from the first two dorsal and five lower cervical vertebræ are joined near their tendinous terminations by corresponding fasciculi of the *longus colli posticus*, and the strong round tendons continued from the points of convergence

* It is the '*grand transversaire*' of Cuvier, loc. cit. p. 282; but he describes it as passing from the anterior articular process of one vertebra to the posterior articular process of the next in front.

of these fascicles are inserted successively into the posterior oblique processes of the twelfth to the sixth cervical vertebra inclusive; the two fasciculi next in succession receive no accessory fibres from the *longus colli posticus*; the anterior one derives an extensive origin from the upper transverse processes of the eighth, seventh, and sixth cervical vertebrae. It must be observed, however, that the whole of each fasciculus is not expended in the strong round tendinous insertion above described; the portion which arises from the anterior ridge of the transverse process passes more directly inwards than the rest, and is attached to the tendon which terminates the fasciculus immediately behind; at the middle of the neck these accessory fibres approach to the character of distinct origins. The tendons of insertion, moreover, severally receive accessory fleshy fibres from the base of the oblique processes of the two vertebrae next behind; and thus they become the medium of muscular forces acting from not less than five distinct points, the power of which is augmented by each tendon being braced down by the oblique converging series of muscles immediately anterior to it. The fasciculus from the eighth cervical vertebra, besides its insertion by the ordinary tendon, sends off externally a small pyramidal bundle of muscular fibres, which soon terminates in a long and slender tendon which is inserted into the oblique process of the third cervical vertebra. Corresponding portions of muscle are detached from the two anterior fasciculi, which converge and terminate in a common slender tendon inserted into the posterior oblique process of the fourth cervical vertebra; and thus terminates this complex muscle or series of muscles.

Longus colli posticus.—The most internal or mesial of the superficial muscles of the dorsal aspect of the thoracic and cervical regions, called *cervicalis ascendens* by Meckel, and compared in part with the *spinalis dorsi* by Cuvier, cannot be the representative of either of these muscles, since they both co-exist separately with it in the *Apteryx*. At its posterior part the muscle in question seems to be rather a continuation of the *longissimus dorsi*; its anterior part offers a strong analogy with the mesial portion of the *complexus* and *biventer cervicis*; it appears to me to be evidently the analogue of the first, or mesio-dorsal series of oblique fibres of the muscular system in Fishes, but I shall adopt the name of the *longus colli posticus* applied to it by Cuvier*. It commences by long and slender, but strong, subcompressed tendons from the spines of the sixth, fifth and fourth dorsal vertebrae: these tendons gradually expand as they proceed forwards and downwards, and send off from their under surface muscular fibres which continue in the same course, and begin to be grouped into distinct fasciculi at the base of the neck: the first of these bundles joins the fasciculus of the *longissimus dorsi*, which is inserted into the posterior articular process of the thirteenth cervical vertebra; the succeeding fasciculi derive their origins from a broad and strong aponeurotic sheet attached to the spines of the fourth, third and second dorsal vertebrae: the second to the eighth fasciculi

* Leçons d'Anat. Comp., 2nd edit. vol. i, p. 284.

inclusive are compressed, broad and fleshy, and are inserted in the strong round tendons described in the preceding muscle, and attached to the oblique processes of the twelfth to the sixth cervical vertebræ inclusive: the ninth fasciculus, which forms the main anterior continuation of the *longus colli posticus**, is larger than the rest, and receives, as it advances, accessory fibres from the spinous processes of the seventh to the third cervical vertebræ inclusive, and is inserted, partly fleshy, partly by a strong tendon, into the side of the broad spine of the *vertebra dentata*. A slender fasciculus is detached from the mesial and dorsal margin of the *longus colli posticus*, near the base of the neck, which soon terminates in a long round tendon: this tendon is braced down by short aponeurotic fibres to the spines of the fifth to the second cervical vertebræ inclusive, immediately beyond which it again becomes fleshy, and expands to be inserted into the occipital ridge: this portion is the *digastrique* or *biventer capitis* of Cuvier.

Spinalis dorsi.—The displacement of the dorsal portion of the preceding muscle and the *longissimus dorsi* brings into view the *spinalis dorsi*, which is a well-developed and distinct muscle in the *Apteryx*. *Origin*. By two long, narrow, flattened tendons, from the spines of the eighth and seventh dorsal vertebræ: these pass obliquely downwards and forwards, expanding as they proceed, and terminate in two fasciculi of muscular fibres: the posterior one passes forwards beneath the anterior one, and inclining inwards and upwards divides into two portions, inserted by long tendons into the spines of the second and first dorsal vertebræ; it then sends a few fibres forwards to join the outer and anterior fasciculus, which is partly inserted by a slender tendon into the spine of the last cervical vertebra: the rest of the fibres of the second fasciculus join the portion of the *longissimus dorsi* which is implanted into the oblique process of the last cervical vertebra. The three inserted tendons of the *spinalis dorsi* are also the medium of attachment of fibres continued from the *multifidus spinæ*, beneath them.

Multifidus spinæ.—The series of muscles so called arises by fleshy fibres from the transverse processes of the five last dorsal vertebræ, which pass upwards, forwards and inwards, to be inserted by four flat tendons into the spines of the seventh to the third dorsal vertebræ inclusive, and by the tendons of the *spinalis dorsi* into the two anterior dorsal spines.

Obliquo-spinales.—The removal of this muscle brings into view a series of long, narrow, flat tendons, coming off from the spines of all the dorsal vertebræ, and slightly expanding as they proceed forwards and obliquely downwards and outwards; they become fleshy half-way from their origin, and are inserted into the posterior oblique and transverse processes of the six anterior dorsal vertebræ, and into the posterior oblique processes of the three last cervical vertebræ.

Interspinales.—The *interspinales* muscles do not exist in the

* 'Accessoires du long postérieur du cou,' Cuvier, *loc. cit.* p. 284.

region of the back, unless we regard the preceding oblique fibres as a modified representation of them. The most posterior fasciculus of muscular fibres, which is directly extended between the spinous processes, commences at the interspace of the spines of the two last cervical vertebræ, and the series is continued as far as the *vertebra dentata*.

Interarticulares.—The muscles which form the more direct continuation of the *obliquo-spinales* are continued from the posterior oblique or articular processes of one vertebra to the posterior articular process of the next in front.

Obliquo-transversales.—A third series of deep-seated intervertebral muscles is situated external to the preceding, and passes obliquely between the upper transverse process and the posterior articular process of the vertebra in front. These fasciculi appear to be a continuation of the *multifidus spinæ* in the neck.

Intertransversales.—There are also two series of short carneous fasciculi passing the one between the upper, and the other between the lower transverse processes.

Levatores costarum.—The first or most anterior of this series of muscles seems to represent the *scalenus medius*; it arises from both the upper and lower transverse processes of the last cervical vertebra, and expands to be inserted into the first rib, and into the upper and outer part of the second rib. The remaining *levatores* successively diminish in size as they are placed backwards; they come off from the transverse processes of the six first dorsal vertebræ; those from the first and second expand to be inserted into the rib attached to the same transverse process and to the one next behind; the rest have a single insertion: the angle and the part of the rib immediately beneath are the situations of their attachments.

B. In Front of the Neck.

Longus colli.—This muscle is represented by a series of closely succeeding long, narrow fasciculi, arising from the hæmapophyses of the sixth to the first dorsal and from the ten posterior cervical vertebræ; and sending narrow tendons, which increase in length as they are given off more anteriorly, obliquely forwards and outwards, to be inserted into the costal processes of all the cervical vertebræ save the two first: the highest or foremost tendon is attached to the tubercle at the under part of the ring of the atlas; but this tendon is also the medium of insertion of a fasciculus of muscular fibres arising from the upper transverse processes of the sixth, fifth, fourth, third and second cervical vertebræ.

The *Rectus capitis anticus major* is continued, or arises by as many distinct tendons, from the five superior tendons of insertion of the preceding muscle; these origins soon become fleshy, converge, and coalesce previous to their insertion into the base of the skull.

The *Rectus capitis anticus minor* is a strong fleshy triangular muscle arising from the anterior part of the body of the first four cervical vertebræ.

The *Rectus capitis lateralis* arises from the upper transverse processes of the sixth to the second cervical vertebra inclusive.

The *Intertransversales* are short, ill-defined muscles, blended with aponeurotic processes which pass from one transverse process longitudinally to the next in advance.

C. Muscles of the Tail.

Levator caudæ.—*Origin*. From the posterior and superior extremity of the ischium. *Ins*. Into the spines of the caudal vertebræ.

Adductor caudæ superior.—This muscle is smaller than the preceding, with which it runs parallel; it rises below from the posterior extremity or tuber of the ischium, and is inserted into the transverse processes of the caudal vertebræ.

Adductor caudæ inferior.—*Origin*. From the tuber ischii, and the ligament connecting this with the posterior extremity of the pubis. *Ins*. Into the transverse processes of the caudal vertebræ.

Depressor caudæ.—*Origin*. From the under part of the middle line of pelvis. *Ins*. Into the inferior spines of the caudal vertebræ.

D. Muscles of the Abdomen.

Obliquus externus abdominis.—*Origin*. Fleishy, from the second and third ribs; and by a strong aponeurosis from the succeeding ribs near the attachment of the costal processes, and from those processes. *Ins*. The fleshy fibres are continued from this aponeurotic origin to nearly opposite the ends of the vertebral ribs; they run almost transversely, very slightly inclined towards the pubis; to within half an inch of the linea alba, and there terminate, by an almost straight, parallel line, in their aponeurosis of insertion. The fibres of this aponeurosis decussate those of the opposite side, and adhere to the tendinous intersections of the *rectus* beneath. The aponeurosis from the last rib passes to be inserted into a strong ligament extending between the free extremities of the *ossa pubis*, leaving the abdomen behind the last rib defended only by the *internal oblique* and *transversalis*.

Obliquus internus abdominis.—*Origin*. From the whole of the anterior and outer surface of the pubis; aponeurotic from the upper part, fleshy for half an inch from the lower or ventral extremity: the carneous fibres run longitudinally, and cannot be distinctly defined from the *intercostales* on their outer border, or from the *rectus abdominis* on their inner or mesial border, which forms the medium of the insertion of the internal oblique.

Rectus abdominis.—I give this name to the mesial continuation of the preceding muscle, which arises by a strong, flat, triangular tendon from the lower or ventral extremity of the pubis and from the inter-pubic ligament: it soon becomes fleshy; the carneous portion is interrupted by three broad, oblique, but distinct aponeurotic intersections, and is finally inserted into the xiphoid and lateral processes of the sternum and the intervening fascia.

Transversalis abdominis.—A layer of loose, dark-coloured cellular

tissue divides the internal oblique from the transverse abdominal, except at its origin from the pubis, and for half an inch anterior to that part.

The *transversalis* then proceeds to derive carneous fibres from the inner surface of the vertebral ribs near their lower third; they pass obliquely upwards and forwards, and terminate by a regular, slightly concave line midway between their origins and the extremities of the ribs; a strong aponeurosis passes thence to the linea alba, but becomes thin at the pubic region, where a mass of fat is interposed between it and the peritoneum.

Diaphragm.—This muscle presents more of its normal mammalian character in this than in any other known bird. It is perforated by vessels only, in consequence of the non-development of the abdominal air-cells. The origin corresponding to that of the lesser muscle in Mammalia is by two strong and distinct, short tendinous pillars, from the sides of the body of the last costal vertebra; they are united by a strong tendon or fascia, forming the anterior boundary of the aortic passage. The tendinous pillars may be traced forward for some way in the central aponeurosis, expanding without crossing; they are then lost in that aponeurosis, which is perforated by the gastric arteries and veins; divides anteriorly to give passage to the gullet and the apex of the heart; the aponeurosis expands over the anterior part of the thoracic air-cells, and becomes, at its lateral circumference, the point of attachment of muscular fibres arising from the inner surface of the anterior ribs, and forming apparently a continuation of the *transversalis abdominis*.

Intercostales externi.—*Origin.* From the posterior edge and extremity of the costal processes or appendages. *Ins.* They run down to be inserted severally into the rib posterior to that to which the process affording them origin is attached. These processes are supported by strong triangular aponeuroses continued from their anterior and upper margins, severally, to the rib anterior to them.

A strong muscle arises from the anterior or costal angle of the scapula, and passes backwards to be inserted into the extremity of the third vertebral rib and its corresponding sternal portion. This muscle is a direct inspirator.

MUSCLES OF THE ANTERIOR EXTREMITY.

Serratus magnus anticus.—This muscle consists of three portions; the first and anterior portion arises by a short, strong aponeurosis from the last cervical rib, and is inserted into the lower edge of the anterior two-thirds of the scapula: the second middle portion arises from the lower end of the second vertebral rib, near the attachment of the costal process, and from the anterior margin of the same rib, and is inserted into the lower edge of the posterior two-thirds of the scapula: the third, posterior and smallest portion rises from the costal process of the third rib, and ascends to be inserted into the posterior extremity of the scapula.

This muscle is a direct inspirator: by drawing down the scapula it depresses the sternum through the medium of the strong coracoi-

deum, increases the angle between the vertebral and sternal ribs, and dilates the thoracic air-cells.

Levator scapulae.—This seems to be the most anterior portion of the series of muscles which constitute the *serratus magnus*. *Origin*. Two flat fleshy strips from the inferior transverse and costal processes of the last and penultimate cervical vertebræ. *Ins*. Into the inner and upper side of the middle third of the scapula. It depresses as well as draws forwards the scapula, and thus aids the *serratus* in the action of inspiration.

Serratus anticus minor.—*Origin*. From the outer part of the costal process of the sternum. *Ins*. Into the posterior part of the base of the coracoideum.

Trapezius.—This flattened oblong quadrilateral muscle arises from the fascia, extending upon the back from the spinous processes of the posterior cervical vertebræ, and is inserted into the conjoined extremities of the scapula and coracoideum.

There is no representative of the *rhomboidei*.

Latissimus dorsi.—This muscle consists, as usual in Birds, of two portions, both of which have their origin from a continuation of the fascia (attached to the dorsal spines) which also gives origin to the trapezius: the fibres of the smaller and anterior slip converge to their insertion: the fibres of the posterior and broader strip are slightly twisted, the posterior edge being folded inwards as they also converge to join the preceding, and to be inserted with it into the posterior and inner side of the proximal extremity of the humerus.

Deltoides.—This is a single long and narrow triangular muscle, of which the base is attached to the conjoined extremities of the scapula and coracoid, and to the capsule of the shoulder-joint; the apical insertion is into the upper and outer third of the humerus, which this muscle directly raises.

Infraspinatus.—A muscle which may be compared either to the *infraspinatus* or *teres major* comes off from the lower margin of the anterior two-thirds of the scapula, passes behind the shoulder-joint, where it is closely attached to the scapula, and is inserted into the inner and posterior part of the proximal end of the humerus.

Musculi pectorales.—The pectoral muscles, which present their feeblest condition and lowest development in the *Apteryx*, are nevertheless similar in number and arrangement to those which in some birds of flight are known to outweigh all the other muscles of the body.

The *pectoralis major* is represented by two very thin triangular layers of muscular fibres, the anterior of which is three lines broad at its base, and is attached to the sternum immediately exterior to the perforation of that bone: the second, posterior, and somewhat narrower portion, rises immediately behind the preceding, from the osseous bridge separating the perforation from the notch; the two portions converge as they extend upwards and outwards to unite and be inserted into the anterior and internal surface of the proximal third of the humerus.

The *pectoralis medius seu secundus* is a similar, thin, feeble, but

broader triangular layer of carneous fibres ; which arise anterior to the preceding, just below the coracoid socket of the sternum, and converge as they wind over the shoulder-joint to be inserted into the upper surface of the proximal extremity of the humerus, of which they thus become an elevator.

The *pectoralis minor seu tertius* arises above and between the origins of the *pectoralis secundus* and the anterior strip of the *pectoralis major*, also partly from coracoid process ; its fibres converge to be inserted into the proximal end of the humerus, above and behind the *pectoralis major*.

Coraco-brachialis.—This is represented by two small strips of muscular fibres which rise from the posterior part of the coracoideum, and are inserted, one directly below the other, into the proximal third of the humerus.

Obs.—The close adherence to the ornithic type of the muscular system of the anterior extremity in the *Apteryx* is very remarkable, especially as regards the position and course of the *pectoralis medius*, since the physiological conditions of the circumstances attending that muscle are wanting in the *Apteryx*.

Here we have a true bird, exhibiting a remarkable modification of the whole ornithic structure, in reference to exclusively terrestrial life and nocturnal habits ; and we learn, I think, from this adherence to a typical organization, in a very rare exception, that the teleological conclusions respecting that typical construction, as it is manifested in the general rule, are in no ways affected by such an exception ; because the modification of one part necessarily affects that of many others, perhaps of the whole body. If, for example, the fixation and structure of the lungs require a broad sternum and concomitant modifications of the coracoid and scapula for the mechanical part of the respiratory process, then it may be more convenient for the levator of the humerus to rise below that bone from the sternum, and act in the due direction by a modification of its course ; although the locomotion of the bird may in no way be facilitated by the aggregation of muscle beneath the centre of gravity, nor the size of the levator be such as to render its particular position a matter of any consequence in regard to that centre.

The motions of the rudimental wing and its terminal hook would seem to be produced as much by the cutaneous muscles which converge to be inserted into the integument connected with it, as by the feeble representatives of the true wing-muscles above described.

MUSCLES OF THE POSTERIOR EXTREMITY.

The most superficial of the muscles on the outer side of the leg is that broad thin expanded one which combines the functions of the *tensor vaginæ* and *rectus femoris*, and also, according to some anatomists, as Cuvier and Meckel, those of the *glutæus maximus* ; since however it is exclusively inserted into the leg, I shall describe it with the other muscles moving that segment of the posterior extremity. The removal of this muscle, of the *sartorius*, and the *biceps cruris*, is requisite to bring into view the *glutæi*.

Glutæus externus.—The external *glutæus* (*glutæus medius* of Meckel), as in most Mammalia, is smaller than the middle or internal *glutæi*, but is relatively larger in the *Apteryx* than in birds of flight, in which it is described as the *pyriformis* by Cuvier. This muscle, however, besides its origin from the outside of the pelvis, overlaps part of the *glutæus medius*, and has its insertion into the femur at some distance below the great trochanter, all of which are marked characteristics of the *glutæus magnus*. *Origin*. It takes its origin from the superior margin of the *os innominatum*, extends along an inch and a quarter of that margin, directly above the hip-joint, and is chiefly attached by distinct short tendinous threads, which run down upon the external surface of the muscle: it rises also by carneous fibres from the external surface of the innominatum for three lines below the superior margin. *Insertion*. The fibres converge and pass into a tendinous sheet, beginning on the external surface of the muscle half-way down its course, which ends in a broad, flat, strong tendon, inserted into a rising on the outer side of the femur nearly an inch below the great trochanter. It abducts and raises the femur.

Glutæus medius.—*Origin*. A large triangular, strong and thick muscle, has an origin of three inches extent from the rounded anterior and superior margin of the ilium, and from the contiguous outer surface of the bone for an extent varying from an inch to eight lines. *Ins*. Its fibres converge to a strong, short, broad and flat tendon, implanted in the external depression of the great trochanter, having a bursa mucosa interposed between the tendon and the bony elevation anterior to the depression.

Glutæus minimus.—*Origin*. It rises below the preceding muscle from the anterior and inferior extremity, and from one inch and three-fourths of the inferior and outer margin of the ilium, and contiguous external surface, as far as the origin of the *glutæus medius*; also by some fleshy fibres from the outside of the last rib. *Ins*. These fibres slightly converge as they pass backwards to terminate in a broad flat tendon which bends over the outer surface of the femur, to be inserted into the elevation anterior to the attachment of the *glutæus magnus*.

A muscle which may be regarded either as distinct, or a strip of the preceding one, arises immediately behind it from half an inch of the outer and inferior part of the ilium; its fibres run nearly parallel with those of the *glutæus minimus*, and terminate in a thin flat tendon, which similarly bends round the outer part of the femur, to be inserted into the outer and under part of the trochanter immediately below the tendon of the *glutæus medius*. This muscle is peculiar to the *Apteryx*, and the preceding portion, or *glutæus minimus*, is absent in most birds.

Use.—All the preceding muscles combine to draw the femur forwards, and to abduct and rotate it inwards.

Iliacus internus.—This is a somewhat short thick muscle, of a parallelogrammic form, fleshy throughout; rising from the tuberosity of the innominatum in front of the acetabulum immediately below the *glutæus minimus*, and inserted at a point corresponding to the inner

trochanter, into the inner side of the femur near the head of that bone, which it thus adducts and rotates outwards. This muscle is present both in the Ostrich and Bustard, but Meckel says it is wanting in the Cassowary.—Arch. xiii. 261.

Pyramidalis.—The same kind of modification which affects the *iliacus internus*, viz. the displacement of its origin from the inner surface of the ilium to a situation nearly external, affects this muscle, which, from its insertion and triangular form, I regard as the analogue of the *pyramidalis*. It arises fleshy from the outer surface of the extended ischium for the extent of an inch, and converges to a broad flat tendon which is inserted into the *trochanter femoris* opposite, but close to, that of the *glutæus minimus*, which it opposes, abducting and rotating the femur outwards.

Adductor brevis femoris.—A small, long and slender muscle arises from the innominatum immediately behind the acetabulum, passes over the back part of the great trochanter, becomes partially tendinous, and is inserted into the back part of the femur in common with the following muscle.

Adductor longus.—A long broad and thin muscle, separated from the preceding by the ischiadic nerve and artery. The origin of this muscle extends one inch and a quarter from near the upper margin of the innominatum which is behind the acetabulum; it is joined by the preceding strip, and is inserted into the whole of the lower two-thirds of the back part of the femur.

Adductor magnus.—This broad and flat muscle has an extensive origin (two inches) from the outer edge of the ischium and the obturator fascia; its fibres slightly diverge as they pass downwards to be inserted into the back part of the lower half of the femur, and into the upper and back part of the tibia.

Obturator internus.—This arises from the inner side of the opposite margins of the pubis and ischium, where they form the posterior boundary of the *obturator foramen*, and from the corresponding part of the *obturator fascia*; the fleshy fibres converge in a slightly peniform manner to the strong round tendon which glides through the notch, separated from the rest of the foramen by a short, strong, transverse, unossified ligament, and is inserted into the posterior part of the base of the trochanter. In its length and size this muscle resembles the corresponding one in the Ostrich and other Struthious birds.

Gemellus.—This is represented by a single small fleshy strip arising from the margin of the *obturator foramen*, close to the emergence of the tendon of the *obturator internus*, with which it is joined, and co-inserted into the femur.

Quadratus.—I consider a broad fleshy muscle which arises from the pubis, below the *obturator foramen*, and which increases in breadth to be inserted into the femur internal and posterior to the obturator tendon, to be the true analogue of the *quadratus femoris*.

MUSCLES OF THE LEG.

Tensor vaginae and *Rectus femoris*.—The largest and most remark-

able of the muscles which act upon the bones of the leg is that already alluded to as the most superficial of those on the outer side of the thigh. It has a broad, thin, triangular form, arises from the spines of the sacrum by a strong but short aponeurosis which soon becomes fleshy; the carneous fibres converge as they descend*, and pass into a thin aponeurosis at the lower third of the thigh: this is closely attached to the muscles beneath (*vastus externus* and *cruræus*), then spreads over the outer and anterior part of the knee-joint, is inserted into the patella, and into the anterior process of the head of the tibia.

Owing to the great antero-posterior extent of the origin of this muscle, its anterior fibres are calculated to act as a flexor, its posterior ones as an extensor of the femur: all together combine to abduct the thigh and extend the leg, unless when this is in a state of extreme flexion, when a few of the posterior fibres glide behind the centre of motion of the knee-joint.

Sartorius.—The origin of this muscle is proportionally as much extended as that of the preceding, with which it is posteriorly continuous: it comes off aponeurotic, from the anterior and superior margin or labrum of the ilium; the fibres soon become fleshy, and the muscle diminishes in breadth and increases in thickness as it descends: it is inserted by short and strong tendinous filaments obliquely into the anterior part of the tendon of the broad rectus, and into the upper and anterior end of the tibia. Its insertion is partly covered by the internal head of the *gastrocnemius*.

It bends and adducts the thigh, and extends the leg.

Biceps flexor cruris.—This is a single muscle, corresponding with the preceding in the characteristic modifications of its extended origin, in relation to the great antero-posterior development of the pelvic bones. It is exposed by the removal of the broad *rectus*. *Orig.* By a broad and thin aponeurotic tendon, which at first is confluent with that of the rectus, but soon becomes distinct. *Ins.* The fleshy fibres converge as they descend along the back and outer part of the thigh, and finally terminate in a strong round tendon, which glides through a loop formed here principally by a splitting of the tendinous origin of the *gastrocnemius externus*, and is inserted into the process on the outside of the fibula one inch from its proximal extremity. By means of the loop† the weight of the hinder parts of the body is partially transferred, when the leg is bent, to the distal end of the femur; and the biceps is enabled, by the same beautiful and simple

* They are not divided into a superficial and deep layer, as in the Ostrich, but form a simple stratum, as in the Cassowary. Meckel regards the rectus as entirely wanting in the Cassowary, supposing the present muscle to be the analogue of the *glutæus maximus* and *tensor vaginæ* united. He says that Professor Nitzsch observed a like absence of the *rectus femoris* in the Emeu. The muscle which these anatomists call the *rectus* in other birds, is a strip of the *cruræus*, arising high up from the femur, and which in the Ostrich takes its origin from the *os pubis*.

† Which in the common fowl is formed chiefly by a ligament extended from the back of the outer condyle of the femur to the head of the tibia.

mechanism, to effect a more rapid and extensive inflection of the leg than it otherwise could have produced by the simple contraction of its fibres.

Semimembranosus.—*Origin*. From the side of the coccygeal vertebræ, and from the posterior end of the ischium; it crosses the superficial or internal side of the *semitendinosus*. *Ins*. Into the fascia covering the *gastrocnemius* and the inside of the tibia.

Semitendinosus.—This muscle arises from the posterior and outer part of the *sacrum* and *ischium*: it is a flattened triangular muscle, which receives the square *accessorius* muscle from the lower and posterior part of the femur. It gradually diminishes as it descends, and having passed the knee-joint, sends off at right angles a broad and square sheet of aponeurosis, which glides between the two origins of the *gastrocnemius internus*, and is inserted into the lower part of the angular ridge continued from the inside of the head of the tibia. The terminal tendon, continued from the apex of the muscle, then runs along the outer or fibular margin of the internal head of the *gastrocnemius*, and becomes confluent with the terminal tendon of that muscle.

Cruræus.—This is a simple but strong muscle: it commences at the upper and anterior part of the thigh by two extremities, of which the outer and upper one has its origin extended to the base of the trochanter; the inner and inferior comes off from the inner side of the femur, beneath the insertion of the *glutæus magnus*; the two portions blend into one muscle much earlier than in the Ostrich.

Gracilis.—On the inner side of the *cruræus*, but more superficially, lies a narrow, compressed, long muscle, which rises by two heads, one from the anterior and upper part of the femur, the other from the os pubis; both soon become blended together and transmit a broad thin tendon to be inserted into the lower and lateral part of the patella with the *cruræus*.

Vastus internus.—Two other muscles succeed the preceding, and rise beneath it from the inner and anterior part of the femur; they have a similar insertion, and obviously represent the *vastus internus*. The fibres converge to a middle aponeurosis, which increases to a strong short tendon, inserted into the upper and anterior projection of the tibia.

Popliteus.—This small muscle is brought into view when the superficial muscles of the leg which are inserted into the foot are removed. Its carneous fibres extend from the fibula inwards and downwards to the tibia. It is of relatively smaller extent than in the Cassowary.

Gastrocnemius.—This consists, as in other birds, of several distinct portions, the chief of which correspond with the external and internal origins of the same muscle in the Mammalia. The *gastrocnemius externus* has two strong, narrow, rather flattened tendinous origins, which are attached, one about a line below the other, to the external ridge above the outer condyle of the femur; they are continued into each other about an inch below their bony attachments, and thus form a loop or pulley (lined by a synovial sheath)

through which the tendon of the biceps glides; a strong ligament from the outer ridge of the fibula passes backwards to be attached to the confluence of the two tendons. The carneous fibres of the external *gastrocnemius* come off from the outer side of the inferior of these tendons, and from the fascia covering the outer surface of the muscles of the leg: they are continued in a somewhat penniform arrangement two-thirds down the leg, upon the inner surface of the muscle, where they end in a strong subcompressed tendon. This joins its fellow tendon, from the internal *gastrocnemius*, behind the ankle-joint, and both expand into a thick, strong, ligamentous aponeurosis, which extends over three-fourths of the posterior part of the tarso-metatarsal joint. The lateral margins of this fascia are bent down under the flexor tendons behind the joint, and become continuous with a strong ligamentous layer gliding upon the posterior surface of the distal condyles of the tibia, and attached to the tendons of the *peroneus* and *tibialis anticus*; the conjunction of the thickened tendons of the *gastrocnemii* with this deeper-seated layer of ligamentotendinous substance constitutes a trochlear sheath lined by synovial membrane, through which the flexor tendons of the toes glide. The synovial membrane of the ankle-joint is continued upwards half an inch above the articular surface of the bone, between it and the cartilaginous pulley. Below the joint the margins are inserted into the lateral ridges of the tarso-metatarsal bone, becoming gradually thinner as they descend, and ending below in a thin semilunar edge directed downwards.

The *gastrocnemius internus* has two powerful heads, one from the femur, the other from the tibia; the first arises fleshy from the internal condyle of the femur, expands as it descends, and receives additional fibres from the lower edge of the *accessorius semitendinosi*. About one-fifth down the tibia, this muscular origin, in the right leg, terminated in a short flattened tendon, which became attached to the inner side of the tibial portion of the *gastrocnemius internus*. In the left leg the tendon soon divided; one portion passed to the soleus, the other went to join the tibial portion of the *gastrocnemius internus*. The second head, which is separated from the preceding by the insertion of the *semitendinosus*, arises partly from the internal and anterior part of the strong fascia of the knee-joint by short tendinous fibres, which almost immediately become fleshy, and partly from a well-defined triangular surface on the inner and anterior aspect of the head of the tibia: the fleshy fibres converge, receive the tendinous slip from the femoral portion, and end on the inner side of the muscle in a strong flattened tendon, about two-thirds down the leg: this joins the tendon of the *gastrocnemius externus*, and is inserted as described above.

Soleus.—A slender flattened muscle arising from the inner and posterior side of the tibia, the tendon of which joins that of the *gastrocnemius internus*, behind the tarsal joint.

The *flexor perforatus* of the inner toe lies immediately anterior to the external *gastrocnemius*; it arises fleshy from the outer condyle of the femur, below the tendinous origin of that muscle, and terminates

in a slender flat tendon half-way down the leg. Its tendon glides behind the tarsal joint through the sheath of the *gastrocnemius*, expands beneath the metatarsal joint, perforates the flexor of the proximal phalanx of the third toe, and then bifurcates to be attached to the sides of the second phalanx, giving passage to the perforans tendon of the last phalanx.

Flexor perforatus of the middle toe.—This arises by very short tendons from the proximal end of the fibula, and from the ligament attached to the bicipital pulley: it continues to derive a thin stratum of fleshy fibres from the fascia covering the anterior surface of the muscles of the leg: the fleshy fibres terminate half-way down the leg in a flattened tendon, which pierces the tendon of the first *perforatus* of the middle toe, then runs forward to the outer toe, expands into a thick ligamentous substance beneath the proximal phalanx, and sends off two tendinous attachments on each side, one to the proximal, the other to the second phalanx, and is continued to be finally inserted into both sides of the third phalanx.

Flexor perforatus digitorum pedis is the strongest of the three; it arises fleshy from the posterior part of the distal extremity of the femur, above the external condyle, and also by a distinct flattened tendon, one inch in length, from the proximal end of the tibia: this tendon moreover receives the long slender tendon sent off obliquely across the front of the knee-joint from the *pectineus*, by which its origin is extended to the pelvis. This accessory tendon perforates the inner fleshy surface of the muscle, and is finally lost about half-way down the carneous part. Before the *flexor digitorum* is joined by the tendon of the *pectineus*, it subdivides posteriorly into four muscular fasciculi: the anterior division receives principally the above tendon. The muscle becomes wholly tendinous two-thirds down the leg; its tendon passes through the posterior part of the pulley of the *gastrocnemius*, and expands as it passes along the metatarsus: a thick ligamentous substance is developed in it, opposite the joint of the proximal phalanx of the second toe, into the sides of which it is inserted, dividing for that purpose, and giving passage to the two other flexor tendons of that toe. The second portion of the present muscle terminates in a tendon situated behind the preceding, which passes through a distinct sheath behind the tarsal joint, expands into a sesamoid fibro-cartilage beneath the corresponding expansion of the previous tendon, which it perforates, and then becomes itself the perforated tendon of the second phalanx of the second toe, in the sides of which it is inserted. The third portion of this muscle ends in a somewhat smaller tendon than the preceding. The fourth and most posterior portion soon becomes a distinct muscle; its fleshy fibres cease on the inner side, one-fourth down the leg, but on the outside they are continued three-fourths down the leg: its tendon passes through the gastrocnemial pulley behind the ankle-joint, and divides to form a sheath for the first *perforatus* of the fourth toe; it is then joined by a tendon passing through a pulley across the external malleolus, and finally becomes the perforated tendon of the first metacarpal bone of the middle or third toe.

Pectineus (Rectus anticus femoris of Meckel).—This is a long, thin, narrow strip of muscle arising from the spine of the pubis, anterior to the acetabulum, and passing straight down the inner side of the thigh; it degenerates into a small round tendon near the knee, which tendon traverses a pulley, formed by an oblique perforation in the strong rotular tendon of the extensors of the leg, and thus passing across the knee-joint to the outer side of the leg, finally expands, and is lost in the *flexor perforatus digitorum* last described. It is this muscle which causes the toes to be bent when the knee is bent.

Peroneus longus.—*Origin:* tendinous from the head of the tibia, and by carneous fibres from the upper half of the anterior margin of the tibia; these fibres pass obliquely to a marginal tendon, which becomes stronger and of a rounded form where it leaves the muscle. The tendon gives off a broad, thin, aponeurotic sheath to be inserted into the capsule of the tarsal joint; it is then continued through a synovial pulley on the side of the outer malleolus, and is finally inserted or continued into the perforated tendon of the middle toe.

Tibialis anticus.—This muscle is overlapped and concealed by the peroneus; it arises partly in common with that muscle, and partly by separate short tendinous threads from the outer part of the head of the tibia; it gradually becomes narrower, and finally tendinous two-thirds of the way down the leg; its strong tendon glides through the oblique pulley in front of the distal end of the tibia, expands as it passes over the ankle-joint, and is inserted into the anterior part of the proximal end of the tarso-metatarsal bone, sending off a small tendinous slip to the aponeurosis covering the extensor tendons of the toes, and a strong tendon which joins the fibular side of the following muscle.

Extensor longus digitorum.—This lies between the *tibialis anticus* and the front and outer facet of the tibia, from which it derives an extensive origin; its tendon commences half-way down the leg, runs along the anterior part of the bone, first under the broad ligamentous band representing the anterior part of the annular ligament, then through a ligamentous pulley, and inclines to the inner or tibial side of the anterior surface of the metatarsal bone, where it expands and divides into three tendons. Of these the innermost is given off first, and subdivides into two tendons, one of which goes to be inserted into the base of the last phalanx of the second toe; the other portion is principally inserted into the middle toe, but also sends off a small tendon to the inner side of the proximal phalanx of the second toe. The second tendon is inserted by distinct portions into the second, third and last phalanges of the middle toe. The third tendon supplies the outer toe.

Extensor brevis digitorum.—A small extensor muscle arises from the insertion of the *tibialis anticus*, and sends its tendon to the outer side of that of the great *extensor digitorum*.

Extensor pollicis brevis.—An extensor of the small innermost toe arises from the upper and inner side of the tarso-metatarsal bone.

Flexor perforans digitorum.—This strong penniform muscle arises fleshy from nearly the whole of the outer surface of the fibula, also

from the posterior part of the tibia and the interosseous space; the tendon of the biceps perforates its upper part in passing to its insertion. It ends in a strong flat tendon at the lower third of the leg, which tendon runs through a particular sheath at the back part of the tarsal pulley, becomes thickened and expanded as it advances forwards beneath the tarsus, receives a strong accessorial tendon from the muscle which bends the innermost toe, and finally divides into three strong perforating tendons, which bend the last joints of the three long toes.

In the outer, or fourth toe, both the *perforans* and *perforatus* tendons are confined by a double annular ligament; the exterior one being continued from the adjoining toe, the inner and stronger one from the sides of the proximal phalanx of the outer toe.

The second and third toes have two perforated tendons; one inserted into the sides of first, and the other into sides of second phalanx.

Mr. Gould then proceeded to characterize a new species of *Perameles* from Port Essington, and a new species of *Dasyurus* from the same locality.

PERAMELES MACROURA. *Per. corpore suprà nigro et flavescenti-albo penicillato, infrà sordidè albo; pilis rigidis obsito; caudâ pilis parvulis parçè tectâ, longitudine dimidio corporis æquante; suprà nigrâ, infrà fuscescenti-albâ; auribus mediocribus.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . .	16	3
———— caudæ	7	3
———— ab apice rostri ad basin auris	3	4
———— tarsi digitorumque	3	1
———— auris	1	2

Hab. Port Essington.

The *P. macroura* greatly resembles the *P. nasuta*, having the same elongated form of head, character of fur and colouring, but is distinguishable by its longer tail.

DASYURUS HALLUCATUS. *Das. suprà flavescenti-fuscus, nigro-penicillatus, maculis albis ornatus; corpore infrà albo; caudâ immaculatâ ad apicem nigrâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . .	11	0
———— caudæ	9	0
———— ab apice rostri ad basin auris	2	6
———— tarsi digitorumque	1	1½
———— auris	1	0

Hab. Port Essington.

This species most nearly resembles the *Dasyurus Geoffroi*, but is of a smaller size, and has the thumb of the hind-foot more developed.

Accompanying the specimen from which the above description is taken was another individual, which differs only in having the ground-colour of the body nearly black; hence it would appear that the present species is subject to the same kind of variation in its

colouring as the *Dasyurus Maugei*, the black variety of which has received the name *viverrinus*.

The following "Monograph of *Crassatella*, a genus of Acephalous Mollusks (Family *Maत्रacea*)," by Mr. Lovell Reeve, was next read.

The genus *Crassatella* was instituted by Lamarck for the purpose of associating certain bivalve mollusks that had been hitherto distributed amongst the *Maत्रæ* and the *Veneres*. Their shells exhibit an interesting peculiarity of character, differing from the former in being thick and solid, and for the most part covered with a strong brown epidermis; and from the latter in the position of the ligament. The genus, however, as introduced by Lamarck, was yet imperfect; it included five species that could not easily be distinguished from his *Amphidesmata*, and was therefore susceptible of farther division. With the view of uniting the intermediate species of these genera, a new genus was proposed by Deshayes, under the title of *Mesodesma*, and I have found great convenience in adopting it in my 'Systematic Conchology.' Thus out of eleven species described by Lamarck as *Crassatellæ*, six only can be allowed to remain. Since his time, however, several new and important species have been discovered; two have been described by Sowerby in the 'Proceedings' of this Society, one by the same author in his 'Appendix to the Tankerville Catalogue,' and I have now the pleasure of exhibiting *ten* more, which I believe to be entirely new to science.

To make this a complete monograph, I mention all the species, distinguishing the new ones by the addition of the specific characters.

1. *CRASSATELLA CASTANEA*. *Crass. testâ ovato-trigona, gibbosa, umbonibus planè erosis, epidermide castanea, quasi politâ nitente, indutâ; intus subfusca; latere antico rotundato; postico angulifero, abrupto.* Reeve, Conch. Icon.* *Crassatella*, pl. 1. f. 3.

Long. $3\frac{1}{2}$; alt. 3 pull. Mus. Stainforth, Saul, Walton.

Hab. ad oras Novæ Hollandiæ.

The *Crassatella castanea* is the largest and perhaps the best defined species of the genus; its shell is covered with a shining horny epidermis, and both valves are singularly eroded at the umbones. I know of three specimens of this fine shell, and each of them fully exhibit this last-mentioned peculiarity.

2. *CRASSATELLA KINGICOLA*. Lamarck, Anim. sans vert., vol. v. p. 481; Reeve, Conch. Icon. *Crassatella*, pl. 1. f. 5.

Hab. ad oras Novæ Hollandiæ. Mus. Stainforth.

A specimen of this species, in the possession of the Rev. Mr. Stainforth, is the only one that I have seen.

3. *CRASSATELLA DECIPIENS*. *Crass. testâ ovata, subgibbâ, epidermide fusca indutâ, vividè radiatâ, radiis ab umbonibus ad margines*

* Having made accurate drawings of the *Crassatellæ*, with a view to publication at some future period, I venture to refer to a pictorial and descriptive repertory of species now in course of preparation, to be entitled "CONCHOLOGIA ICONICA."

sæpè extensis; latere antico subangulato, striis brevibus ornato; postico subquadrato, parùm productiore. Reeve, Conch. Icon. Crassatella, pl. 1. f. 4.

Long. $2\frac{1}{2}$; alt. $2\frac{1}{8}$ poll.

Hab: ad oras Novæ Hollandiæ.

Crassatella Kingicola, Nobis (falsò), Conch. Syst., vol. i. pl. 44. f. 3.

This species, which has lately arrived from New Holland in great abundance, has been received by most collectors as the *Crassatella Kingicola* of Lamarck; I moreover regret that it has been erroneously figured under that title in my 'Conchologia Systematica.' This error was kindly pointed out to me by Mr. Sowerby, and I am now satisfied that the shell of Lamarck's *Crassatella Kingicola*, which is accurately figured in the 'Genera of Recent and Fossil Shells,' is one of extreme rarity. Mr. Cuming possesses a gibbous variety of the *C. decipiens*, but it is not sufficiently distinct to demand especial notice. Mr. Owen is we believe engaged upon the anatomy of this species.

4. CRASSATELLA PULCHRA. *Crass. testá ovato-trigond, depressá, obsoletè radiatá, epidermide crassá, fibrosá, molliusculá, indutá; transversim sulcatá, sulcis profundis, regularibus; latere antico rotundato; postico subangulato.* Reeve, Conch. Icon. Crassatella, pl. 3. f. 16.

Long. $2\frac{7}{8}$; alt. 2 poll. Mus. Cuming, Stainforth.

Hab. ad oras Novæ Hollandiæ.

De Blainville appears to have figured this shell in his 'Manuel de Malacologie' as the *Crassatella sulcata* of Lamarck; but it is of a totally different form, nor does it agree with the *Maetra sulcata* of Bruguière, to which he refers in the 'Encyclopédie Méthodique'; I therefore now propose to distinguish it by the above new title. The shell of the *Crassatella sulcata* approaches rather in form to that of the *Crassatella rostrata*, the anterior side of which is specially characterized as being *productiore*; the grooves too in that species run irregularly across the valves, and are not parallel with the lines that mark the increase of growth. The shell of the *Crassatella pulchra*, on the contrary, is of a plain triangular form; the posterior side is but slightly produced, the grooves are very deep, and they run parallel with the lines of growth.

5. CRASSATELLA LAPIDEA. *Crass. testá ovato-orbiculatá, epidermide fibrosá indutá, umbonibus parvis, striatis; intùs subfusca; latere antico rotundato, abrupto, striis nonnullis brevibus ornato; postico subangulato.* Reeve, Conch. Icon. Crassatella, pl. 2. f. 7.

Long. $1\frac{3}{4}$; alt. $1\frac{1}{4}$ poll. Mus. Cuming.

Hab. ad insulam Negros, Philippinarum.

Mr. Cuming met with one true pair only and a few odd valves of this species at the Island of Negros in coarse sand in seven fathoms water. The shell somewhat resembles that of the *Crassatella donacina*, but may however be readily distinguished.

6. CRASSATELLA DONACINA. Lamarck, Anim. sans vert., vol. v. p. 481. Reeve, Conch. Icon. Crassatella, pl. 3. f. 19.

This shell, figured in Delessert's 'Recueil de Coquilles,' pl. 4. f. 1, *a, b*, is extremely rare. The only specimens I have seen are in the collections of Miss Saul and the Rev. Mr. Stainforth.

7. *CRASSATELLA UNULATA*. Sowerby, Proc. Zool. Soc., 1832, p. 56; Reeve, Conch. Icon. *Crassatella*, pl. 1. f. 2. *a.* and *b.*

8. *CRASSATELLA ANTILLARUM*. *Crass. testá trigono-ovatá, vix gibbosá, crassá, epidermide fibrosá indutá; intùs brunneá, propè ad marginem albicante; umbonibus subdepressis, leviter undulatis; latere antico rotundato, postico subangulato.* Reeve, Conch. Icon. *Crassatella*, pl. 2. f. 8.

Long. $3\frac{1}{8}$; alt. $2\frac{1}{4}$ poll. Mus. Cuming.

Hab. ad insulam Margaritta, Antillarum.

Mr. Cuming informs me that this beautiful species was dredged up in the pearl-fisheries at the island of Margaritta in the West Indies. It is erroneously figured in Delessert's 'Recueil de Coquilles' as the *Crassatella rostrata* of Lamarck. The rich chocolate colour of the interior of this shell is very remarkable, approaching somewhat in that respect to that of the preceding species.

9. *CRASSATELLA JUBAR*. *Crass. testá subovatá, valdè inæquilatérá, gibbosá, extùs vividè radiatá, radiis ferruginosis, ab umbonibus, jubarum similitudine, divergentibus; ad utrumque latus irregulariter multistriatá; epidermide fuscá, subquassá, sparsim indutá; intùs albá, ad extremitatem posticam brunneá; umbonibus plicatis, compressis; latere antico inclinato, rotundato, postico arcuato, elongato, acuminato.* Reeve, Conch. Icon. *Crassatella*, pl. 2. f. 11.

Long. $2\frac{1}{8}$; alt. $1\frac{3}{8}$ poll. Mus. Cuming.

Hab. Ad oras occidentales Novæ Hollandiæ.

A single specimen of this fine shell was procured by Mr. Cuming in Hamburgh; it had been received from that prolific portion of the globe above noted, and has made a valuable addition to the genus. It has the general form of the *C. gibbosa*; the sides are profusely striated, and the entire surface is richly illumined with brownish rays, diverging like solar beams from the umbones to the margin.

10. *CRASSATELLA SULCATA*. Lamarck, Anim. sans vert., vol. v. p. 481; Reeve, Conch. Icon. *Crassatella*, pl. 2. f. 6. *a.* and *b.*

Hab. ad oras Novæ Hollandiæ.

This is another very rare species; I know of two or three odd valves, but only one true pair, which is in Mr. Cuming's collection.

11. *CRASSATELLA ROSTRATA*. Lamarck, Anim. sans vert., vol. v. p. 481; Reeve, Conch. Icon. *Crassatella*, pl. 2. f. 10.

Hab. ad insulam Ceylon.

The figures which have been just published by M. Chenu in Delessert's 'Recueil de Coquilles' as the *Crassatella rostrata* of Lamarck, are certainly not that species, nor do they at all correspond with his description of it, particularly in that part which says *intùs margine crenulato*; I have moreover every reason to believe that they are drawn from specimens of the new species from the island of Marga-

ritta, which we have called *Crassatella Antillarum*. The *Crassatella rostrata* is a well-known species from Ceylon, and the only large one of the genus that is distinctly crenulated at the margin.

12. *CRASSATELLA GIBBOSA*. Sowerby, Proc. Zool. Soc., 1832, p. 56; Reeve, Conch. Syst., pl. 44. fig. 2; and Conch. Icon. Crassatella, pl. 1. f. 1. *a.* and *b.*

13. *CRASSATELLA CORBULOIDES*. *Crass. testâ suborbiculatâ, valde gibbosâ, umbones versùs profundè sulcatâ, epidermide fuscâ indutâ; latere antico rotundato, postico producto, subitò rostrato.*

Reeve, Conch. Icon. Crassatella, pl. 2. f. 9.

Long. $1\frac{3}{4}$; alt. 1 poll. Mus. Stainforth.

Hab. — ?

The title of *corbuloides* is selected for this new and very characteristic species, on account of its short gibbous form; the anterior side is suddenly beaked, like some of the *Corbulæ*, and cannot well be confounded with the *Crassatella gibbosa*, to which it is nearly allied.

14. *CRASSATELLA RADIATA*. Sowerby, App. Tank. Cat.; Reeve, Conch. Syst., pl. 44. fig. 1; and Conch. Icon. Crassatella, pl. 3. f. 12.

Hab. ad insulam Singapore.

This species, originally described by Sowerby from a specimen belonging to the late Earl of Tankerville, was found by Mr. Cuming at the island of Singapore, in coarse sand at seven fathoms' water.

15. *CRASSATELLA SUBRADIATA*. Lamarck, Anim. sans vert., vol. v. p. 482; Reeve, Conch. Icon. Crassatella, pl. 3. f. 15. *a.* and *b.*

I have little doubt but that the shell now before me, from the collection of the Rev. Mr. Stainforth, is the *Crassatella subradiata* of Lamarck. Unfortunately there does not exist any drawing of it, nor does it appear in Delessert's 'Recueil de Coquilles,' in which M. Chenu professes to illustrate all the species described by Lamarck that have not yet been figured.

16. *CRASSATELLA CONTRARIA*. Lamarck, Anim. sans vert., vol. v. p. 481; Reeve, Conch. Icon. Crassatella, pl. 3. f. 18. Mus. Stainforth, Saul.

Venus contraria, Gmelin.

Venus divaricata, Chemnitz.

Crassatella divaricata, D'Orbigny.

Hab. ad insulam Lancerotte, Canariarum.

I have only seen three specimens of this very interesting shell. The above locality is quoted from D'Orbigny's 'Mollusques des Isles Canaries;' it is the only species of *Crassatella* he found in that district.

17. *CRASSATELLA ZICZAC*. *Crass. testâ subtrigonâ, depressâ, luteolâ, epidermide tenui indutâ; radiis binis interruptis ab umbonibus ad margines divergentibus, lineis roseis, flexuosis, ubique pictâ; intùs subrosaced; latere antico breviculo, rotundato; postico subangulato; lunulâ utrinque radiis roseis vividè virgatâ.* Reeve, Conch. Icon. Crassatella, pl. 3. f. 13.

Long. $1\frac{1}{8}$; alt. 1 poll. Mus. Cuming.

Hab. ad insulam Corrigidor, Philippinarum.

This species was found by Mr. Cuming at the island of Corrigidor, in coarse sand at six fathoms water; he possesses it in several stages of growth, all of which are covered with fine rose-coloured zigzag lines.

18. *CRASSATELLA TRIQUETRA.* *Crass. testá trigoná, solidá, rosaced, epidermide tenui indutá, transversim striatá; maculis roseis irregularibus vividè pictá; intùs rosaced, versùs marginem albicante; margine tenuiter crenulato; lateribus subrectis, vix rotundatis; lunulá utrinque magná, radiis roseis vividè virgatá.* Reeve, Conch. Icon. Crassatella, pl. 3. f. 14.

Long. $\frac{7}{8}$; alt. $\frac{6}{8}$ poll. Mus. Stainforth, Cuming, &c.

Hab. ———?

I am unfortunately ignorant of the locality of this pretty little species; it is of a warm rose-colour, radiately spotted with deep pink, and is of a solid triangular form.

19. *CRASSATELLA ORNATA.* *Crass. testá trigoná, subdepressá, pallidá, lineis spadiceis brevibus, longitudinalibus, variè pictá, transversim striatá; intùs albdque brunneá, margine tenuiter crenulato, latere antico rotundato, postico flexuoso, angulato.* Reeve, Conch. Icon. Crassatella, pl. 3. f. 17.

Mesodesma ornata? Gray.

Long. $1\frac{1}{8}$; alt. $\frac{7}{8}$ poll. Mus. Stainforth.

Hab. ———?

A specimen of this shell, in the collection of Miss Saul, is the only one we have seen at present. The above title has been decided upon because there is an inaccurate figure of it in Griffith's 'Cuvier's Animal Kingdom' with the name of *Mesodesma ornata*; it is not accompanied with any description, but we believe it to be intended for this shell.

March 8, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

Various species of Reptiles, and some Fishes collected in the Niger Expedition, by Dr. Stanger, and presented by that gentleman to the Society, were exhibited.

Mr. Waterhouse called the attention of the Members to two new species of Marsupial animals from South Australia, and forming part of a collection presented to the Society by J. B. Harvey, Esq.; one belonging to the genus *Phascogale*; and the other, of which only an imperfect skin had been procured, Mr. Waterhouse observed, was evidently a new species of *Perameles*, nearly allied to the *P. Lagotis* of Mr. Reid, but differed from that animal in having much smaller ears, a less hairy tail, and in being of a brown colour above, pencilled with white. The fur is dense and very soft; on the upper part of the body it is of a slate-grey colour next the skin; each hair of the ordinary fur is brownish white towards the apex, and shaded into deep brown at the point. The longer and less soft hairs are very broadly annulated with white near the point, and black at the the point. The fur on the under parts of the body is white—rather impure; and next the skin it is tinted with palish grey. On the side of the body and head a yellowish hue is observable. The ears are of moderate size, rather broad, and well clothed with hairs; on the inner side these are of a dirty white colour, slightly tinted with yellowish, and so are those on the outer side, excepting towards the margin, where they are of a brownish black hue. The tail is imperfect; it must have been, however, longer than in any known *Perameles* (excepting the *P. Lagotis*), the part attached to the skin measuring eight and a half inches. It is well clothed with hairs, which completely hide the skin, though they are rather short: on the upper part they are of a rich brown colour, excepting towards the apex, where they are longer and entirely white; on the under side they are dirty white. The feet are unfortunately wanting. The length of the head and body is about sixteen inches, and the ear measures about one inch in length.

Mr. Waterhouse gave to this animal the name of its discoverer, a Corresponding Member of the Society, and one to whom the Society is indebted for very many valuable collections. Its principal characters may be thus expressed:—

PERAMELES HARVEYI. *Per. pilis mollibus; corpore suprâ fusco alboque irrorato, infrâ albo; caudâ longâ, suprâ fuscâ, infrâ et ad apicem sordidè albâ.*

Hab. Port Adelaide.

Nos. CX. CXI. & CXII.—PROCEEDINGS OF THE ZOOL. SOC.

The *Phascogale* presents the following characters:—

PHASCOGALE ALBIPES. *Phasc. pilis brevibus et permollibus; corpore suprâ nigro et flavescenti-irrorato, infrâ albo; pedibus albis; caudâ longâ suprâ fuscescente, infrâ fusco-albd.*

	unc. lin.
Longitudo ab apice rostri ad caudæ basin.....	3 9
————— ad basin auris	0 10 $\frac{1}{2}$
————— <i>auris</i>	0 7
————— <i>caudæ</i>	3 2
————— <i>tarsi digitorumque</i>	0 8 $\frac{1}{4}$

Hab. Port Adelaide.

The fur in this little animal is shorter than in other species of *Phascogale* hitherto described, and extremely soft; it is of a deep slate-grey colour next the skin, but externally, on the upper parts of the body, the colour is brownish, a tint produced by the admixture of black and yellow, the hairs being annulated with the latter colour near the point, and black at the point. The under parts of the body are greyish white, each hair being deep grey and tipped with white. The feet are white. The tail is furnished throughout with very minute hairs. It approaches most nearly to the *P. murina*, but differs in being rather larger, in general colouring, and especially in having the tail of a dark colour, and not white, as in that species.

March 22, 1842.

William Horton Lloyd, Esq., in the Chair.

A letter from the Society's Corresponding Member, E. L. Moore, Esq., dated Newfoundland, February 7, 1842, was read, and a young Harp Seal (*Phoca Grænlandica*, Müller) presented by that gentleman was exhibited.

The following paper, by Mr. Lovell Reeve, entitled "Descriptions of new species of Shells, principally from the collection of Hugh Cuming, Esq.," was then read.

Genus BULIMUS.

BULIMUS SMARAGDINUS. *Bul. testâ oblongo-ovatâ, nitidâ, viridi, apicem versus subpurpureâ; fasciâ albâ per anfractuum suturas decurrente; aperturâ rotundato-ovali, peristomate albo, reflexo.*
Reeve, Conch. Syst., vol. ii. pl. 173. fig. 6.

Hab. ad insulam Mindanao, Philippinarum.

Long. $2\frac{3}{8}$; lat. $1\frac{3}{8}$ poll.

The whorls of this shell exhibit a pleasing gradation of colour; commencing at the apex in deep purple, it passes through pale yellow to a bright sea-green.

Genus HELIX.

HELIX VALTONI. *Hel. testâ ovatâ, depressâ, anfractibus ventricosiusculis, ultimo supernè productiore; rubido-fuscâ, radiis longitudinalibus obsolete pictâ; epidermide tenui, peculiariter maculosâ, indutâ; aperturâ subquadrato-ovali, marginibus nigerrimis, disjunctis; labro acutissimè reflexo.* Reeve, Conch. Syst., vol. ii. pl. 166. fig. 23.

Hab. ad insulam Ceylon.

Long. $2\frac{1}{4}$; lat. $1\frac{5}{8}$ poll.

I name this remarkable shell in honour of my friend William Walton, Esq., a zealous and assiduous collector; it is of a dark ruddy brown colour, and has a very black polished lip; it is, however, especially characterized by its curiously speckled epidermis.

Genus SIPHONARIA.

SIPHONARIA CHARACTERISTICA. *Siph. testâ orbiculari, conicâ, extûs longitudinaliter costatâ, costis irregularibus, interstitiis nigricantibus, apicem versus valdè decorticatis; intûs nigerrimo-fuscâ, impressione musculari scabrâ, profundè notatâ; impressione siphonali characteristicè imbutâ.* Reeve, Conch. Syst., vol. ii. pl. 138. fig. 3.

Hab. In sinu Panamensi.

Long. $2\frac{1}{4}$; lat. $1\frac{7}{8}$; alt. $1\frac{1}{4}$ poll.

This shell approaches very closely to the *Siphonaria gigas* of Sow-erby; we venture, however, after a close comparison between specimens of each in different stages of growth, to pronounce it a distinct species. It is of a more irregular form, and the separate impressions of the muscle and the siphon are remarkably distinct.

Genus PARMOPHORUS.

PARMOPHORUS CORRUGATUS. *Parm. testâ elongato-quadratâ, tenui, depressâ, extûs leviter corrugatâ; vertice obtuso, propè ad partem posticam inclinato.* Reeve, Conch. Syst., vol. ii. pl. 139. fig. 1.

Hab. ad insulam Madagascar.

Long. $1\frac{1}{2}$; lat. $\frac{3}{4}$ poll.

Principally distinguished by the position of the vertex, which is more posterior than in any other species; the wrinkled sculpturing upon the outer surface is also a well-defined peculiarity.

PARMOPHORUS INTERMEDIUS. *Parm. testâ ovatâ, elevatiusculâ, anticè attenuatâ; extûs radiis asperrimis, quasi serratis, ornatâ; vertice prominulo, incurvo; margine crenulato.* Reeve, Conch. Syst., vol. ii. pl. 139. fig. 5 and 6.

Hab. ad insulam Bohol, Philippinarum.

Long. $\frac{3}{4}$; lat. $\frac{3}{8}$ poll.

This beautiful little shell, which may be considered as intermediate in its generic characters between the *Parmophori* and the *Emarginulæ*, is most elegantly radiated on the outer surface, and the only species of this genus at present known that is serrated at the margin.

Genus EMARGINULA.

EMARGINULA CONOIDEA. *Emarg. testâ conoideâ, albicante, extûs striis numerosis creberrimè radiatâ; vertice centrali, acuto; margine valdè crenato, sinu marginali profundè inciso.* Reeve, Conch. Syst., vol. ii. pl. 140. fig. 7.

Hab. — ?

Long. $\frac{7}{8}$; lat. $\frac{5}{8}$; alt. $\frac{1}{2}$ poll.

A very characteristic shell, in the collection of William Walton, Esq.

Genus CALYPTRÆA.

CALYPTRÆA CINEREA. *Cal. testâ suborbiculari, extûs a vertice radiatâ, radiis spinis parvis numerosis irregulariter ornatis; intûs cinereo nitente, cyatho magno, albo, subpellucido, lateraliter flexuoso.* Reeve, Conch. Syst., vol. ii. pl. 144. fig. 4.

Hab. Cape Horn.

Diam. $1\frac{3}{4}$; alt. 1 poll.

An immense number of these shells, just brought to England, were found attached to a single log of wood floating off Cape Horn. The interior is lined with a very dark, ashy, highly polished enamel, but the cup is of a pure transparent white, offering a remarkably rich contrast of colour. The exterior of the shell is irregularly covered with numerous small spines, becoming, as in most of the *Calyptrææ*, obsolete with age.

April 12, 1842.

The Meeting was adjourned to April 26th.

April 26, 1842.

William Horton Lloyd, Esq., in the Chair.

The following "Description of a new Dorsibranchiate Gasteropod, discovered at Madeira," by the Rev. R. T. Lowe, was read.

Class MOLLUSCA.

Ord. GASTEROPODA.

Fam. NUDIBRANCHIÆ (*Læs Tritoniens*, Lam.).

Gen. PEPLIDIA.

Char. Gen.—*Corpus* limaciforme, repens, oblongum; posticè compresso-triquetrum, dorso abruptè (ut in *Scyllæa*) cristatum s. alato-carinatum; apice attenuato, acuto. *Caput* anticè (ut in *Thethye*, L.) veliferum; velo semicirculari, margine fimbriato-lacero, ciliolato: ore inter labia buccalia subtùs, simplici. *Tentacula* (ut in *Doride*) duo. *Orificium* generationis ad colli dextrum. *Branchiæ* diplomorphæ: s. in medio dorsi (ut in *Doride*) circa anum stellatim ramosæ, arbusculiformes, ramis pectinato-ciliatis; et per latera utrinque (ut in *Tritonia Thethyve*) longitudinaliter biseriata, conico-papilliformes; papillis apice subdivisis, ciliatis.

Obs. *Corpus* totum glabrum, læve, subpellucidum. *Oculi* nulli.

Spec. Peplidia Maderæ, nob.

Hab. in mari Maderensi-atlantico, inter rupes littorales in aquis æstu relictis; rariss.

A single example of this beautiful and extremely interesting mollusk was discovered on the 24th of April, 1841, by Dr. Lister, in a pool left by the tide amongst a reef of rocks called the Gorgulho, situate a little to the west of Funchal. It presents a combination of generic characters, by which, if it approximates in each apart by turns to *Doris*, *Thethys*, *Tritonia*, and *Scyllæa*, it differs notably from all. The large dorsal star-like tuft of branchiæ, and the tentacles, resemble those of *Doris*; but it differs totally in other characters: the veil before the head, though smaller and differently fringed, together with the rows of branchiferous papillæ down the back or sides, bringing it somewhat nearer *Thethys*, from which it is essentially distinguished, as it is also from *Tritonia* and *Scyllæa*, by its Doridian

character of the ano-dorsal five-branched rose or star of branchiæ. And if agreeing with the last of these two genera in the carinate or crested tail, it is at once distinguished by the presence of the frontal veil.

The whole upper surface of the animal, which is from one inch and a half to two inches and a half long, about one-third of an inch broad and half an inch high, is of a pale dull red, mottled or freckled with brighter orange-red and yellow, and thickly speckled all over with dark chestnut-brown spots and dots, which are larger and sub-confluent in two sublateral darker lines or rows, meeting behind the branchial star upon the back, and smaller on the sides and veil. The tentacles above, and the foot alone beneath are immaculate, the latter being pale pellucid flesh-colour, with the extreme edges yellow.

The edges of the veil, and the tips of the dorsal or sublateral branchiferous papillæ are fimbriato-ciliate. Of the latter, there are two rows on each side: the lower consisting each of six small and inconspicuous or obsolete papillæ; the upper, each of three much larger and more elongate or subcylindric bodies, placed at equal distances from one another, two in advance, and the third a little behind the ano-dorsal rose. The head or apex of each of this third or last pair forks into two parts, one of which is subdivided or ciliferous, like the other pairs; the other branch of the fork is simple and clavate, ending abruptly in a dark red sort of knob or button. The orifice of generation is on the right side of the neck, beneath the first of the upper row of branchiferous papillæ. During the animal's life it appeared simple, but on contraction after death it was found to be composed of two apertures close together; the male organ being exerted from the anterior.

The ano-dorsal branchial tuft or star is very large, and placed at the top of a strong hump or protuberance; the vent being in its centre, as in *Doris*. It appears, in general, equally five-rayed; but assumes occasionally, as it also does sometimes in *Doris*, the appearance of being composed of two bifurcated lateral, and a simple anterior branch or ray. Its divisions are regularly and beautifully pectinate. The caudal fin-like crest begins a little behind it; and its edge is crisped or irregularly notched and plicate, and even obsoletely ciliate here and there, or fimbriate. In swimming, this crest is stiffly expanded into a broad fin, ending abruptly behind, as in Cuvier's fig. 4. of *Scyllæa pelagica* (Mém. des Moll.), but with the edge even or entire.

In a glass of sea-water, in which this animal lived more than six weeks, it had the usual habits of a *Doris*, but these with more activity: swimming about violently when disturbed or when provided with a fresh supply of water, in which operation the hind part of the body, with the crested fin-like tail, is lashed from side to side with a strong and regular sculling motion; the fore-part, with the head or veil expanded also to its full dimensions, being at the same time beat with equal force and regularity in a contrary direction, or obliquely upwards and downwards, stroke for stroke; these parts (the veil and crest) performing thus alike the office of true fins. At night, espe-

cially when thus in motion, it appeared most brilliantly phosphorescent; the light flashing progressively but very rapidly along the body, especially from all the branchial tufts and the edges of the veil and crest. At other times it remained quiescently adhering to the sides of the glass, or moving slowly up and down as if in search of food; seeming to use the veil as a feeler, but with the tentacles reflexed. Sometimes it crawled in the usual inverted posture along the surface of the water. It is by no means a shy or timid animal.

After five or six days, it deposited in the night-time a pale orange-coloured long and narrow riband of eggs, resembling a tape-worm, and loosely coiled up spirally on the side of the glass, to which it was partially attached by one edge. This egg-band was about three inches and a half long and two lines broad, narrowing a little towards one end. On two subsequent occasions, at intervals of ten days or a fortnight, it again deposited two similar but smaller bands; after which, though apparently remaining in full vigour, it retained not more than two-thirds of its former bulk.

Its mode of swimming perfectly resembles that of the larva of the gnat so common in our English cisterns of rain-water.

The next paper read was from W. J. Broderip, Esq. In this paper the author proceeds with his descriptions of Shells brought to this country by H. Cuming, Esq.

In the second volume of the 'Zoological Journal' will be found my notice of the *Voluta aulica* of Solander, a shell which formed one of the principal ornaments of the Portland Museum, of that of M. de Calonne (in the catalogues of which it is noted as unique), of the Tankerville collection (in the catalogue of which Mr. Sowerby speaks of it as "an extremely scarce and fine shell; the only specimen we have seen"), and of my own cabinet, which is now in the British Museum.

Mr. Cuming has laid before me some Volutes which he brought from the Philippine Islands, and which, after a careful examination, I think must be referred to this scarce species. Not one of them, however, is identical with the variety in the British Museum (var. *a.*), which is still, as far as I know, unique.

Voluta aulica.

Var. *a.* Without nodules or bands, spotted with large red flakes: Mus. Brit. Figured in the Tankerville catalogue (G. B. Sowerby).

Var. *b.* Flesh-colour, subnodulous, girt with two broad rich red bands mottled with white; spire mottled with red and white, apex coral-red. Length nearly 4 inches, breadth $1\frac{6}{8}$.

Var. *c.* Flesh-colour, nodulous, lineated longitudinally with close-set, red, somewhat undulated lines, mottled here and there with white, girt by two interrupted rich red bands; spire mottled with red and white, apex coral-red. Length $4\frac{1}{2}$, breadth $2\frac{1}{8}$ th inches.

Var. *d.* Nodulous, whitish, lineated with very close-set, delicate, pale yellowish undulated lines; body whorl girt with two broad yellowish red bands mottled finely with the ground-colour. The upper

band is bordered above with a row of rich dark brown spots approaching closely to black, each spot being placed upon a nodule: the lower edge of this band is serrated as it were, and each of the teeth is marked with a spot immediately under the upper spots, but more dashed and somewhat less intense. The upper edge of the lower band is marked in a similar manner, but the spots are less defined. Above the shoulder of the body whorl is a band of similar colour, with its lower edge dashed with markings of the same colour as those which ornament the other bands, and at similar intervals. Two similarly coloured spots appear below the third and fourth nodule of the spire just above the suture of the body whorl, which suture almost hides one below the second of those nodules, counting from the edge of the lip. Upper part of the spiral whorls coloured after the same pattern, and brought out by the pale ground-colour of the lower part. Apex yellowish red. Length $3\frac{1}{2}$ inches, breadth $1\frac{1}{2}$.

This description will convey a very faint notion of one of the most beautiful shells I ever saw.

Var. *e.* Sharply nodulous. Dull red, blotched with flesh-colour; a faint band, palest in the middle at intervals, girds the body whorl below the middle. The tips of the nodules are of the same colour as the blotches. Length $4\frac{1}{4}$ inches, breadth $2\frac{1}{8}$.

Var. *f.* Very sharply nodulous, the muricated nodules becoming high ridges extending almost half-way down the body whorl. Dull coral-red, with here and there a dash of whitish between the nodules. A very faint band may be traced below the middle of the body whorl, and on its darker upper and lower borders a few white spots appear at intervals as they approach the lip. Length $4\frac{2}{8}$ ths, breadth $2\frac{1}{8}$ th inches.

Var. *g.* Bluntly but highly nodulous on the back, the nodules on the lower side rather sharper. Whitish, lined longitudinally with close-set undulated livid lines blotched with clouds and dashes of livid red. A broad pale band girds the body whorl below the middle. Apex reddish white. Length $5\frac{1}{8}$; breadth 3 inches.

All these varieties, with the exception of var. *a.*, are in the museum of Mr. Cuming.

CONUS VICTOR. *Con. testâ subcylindræco-conicâ, flavâ, maculis albis inspersâ, fasciis 2 moniliformibus latis, nigro-brunneis vel brunneo-castaneis, latis concinnè ornatâ; spiræ mediocris, pyramidalis, anfractibus excavatis longitudinaliter striatis, subcancel-latis, apice subacuto.*

Long. $1\frac{2}{8}$; lat. $\frac{5}{8}$ poll.

Mus. Cuming, Harford.

Hab. ?

This brilliant Cone strikes the eye at once. The bright star-like spots with which the dark necklace-bands are interrupted and relieved, and the yellow ground-colour which takes the form of three alternating bands, render it attractive, and the more minutely it is examined the more it gains on the attention. The necklaces forming the moniliform bands, when looked at with a lens, present the

appearance of some of the flattened platted chains executed in gold and silver, and the shell altogether is a choice piece of workmanship.

The species to which *Conus Victor* bears most resemblance are *Coni nobilis* and *Ammiralis*; but it comes much nearer to the last in shape and general character, differing, however, from it in the deeper excavation and sculpture of the spire, to say nothing of the discrepancy in the arrangement of the colouring, which in the only two specimens that I have seen is identical. Of these, the richest in colour is in the fine collection of Mr. Cuming, and the younger, but very perfect specimen, in the choice cabinet of the Rev. A. Harford.

A paper by Mr. Lovell Reeve, entitled "Descriptions of four new species of *Achatina*, a genus of Pulmobranchiate mollusks of the family *Colimacea*," was then read.

ACHATINA LACTEA. *Ach. testá oblongo-ovatá, solidá, intùs extùsque quasi fossili, lacteá, epidermide levidensi sparsim indutá; spirá regulari, anfractibus longitudinaliter striatis, lineisque minutis circumdatis; aperturá suboblongá, labro solidiusculo.*

Reeve, Conch. Syst. vol. ii. pl. 177. fig. 6.

Long. $4\frac{1}{10}$; lat. $2\frac{1}{10}$ poll. Mus. Cuming, Stainforth.

Hab. Zanzibar.

This beautiful shell, which is in a perfectly live state, and covered with a slight scattered epidermis, is of a rich uniform cream-colour, without the least indication of any pattern; the whorls are very fully striated longitudinally, the striae rather irregularly following the growth of the shell; and they are again characterized by having a number of fine lines running around the upper half of them in an opposite direction. The columella, the aperture, indeed the entire shell, both inside and out, is of rich cream-colour, and by this alone it cannot fail to be recognised.

ACHATINA TINCTA. *Ach. testá oblongo-ovatá, tenuiculá, albicante, maculis grandibus longitudinalibus vivide tinctá, epidermide flavidá indutá; spirá parùm elatá, apice obtuso, rosaceo; aperturá oblongá, albá.*

Reeve, Conch. Syst. vol. ii. pl. 179. fig. 18.

Long. $3\frac{3}{10}$; lat. $1\frac{1}{2}$ poll. Mus. Cuming, Stainforth.

Hab. —? probably some part of Africa.

The *Achatina tincta* has a white shell covered with a yellowish epidermis, and it is singularly stained in a longitudinal direction with a deep morone colour. The stains take almost the form of bands in some places, but exhibit no degree of regularity.

ACHATINA KRANSII. *Ach. testá ovatá, vix ventricosá, rufocastaneá, epidermide dura, nitente, indutá; anfractibus, ultimo excipiente, longitudinaliter strigatis, strigis albis, nunc rectis, nunc sinuosis, distantibus, de suturis, longitudine variabili, porrectis; spirá breviusculá, apice obtuso; aperturá ovatá, albá.*

Reeve, Conch. Syst. vol. ii. pl. 179. fig. 19.

Long. $2\frac{3}{4}$; lat. $1\frac{1}{2}$ poll. Mus. Cuming.

Hab. Cape Natal, coast of Africa.

I have named this species, at the request of Mr. Cuming, in honour of Dr. Krans who presented it to him on his arrival from Cape Natal, where he had formed a very interesting collection of shells. It is of a dark chestnut colour, and the last and penultimate whorls are marked with small zigzag stripes running from the sutures about half-way down them; they are distant and somewhat irregular.

ACHATINA PICTA. *Ach. testá ovato-conicá, lævi, luteá, maculis, quasi fasciis, viridibus, conspersim ornatá; anfractibus planiusculis, suturis maculis castaneis, transversis, vividè pictis; spirá subelatá, apice minuto, rosaceo; aperturá orbiculari, flavidá.*

Reeve, Conch. Syst. vol. ii. pl. 178. fig. 10.

Long. $1\frac{1}{2}$; lat. $\frac{3}{4}$ poll. Mus. Stainforth.

Hab. ad insulam Cuba, Indiarum Occidentalium.

This elegantly painted shell is allied to the *Achatina fasciata* in form, though it is certainly of lighter texture. The ground-colour is a bright yellow; there are a few bright green bands crossing the whorls at intervals; and the sutures of the whorls are ornamented throughout with a banded row of stained chestnut-coloured spots, for the most part touching each other. I only know of one specimen, and it exhibits as distinct an assemblage of characters as can well be imagined.

May 10, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Gould exhibited and pointed out the characters of two new species of Kangaroo. The first of these belongs to the section to which Mr. Gray gave the name *Petrogale*, as was described under the name

PETROGALE CONCINNA. *Pet. corpore suprâ rufescente fusco alboque irrorato, ad latera flavescente, subtus albo; caudâ dimidio apicali pilis longis vestitâ, his flavescenti-albis ad apicem nigris; pedibus pallidè fuscis, pilis sordidè albis crebrè interspersis; auribus medioeribus ad apicem paulo attenuatis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . .	14	0
———— caudæ	8	0
———— tarsi digitorumque	3	9
———— auribus	1	4
———— ab apice rostri ad basin auris	2	11

Hab. North-west coast of Australia.

This species of *Petrogale* is remarkable for its small size, the general pale colouring and the bright rusty tint of the upper parts of the body; these parts are freely pencilled with whitish and with brown; the sides of the neck and body are of a delicate yellowish hue, or might be described as very pale rust, and this is the prevailing hue of the head, which is nearly of a uniform tint; but is white, or nearly so, on the sides of the muzzle at the tip, and there is a trace of the usual white mark on the cheeks; above the eye is a spot of a pale rust-colour, and an indistinct brownish mark running towards the nostrils from the front of the eye; the ears are clothed within with white hair; externally they are of the same palish rusty yellowish hue as the upper surface of the head; the chin, throat and whole under parts are white, with a faint yellowish rusty tint; the outer side of the hinder legs is of a brighter tint than the sides of the body, but less red than the back; the feet are of a very pale brownish colour, freely pencilled with dirty white; a small space at the base of the tail is covered with fur of the same texture and colour as that of the body; beyond this the hairs of the tail are harsh, at first about half an inch or rather more in length, but becoming gradually longer towards the apex, where they are more than an inch long; these hairs are of a yellowish white colour, but the apical third of each hair is black. This species was brought to England by Lieut. Emery, of H.M.S. Beagle, and is now in the British Museum.

The second species belongs to the section or genus *Halmaturus*, and received from Mr. Gould the specific name *Binoë*, in honour of No. CXII.—PROCEEDINGS OF THE ZOOL. SOC.

Benjamin Bynoe, Esq., to whom science is indebted for the discovery of many new and interesting objects in zoology. It is nearly allied to *Halm. agilis*, but in size is about equal to *Halm. Thetis*. The fur is harsh and adpressed, and for the most part of a very pale brownish yellow tint; the back, however, is freely pencilled with black, the longer hairs having the exposed portion of this colour; a slight brownish grey hue is observable next the skin in the hairs of the back, but they are nearly uniform throughout their length, if we except a small black point to the shorter hairs, and the exposed black portion of the longer hairs; the sides of the body and the limbs are of a paler hue, and are not pencilled with black; the abdomen may be described as of a dirty yellowish white colour; the tail is very nearly uniform in tint with the body, but a small portion at the apex is covered with brownish black hairs; the upper surface of the head is slightly tinted with brownish, and a mark of this colour runs from the eye to the tip of the snout on either side; adjoining this mark below is a pale mark; the ears have yellowish white hairs on the inner side, and rusty yellow hairs on the outer side; but along the anterior margin, and at the tip externally, the ears are black. The principal characters may be thus expressed:—

HALMATUSURUS BINOË. *Halm. corpore pallidè fuscescenti-flavo, suprâ nigro penicillato, subtùs dilutiore; caudâ ad apicem fuscescenti-nigrâ; auribus externè ad apicem, margineque anticè, nigris.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . .	21	0
————— ad basin auris	4	6
————— caudæ	20	0
————— tarsi digitorumque	7	9
————— auribus	2	3

Hab. Port Essington.

The following paper, by Mr. Lovell Reeve, entitled “Monograph of the genus *Tornatella*, a small group of Pectinibranchiate Mollusks of the family *Plicacea*, including descriptions of seven new species, from the collection of H. Cuming, Esq.,” was then read.

TORNATELLA, Lamarck.

Testa ovalis, cylindracea, plerumque transversim striata, rarò lævissima, spirâ brevi, apice acuto; aperturâ longitudinali, supernè angustatâ, infernè integrâ, rotundatâ; columellâ incrassatâ, valdè plicatâ; labro simplici, solido, acuto. Molluscum marinum, pectinibranchiatum, operculo corneo, minuto, instructum.

The very wide range of characters which were selected by Linnæus for the determination of genera induced many inaccuracies in his method of classification which might certainly have been avoided, if, instead of generalizing upon the external variations of the shell, he had pursued a more searching inquiry, like his contemporaries Adanson and Forskael, into the nature of its animal inhabitant. His genus *Voluta*, for example, founded upon the character of the

columella being obliquely plaited, included both phytophagous and zoophagous mollusks, animals both with and without proboscis, and respiratory siphon. The presence or absence of these organs, distinguishing the plant-eating from the flesh-eating mollusks, is however still indicated to a certain extent in the shell, by the basal formation of the aperture; and Bruguière, the conchologist of the 'Encyclopédie Méthodique,' appears to have sagaciously detected the difference between the shells of the true *Voluta* and those which were subsequently selected by Lamarck for the formation of this genus; the base of the aperture being sinuated or canaliculated in the one, and entire in the other. But the alteration proposed by Bruguière was little or no improvement upon the arrangement of Linnæus; for in removing the *Tornatella* to his genus *Bulimus*, they became associated with a miscellaneous assemblage of mollusks, differing most essentially both in their organization and habits. They were then distinguished by Lamarck by the above generic title; whilst De Blainville included them, together with some air-breathing mollusks, in a new genus under the name of *Pedipes*. The arrangement followed by the learned author of the 'Manuel de Malacologie' was thus scarcely better than that of his predecessor Bruguière; he, however, cautiously abandoned it, when the propriety of Lamarck's distribution of the *Tornatella* was subsequently confirmed by Gray in the discovery of their being operculated.

Of the following thirteen species referred to this genus, seven are entirely new; five were collected by H. Cuming, Esq. in the Philippine Islands, one by Dr. Rüppell on the shores of the Red Sea, and one by Dr. Siebald on the coast of Japan.

1. *TORNATELLA FLAMMEA*. Lamarck, Anim. sans vert., vol. vi. part 2. p. 219; Lister, Synop. Conch., pl. 814. f. 24; Sowerby, Genera of Shells, No. 24. f. 1; Kiener, Iconographie des Coquilles, pl. 1. f. 1. Reeve, Conch. Syst., vol. ii. pl. 206. f. 4.

Auricula flammis lateritiis, Martini.

Voluta flammea, Gmelin.

Bulimus variegatus, Bruguière.

Hab. ad insulam Java.

This shell, which is distinctly figured both by Lister and Martini, is marked with a number of flesh-coloured stripes, running in a longitudinal direction from the spire.

Var. *a.* *Strigis rubris in maculis semilunaribus aperte divisis.*

Reeve, Conch. Syst., vol. ii. pl. 206. f. 6.

Hab. ad insulam Ticao, Philippinarum.

A beautiful variety, in which the longitudinal flesh-coloured stripes are divided into distinct patches, of the form of a crescent. Found by Mr. Cuming at the island of Ticao, in sandy mud at seven fathoms' depth.

Var. *β.* *Testa minore, maculis semilunaribus frequentioribus, indistinctis.*

Reeve, Conch. Syst., vol. ii. pl. 206. f. 1.

Hab. ad insulam Corrigidor, Philippinarum.

This variety is constantly smaller and of deeper colour; the crescent-shaped spots are thicker, and run so indistinctly the one into the other as often to be completely clouded over.

2. *TORNATELLA SOLIDULA*. Lamarck, Anim. sans vert., vol. vi. part 2. p. 220; Chemnitz, Conch., vol. x. pl. 149. f. 1405; Kiener, Iconographie des Coquilles, pl. 1. f. 2. Reeve, Conch. Syst., vol. ii. pl. 206. f. 7.

Voluta solidula, Linnæus.

Bulimus solidulus, Bruguière.

Hab. ad insulas Philippinarum, &c.

Several varieties of this shell, varying in colour from a bluish grey to a reddish brown, were found by Mr. Cuming amongst the Philippine Islands, in sandy mud at different depths, from 7 to 25 fathoms; they are, however, by no means confined to this locality.

3. *TORNATELLA COCCINATA*. *Torn. testá cylindraco-ovatá, transversim striatá, albá, maculis coccineis minutis profusè ornatá; epidermide luted, leviter indutá; spirá depresso-conicá, suturis profundis, apice præcipuè exserto, acutissimo; columellá buplicatá, plicá maximá bilobá.*

Reeve, Conch. Syst., vol. ii. pl. 206. f. 10.

Hab. ad insulam Mindaná, Philippinarum.

This beautiful shell is very distinct from any variety of the preceding; the spire, which is remarkably sharp-pointed at the apex, is somewhat depressed and rounded; and the shell altogether is covered with a number of small bright scarlet spots. It was found by Mr. Cuming at the island of Mindanao in sandy mud at the depth of twenty-five fathoms.

4. *TORNATELLA GLABRA*. *Torn. testá ovatá, transversim striatá, albá, nitidiusculá, maculis leucophæis variè denigratá; spirá subelatá, apice acuto; columellá buplicatá, plicá maximá vix bilobá.*

Reeve, Conch. Syst., vol. ii. pl. 206. f. 12.

Hab. ad insulam Negros, Philippinarum.

Mr. Cuming collected several of this species at the island of Negros. The shell is by no means a new one, but it has been hitherto confounded with the *Tornatella solidula*, probably in consequence of its resemblance in colour. It differs in form, and besides being more highly polished, is stamped with a certain peculiarity of character by which it cannot fail to be recognised.

5. *TORNATELLA TESSELLATA*. *Torn. testá oblongo-ovatá, albá, transversim striatá, striis plus minusve approximatis, interstitiis maculis helvinis tessellatis; spirá elatá, apice præcipuè acuto; columellá buplicatá, plicá maximá parùm bilobá.*

Reeve, Conch. Syst., vol. ii. pl. 206. f. 3.

Hab. In sinum Persicum.

This elegant little shell was found by Dr. Rüppell at the Red Sea, on the sands at low water. It is finely striated in a transverse direction, and the interstices are neatly tessellated with numerous pale flesh-coloured square spots.

6. *TORNATELLA FASCIATA*. Lamarck, Anim. sans vert., vol. vi. part 2. p. 220; Martini, Conch., vol. ii. pl. 43. f. 442 and 443; Encyclopédie Méthodique, pl. 452. f. 3. *a, b*; Kiener, Iconographie des Coquilles, pl. 1. f. 3; Reeve, Conch. Syst., vol. ii. pl. 206. f. 11.

Voluta tornatilis, Linnæus.

Auricula bifasciata, Martini.

Bulimus tornatilis, Bruguière.

Hab. ad oras Devonix, Insulæ Britannicæ.

Several of this well-known species have been recently dredged up from sandy mud at the depth of five fathoms, off the coast of Devonshire.

7. *TORNATELLA SIEBALDII*. *Torn. testâ ovato-conicâ, transversim striatâ, rubicundulâ, irregulariter dibaphâ, spirâ elatâ, suturis albis, apice acuto; columellâ uniplicatâ, aperturâ ovatâ, labro tenui, acuto.*

Hab. ad oras Japonix.

This shell, which was brought by Dr. Siebald from Japan, is irregularly stained with a ruddy brown, exhibiting the appearance of having been dyed in two distinct colours; the sutures of the spire are perfectly white, and so is also the columella.

8. *TORNATELLA BULLATA*. Kiener, Iconographie des Coquilles, pl. 1. f. 4; Lister, Synops. Conch., pl. 714.

Hab. Indian Seas.

A small cylindrical bulla-shaped shell, which we have not included in this monograph without considerable hesitation.

9. *TORNATELLA NITIDULA*. Lamarck, Anim. sans vert., vol. vi. part 2. p. 221; Encyclopédie Méthodique, pl. 452. f. 2. *a, b*; Sowerby, Genera of Shells, No. 24. f. 2; Kiener, Iconographie des Coquilles, pl. 1. f. 5; Reeve, Conch. Syst., vol. ii. pl. 206. f. 5.

Hab. ad insulam Bohol, Philippinarum, &c.

Some specimens of this shell, found by Mr. Cuming at the island of Bohol, in sandy mud at eleven fathoms' depth, are smaller and more cylindrical than those hitherto known.

10. *TORNATELLA VIRGATA*. *Torn. testâ rotundato-ovatâ, subcylindraceâ, albâ, transversim bellè striatâ, longitudinaliter strigis latis, nigerrimis, sinuosis, subdistantibus, vivide ornata; spirâ brevi, suturis distinctis, apice subobtusâ; columellâ uniplicatâ.*

Reeve, Conch. Syst., vol. ii. pl. 206. f. 8 and 9.

Hab. ad insulam Masbate, Philippinarum.

This is a beautiful shell, and very distinct from any other species; it is of a pure transparent white, ornamented with a regular series of broad dark black stripes running down from the spire. Found by Mr. Cuming at the island of Masbate, in sandy mud at the depth of seven fathoms.

11. *TORNATELLA VENUSTA*. D'Orbigny, Voyage dans l'Amérique Méridionale, Mollusques, p. 399. pl. 56. f. 4 to 6.

Hab. ad Peruviam, propé ad Paytam.

A small fusiform shell, highly deserving of the title by which D'Orbigny has distinguished it.

12. *TORNATELLA INSCULPTA*. *Torn. testá parvá, ovatá, sulcis parallelis numerosis transversè insculptá; spirá indistinctá, apice acuto; maculis subaquilis ubiquè pictá; columellá buplicatá, plicá maximá præcipuè bilobá.*

Reeve, Conch. Syst., vol. ii. pl. 206. f. 2.

Hab. ad insulam Masbate, Philippinarum.

It is to be regretted that Mr. Cuming did not succeed in obtaining live specimens of this very characteristic shell, of which he found two only, lying dead upon the sands at the island of Masbate. The spire is rather prominent, but still so indistinct as scarcely to exhibit the volution of the whorls; the shell is then neatly sculptured from the apex to the base with transverse lines running exactly parallel with each other, and the whole surface is painted with light brown spots.

13. *TORNATELLA ORYZA*. *Torn. testá minutá, oblongo-ovatá, eburneá, nitidá, transversim sulcatá, sulcis plus minusve approximatis; spirá regulari, apice subacuto; columellá uniplicatá; aperturá ovatá, supernè attenuatá; labro simplici, solido, acuto.*

Hab. ad insulam Cabbalonga, Philippinarum.

A small species, unlike any hitherto described; it is perfectly white (a fine ivory white), and deeply sulcated from top to bottom.

In concluding this monograph, it may be as well to state that the *Tornatella auricula* and *pedipes* of Lamarck should be referred to the genus *Auricula*. The *Tornatellæ* are strictly marine, dwelling in several fathoms' water; whilst the species just alluded to are inland, and amphibious, inhabiting swamps and marshy places.

May 24, 1842.

The Meeting was adjourned to June 14th.

June 14, 1842.

Richard Owen, Esq., Vice-President, in the Chair.

The following paper, by George Gulliver, Esq., F.R.S., entitled "Observations on the Muscular Fibres of the Œsophagus and Heart in some of the Vertebrate Animals," was read.

The present communication is a continuation of the observations on the muscular fibres of the œsophagus and heart published in the Proceedings of the Zoological Society, September 10, 1839, p. 124.

21. Pipistrelle (*Vespertilio Pipistrellus*, Gmel.).—The streaked muscular fibre was found on the whole length of the gullet, excepting the 1-16th of an inch of its cardiac end.

22. Hedgehog (*Erinaceus Europæus*, Linn.).—In this animal the striated or voluntary muscular fascicles form the sheath of the gullet to its termination in the stomach.

23. Mole (*Talpa Europæa*, Linn.).—Muscular sheath of the gullet the same as in the hedgehog.

24. Shrew (*Sorex tetragonurus*, Herm.).—The muscular sheath of the gullet the same as in the two preceding species.

25. Black Bear (*Ursus Americanus*, Pall.).—The muscular fibre of animal life formed a very thick and red sheath to the entire length of the gullet, and even extended in bands for an inch on the cardiac end of the stomach.

26. Wolf (*Canis Lupus*, Linn.).—The muscular fibre of animal life invested the whole length of the gullet, and extended scantily, for about two-thirds of an inch, on the cardiac end of the stomach.

27. African Civet Cat (*Viverra Civetta*, Linn.).—Two inches from the stomach the sheath of the gullet was composed chiefly of the muscular fibre of organic life mixed with a few of the muscular fibres of animal life; and within an inch and three-quarters from the stomach none of the latter fibres could be found on the gullet. Mr. Siddall examined the gullet of another civet cat with the same result.

28. Lion (*Felis Leo*, Linn.).—The muscular fibre of animal life could not be traced on the gullet further than four inches and a half from its ending in the stomach. Nearer to the cardiac orifice, especially about two inches therefrom, the œsophageal sheath was made up of bands containing corpuscles as in the horse*. Seven inches from the stomach the sheath of the gullet was composed of the muscular fibres of animal and organic life in nearly equal proportions.

29. Puma (*Felis concolor*, Linn.).—The muscular fibre of animal life, mixed with a greater proportion of the muscular fibre of organic

* See Proc. Zool. Soc. 1839, pp. 127 and 129; in which, p. 127, line 17, for *gullet* read *filaments*.

life, composed the œsophageal sheath about three inches from the stomach, where the gullet had been divided, and no opportunity was afforded of examining its last portion.

30. Chetah (*Felis jubata*, Linn.).—The muscular fibre of animal life was abundant on the gullet ten inches from the stomach, and extended more scantily three inches nearer to it. On the last six inches of the cardiac end of the gullet no muscular fibre of animal life could be found.

31. Weasel (*Mustela vulgaris*, Linn.). 32. Stoat (*M. erminea*, Linn.). 33. Polecat (*M. Putorius*, Linn.).—In these animals the muscular fibre of animal life was traced on the gullet to its termination in the stomach.

34. Seal (*Phoca vitulina*, Linn.).—The muscular fibre of animal life extended along the whole gullet, excepting about an inch of its cardiac end.

35. Porpoise (*Delphinus Phocæna*, Briss.).—In a young one weighing ten pounds, and said to have been extruded from the mother after her capture, June 13, 1842, the muscular fibre of animal life could be traced on the gullet no further than four inches from its stomachic end.

36. Paco (*Auchenia Paco*, Desm.).—The muscular fibre of animal life was detected on the gullet to its termination; an inch and a quarter from the stomach the muscular fibre of organic life was abundant on the gullet; and the muscular fibre of animal life only was found in the œsophageal sheath two inches from the stomach. The tissue under the mucous membrane around the water-cells resembled that of the middle coat of the stomach elsewhere, being quite destitute of anything like the muscular fibre of animal life.

37. Dromedary (*Camelus Dromedarius*, Linn.).—Muscular sheath of the gullet the same as in the Paco.

38. Wapiti Deer (*Cervus Wapiti*, Mitchell).—The muscular fibre of animal life invested the gullet to its termination.

39. Cervine (*Antilope Bubalis*, Pallas).—The œsophageal sheath was formed throughout of the muscular fibre of animal life, which extended for an inch on the stomach.

40. Palm Squirrel (*Sciurus Palmarum*, Briss.). 41. Common Squirrel (*S. vulgaris*, Linn.). 42. Golden Agouti (*Dasyprocta aurata*, F. Cuv.). 43. Water Rat (*Arvicola amphibia*, Desm.).—In these animals the muscular fibre of animal life completely invested the gullet, being abundant on its cardiac extremity.

44. Kangaroo (*Macropus Bennettii*, Waterhouse).—The muscular fibre of animal life was plentiful on the upper part of the gullet, and terminated between three and four inches from the stomach.

45. Squirrel Flying Opossum (*Petaurus sciureus*, Geoff.).—An inch and a quarter of the stomachic end of the gullet was without the muscular fibre of animal life, which was pretty abundant an inch further from the stomach.

I have ventured to apply the term voluntary to the striated muscular fascicles—extending along the entire length of the gullet, and even on the commencement of the cardiac extremity of the sto-

mach in several animals, along more or less only of the tube in man and some other mammals, and wholly absent from it in many of the lower Vertebrata—because this fibre has all the anatomical characters of the muscular fibre of animal life, which no completely involuntary muscle has hitherto been found to possess*. If we are to judge of the office of the fibre in question from its structure, it must be concluded that in many Vertebrata the whole length of the gullet is capable of voluntary motion, in some the lower or posterior portion is not obedient to the will, while in others the motions of the entire gullet must be quite involuntary.

That the muscular coat of the gullet should differ in animals of different orders will not appear surprising; but it was hardly to be supposed that a difference in the œsophageal sheath would be found in some genera of the same order. Yet such is the fact in the *Feræ*; and it is probable that further research into the anatomy of this order will disclose more differences in their minute structure, especially as my observations on the blood have shown that there is a remarkable diversity in the size of the blood-corpuscles or red particles of some of the subdivisions of the *Carnivora* †.

Perhaps the extent of the muscular coat of the gullet may vary in the same subject at different periods of life. In young and middle-aged mares and geldings some of the muscular fibre of animal life may be generally traced on the gullet four or five inches from the stomach; but in a gelding twenty-five years old this fibre could not be found on the last ten inches of the gullet; and in an aged rabbit I found the striated muscular fascicles but sparingly on the last inch of the gullet, although in this animal generally they are most abundant in this situation.

A summary of my inquiry concerning the extent of the voluntary muscular fibre on the gullet is subjoined. Some of the results may be modified by more facts, which are yet required to furnish a satisfactory view of the subject. I have had no opportunity of becoming acquainted with the researches of M. Ficinus and M. Valentin, referred to by Dr. Baly in his translation of Professor Müller's 'Physiology,' vol. ii. p. 851.

QUADRUMANA.

In this order, as in the human subject, the muscular fibre of animal life does not invest the lowest portion of the gullet.

CHEIROPTERA.

In the pipistrelle, the sheath of the gullet, excepting 1-16th of an inch at the stomachic end, was formed of the muscular fibre of animal life.

FERÆ.

Insectivora.—In the three British genera the muscular fibre of animal life covers the whole length of the gullet.

* See Proc. Zool. Soc. 1830, p. 128.

† Ibid. Nov. 24, 1840, and May 25 and June 8, 1841; and Appendix to Gerber's General Anatomy, p. 6-7.

Canidæ.—The muscular fibre of animal life extends to the stomachic end of the gullet. In the silvery fox none of this fibre could indeed be detected on the terminal third of an inch of the gullet, which should be examined again in another individual.

Viverridæ.—In the African civet cat the striated muscular fascicles do not cover the last portion of the gullet.

Felidæ.—The stomachic end of the gullet is not clothed with the muscular fibre of animal life; but in the caracal a few irregular fibres were observed on the cardiac end of the gullet, perhaps belonging to the muscular fibre of animal life, although they were quite destitute either of transverse or longitudinal streaks.

Mustelidæ.—In the otter the muscular fibre of animal life covers the gullet, excepting about half an inch of its stomachic extremity; in three species of *Mustela* this fibre invests the whole gullet.

Phocidæ.—In the seal no muscular fibre of animal life was found on the gullet within an inch of the stomach.

Ursidæ.—In the genus *Nasua*, and in the sloth-bear and American bear, the gullet is throughout clothed with the muscular fibre of animal life, which in the latter animals is very thick and red on the last portion of the gullet, and extends on the cardiac extremity of the stomach.

CETACEA.

In a porpoise no muscular fibre of animal life could be found on four inches of the stomachic end of the gullet, although this fibre was abundant on the rest of the thoracic portion of the gullet.

RUMINANTIA.

The voluntary muscular fibre runs along the entire length of the gullet, and sometimes to a short distance on the cardiac extremity of the stomach. The striated muscular fibre on the last portion of the gullet is often mixed with a much greater proportion of the muscular fibre of organic life.

RODENTIA.

The whole length of the gullet is clothed with the muscular fibre of animal life.

MARSUPIALIA.

In the kangaroo and the squirrel-flying opossum no muscular fibre of animal life was found on the stomachic end of the gullet.

BIRDS, REPTILES, AND FISHES.

I have carefully searched for the striated muscular fascicles in the gullet of the birds and reptiles mentioned in the table, but in vain. In Birds the fibre of the superficial coat of the gullet is often disposed transversely, in which respect it may be seen with the naked eye to differ from the œsophageal muscular sheath of mammals. In a few fishes the striated muscular fascicles invested the entire length of the gullet, and extended some distance on the stomach in others, as in the pike and bull-head. In the barbel some of

these fascicles were found on the gullet or termination of the pharynx opposite to the posterior border of the gill-cover. In Fishes the striated muscular fasciculi of the gullet appear, from the measurements now given, to be much smaller than the fasciculi of the muscles of the body; and a like difference, though to a much smaller degree, often exists in mammals.

In the heart of the smaller species of the lower Vertebrata distinct muscular fibres are often not to be found, the structure being less distinct than in the heart of many mammals; generally composed of bands or fillets not easily separable from each other, and commonly about $\frac{1}{3000}$ th of an inch broad. These fillets are seldom clearly streaked transversely; they are irregularly and most minutely granulated, without the longitudinal arrangement of the granules so plainly visible in the beaded primitive fibrils of the heart of Mammalia. In short, the known points of resemblance between the muscular fibre of the heart of mammals and that of voluntary muscle are generally wanting in the structure of the heart of the smaller species of the lower Vertebrata, for the latter is more nearly allied to the muscular tissue of organic life as it exists in other parts.

In some of the voluntary muscles of many of the smaller Mammalia and Birds, as the common mouse and *Fringillidæ*, the existence of a sheath around the fibres appears to be questionable; and in the heart of such animals the fibres are remarkably indistinct. In the common water-vole I noticed a very clear appearance of primitive fibrils, yet these seemed to be nowhere collected into fascicles. In the great pectoral muscle of various small birds, as the common swift, the transverse streaks are very indistinct, and often difficult to be seen, although they are very plain in the muscles of the leg; yet in this bird the former muscle is highly developed, and almost constantly in action, while the latter are but small and little used. It will be recollected that the above remarks apply only to particular muscles, and are not to be considered as at all invalidating the admirable demonstration of the sarcolemma in many muscles by Prof. Schwann and Mr. Bowman, and the parallel observations of Dr. Jones Quain and Mr. W. J. E. Wilson*. As before observed, the fibres of the heart of Mammalia seem to have no intervening cellular (filamentous) tissue; this tissue, however, is easily observed in the heart of many lower vertebrate animals; and I have very recently seen minute wavy filaments, having all the characters of cellular tissue, in the heart of the bear, and of some other mammals which had died in confinement.

It will be seen that the term fibre, as used in this paper, corresponds to the primitive fasciculus of Fontana, Müller, and Bowman†. As in the heart there is often a tolerably clear appearance of fascicles, and as frequently only of the fillet-like bands, both have been set down in the following table as fibres; and the larger size of the fascicles will at once distinguish them from the bands, the primitive

* See Phil. Trans. part ii. 1840, p. 475.

† *Loc. cit.* p. 458.

fibrils of the muscular tissue being out of the question. In the snake and newt the bands composed the tissue of the auricles, while a collection of these bands into fascicles appeared and was measured in the ventricles; the measurements will show many parallel instances, and one in which the fascicles appeared in the auricle and the bands in the ventricle. The numbers in the table represent the diameters of the fibres in vulgar fractions of an English inch, and where one only occurs it expresses the average size. The terms auricle and ventricle, under the column headed "Muscle," refer to the heart. The animals, unless noted to the contrary, were adults that had been dead some time before they were examined. In making many of the measurements I have been indebted to the kind assistance of Mr. Siddall.

Table of Measurements of the Fibres of the Heart and of some Muscles of Voluntary Motion in Vertebrate Animals.

Animal.	Muscle.	Diameter.	
		In the Heart.	In Voluntary Muscle.
<i>Cercopithecus sabæus, Desm.</i>	Ventricles	1-1333 to 1-1000	1-1000 to 1-666
	Gullet		
<i>C. griseo-viridis, Desm.</i>	Ventricles	Ditto	Ditto.
	Gullet		
<i>C. Æthiops, Geoff.</i>	Ventricles	Ditto	Ditto.
	Gullet		
<i>Macacus Rhesus, Desm.</i>	Ventricles	1-1000	1-800 to 1-555
	Gullet		
<i>M. Inuus, Desm.</i>	Gullet		1-666 to 1-500
<i>Cebus capucinus, Geoff.</i>	Gullet		1-800 to 1-500
<i>Lemur albifrons, Geoff.</i>	Diaphragm		1-666 to 1-300
<i>Plecotus auritus, Geoff.</i>	Right ventricle...	1-1600 to 1-800	1-888 to 1-571 1-1143 to 1-666
	Pectoral		
	Of the ear		
<i>Vespertilio noctula, Schreb. .</i>	Ventricles	1-2000 to 1-1000	1-1333
<i>Vespertilio Pipistrellus, Gmel.</i>	Ventricle	1-2000 to 1-1067	
	Gullet		
<i>Erinaceus Europæus, Linn....</i>	Ventricles	1-2666 to 1-1000	1-1000 to 1-571 1-1000 to 1-500
	Cutaneous		
	Gullet		
<i>Sorex tetragonurus, Herm....</i>	Ventricles	1-2666 to 1-1333	1-555 1-1145
	Pectoral		
	Gullet		
<i>Talpa Europæa, Linn.</i>	Ventricles	1-3000 to 1-1133	1-1333 to 1-660
	Gullet		
<i>Nasua fusca, Desm.</i>	Gullet		1-888 to 1-333
<i>Ursus labiatus, Blainv.</i>	Left ventricle ..	1-2000 to 1-1000	1-800 to 1-373
<i>Ursus Americanus, Pall. ...</i>	Ventricles	1-1500 to 1-666	
	Left auricle	1-2000 to 1-800	
	Gullet		
<i>Canis familiaris, Linn.</i>	Auricles and ven- tricles	1-2400 to 1-800	1-800 to 1-400 1-800 to 1-285
	Gullet		
	Diaphragm		

Table (continued).

Animal.	Muscle.	Diameter.	
		In the Heart.	In Voluntary Muscle.
Canis familiaris, <i>Linn.</i> (12 days old)	Ventricles	1-2666 to 1-2000	
	Gullet		1-2000 to 1-1333
Ditto (18 weeks old)	Gullet		1-1333 to 1-800
	Left ventricle ..	1-1600 to 1-1333	
Canis vulpes, <i>Linn.</i>	Gullet		1-800 to 1-500
	Gullet		1-1000 to 1-533
<i>C. lagopus</i> , <i>Linn.</i>	Ventricles	1-1333 to 1-1000	
<i>C. argentatus</i> , <i>Desm.</i>	Gullet		1-1000 to 1-600
	Left ventricle ..	1-1600 to 1-800	
<i>C. Lupus</i> , <i>Linn.</i>	Left auricle	1-1600 to 1-1000	
	Gullet		1-1400 to 1-285
	Left ventricle ..	1-2000 to 1-1777	
<i>Viverra Civetta</i> , <i>Linn.</i>	Gullet		1-570
	Ventricles	1-2000 to 1-1777	
<i>Felis Leo</i> , <i>Linn.</i> (two-thirds grown)	Gullet		1-571
	Left ventricle ..	1-2000 to 1-1333	
<i>F. concolor</i> , <i>Linn.</i>	Left auricle	1-4000 to 1-2000	
	Gullet		1-500 to 1-400
	Left ventricle ..	1-2666 to 1-700	
<i>F. Leopardus</i> , <i>Linn.</i>	Gullet		1-500 to 1-333
	Left ventricle ..	1-1600 to 1-1000	
<i>F. jubata</i> , <i>Linn.</i>	Gullet		1-888 to 1-400
	Ventricles	1-2000 to 1-1333	
<i>F. cervaria</i> , <i>Temm.</i>	Gullet		1-1000 to 1-373
	Left ventricle ..	1-1600 to 1-1000	
<i>F. Caracal</i> , <i>Gmel.</i>	Gullet		1-1000 to 1-666
	Ventricles	1-3200	
<i>F. domestica</i> , <i>Briss.</i> (16 days old)	Gullet		1-1600 to 1-660
	Left ventricle ..	1-2000 to 1-1000	
<i>Mustela vulgaris</i> , <i>Linn.</i>	Left auricle	1-2666 to 1-1333	
	Gullet		1-1333 to 1-800
	Right ventricle ..	1-1777 to 1-1000	
<i>M. erminea</i> , <i>Linn.</i>	Right auricle ..	1-2000 to 1-1145	
	Gullet		1-1000 to 1-571
	Ventricles	1-2000 to 1-1143	
<i>Lutra vulgaris</i> , <i>Erxl.</i>	Gullet		1-800 to 1-500
	Ventricles and auricles	1-3000 to 1-1600	
<i>Phoca vitulina</i> , <i>Linn.</i>	Gullet		1-2000 to 1-1000
	Ventricle	1-4000	
	Scapular		1-888
Delphinus <i>Phocæna</i> , <i>Linn.</i> (just born)	Gullet		1-2000
	Ventricles	1-2000 to 1-666	
	Diaphragm		1-555 to 1-360
<i>Equus Caballus</i> , <i>Linn.</i>	Gullet		1-444 to 1-266
	Right ventricle ..	1-1143 to 1-1000	
<i>Camelus Dromedarius</i> , <i>Linn.</i>	Gullet		1-1143 to 1-333
	Diaphragm		1-400 to 1-222
	Femoral		1-250 to 1-222
	Gullet		1-666 to 1-250

Table (continued).

Animal.	Muscle.	Diameter.	
		In the Heart.	In Voluntary Muscle.
Ovis Tragelaphus, <i>Desm.</i> ...	Auricles and ventricles	1-1777 to 1-1143	
	Gullet		1-800 to 1-400
Capra Hircus, var., <i>Linn.</i> ...	Left ventricle ...	1-2666 to 1-1333	
	Gullet		1-666
Antilope Bubalis, <i>Pall.</i>	Ventricles	1-1600 to 1-1000	
	Auricles	1-4000 to 1-2000	
	Gullet		1-1777 to 1-555
Cervus Wapiti, <i>Mit.</i>	Gullet		1-666 to 1-400
C. Dama, <i>Linn.</i>	Masseter		1-1000 to 1-333
	Gullet		1-400
Ditto (foetus, 6 inches long).	Ventricles	1-4000	
	Diaphragm		1-1600
Ditto (20 inches long)	Left ventricle ...	1-3200	
	Gullet		1-2666
Lepus cuniculus, <i>Linn.</i>	Left ventricle ...	1-3000 to 1-1000	
	Diaphragm		1-800 to 1-333
	Gullet		1-1000 to 1-600
	Pectoral & Psoas		1-533 to 1-400
	Left ventricle ...	1-2000 to 1-800	
L. timidus, <i>Linn.</i>	Gullet		1-470
Dasyprocta aurata, <i>F. Cuv.</i> ...	Gullet		1-1000
Sciurus Palmarum, <i>Briss.</i> ...	Left ventricle ...	1-2000 to 1-1000	
S. vulgaris, <i>Linn.</i>	Pectoral		1-600 to 1-444
	Right ventricle...	1-1333 to 1-800	
Cavia Cobaya, <i>Gmel.</i>	Auricles	1-2400 to 1-1714	
	Gullet		1-1600 to 1-400
Ditto (just born)	Left ventricle ...	1-3200 to 1-2000	
	Gullet		1-2000 to 1-1000
Mus decumanus, <i>Linn.</i>	Ventricle (bands)	1-4000 to 1-2666	
	Ditto (fascicles)	1-1333 to 1-800	
	Pectoral		1-800 to 1-383
	Diaphragm		1-500 to 1-444
Arvicola amphibia, <i>Desm.</i> ...	Pectoral		1-444 to 1-263
	Gullet		1-666
	Left ventricle ...	1-1333 to 1-800	
Macropus Bennetii, <i>Waterh.</i>	Gullet		1-1000 to 1-333
	Diaphragm and Psoas		1-888 to 1-307
	Ventricle	1-1600 to 1-800	
Petaurus sciureus, <i>Geoff.</i> ...	Gullet		1-666 to 1-440
	Ventricles	1-3200 to 1-2000	
Strix flammea, <i>Linn.</i>	Pectoral		1-727 to 1-333
	Ventricle	1-3000 to 1-1333	
Garrulus glandarius, <i>Flem.</i> ...	Pectoral		1-555 to 1-400
	Ventricles	1-3000 to 1-1455	
Corvus Pica, <i>Linn.</i>	Pectoral		1-666 to 1-400
	Ventricle	1-4000 to 1-1600	
Ditto (one-third grown).....	Pectoral		1-2000 to 1-1333
	Ventricle	1-2400 to 1-2000	
C. monedula, <i>Linn.</i>	Pectoral		1-800 to 1-500
	Ventricle	1-3000 to 1-1600	
C. frugilegus, <i>Linn.</i>	Ventricle	1-4000 to 1-2000	
	Pectoral		1-666 to 1-422

Table (continued).

Animal.	Muscle.	Diameter.	
		In the Heart.	In Voluntary Muscle.
<i>Sylvia Luscinia, Lath.</i>	Ventricle	1-3200	
<i>Turdus musicus, Linn.</i>	Ventricle	1-2666 to 1-1090	1-300 to 1-500
	Pectoral		1-500
<i>Motacilla alba, Linn.</i>	Ventricle	1-4000 to 1-2666	
	Pectoral		1-500
<i>Fringilla domestica, Linn.</i> ...	Ventricle	1-2666 to 1-1714	1-666 to 1-300
	Pectoral		1-666 to 1-500
<i>F. Chloris, Temm.</i>	Ventricle	1-2400 to 1-1714	
	Pectoral		1-666 to 1-500
<i>Parus cæruleus, Linn.</i>	Ventricle	1-3000 to 1-2000	1-570 to 1-400
	Pectoral		1-570 to 1-400
<i>P. caudatus, Linn.</i>	Ventricle	1-2900 to 1-2000	
	Cervical		1-1000 to 1-800
	Pectoral		1-666 to 1-500
<i>Picus minor, Linn.</i>	Ventricle	1-4000 to 1-1777	1-800 to 1-300
	Pectoral		1-800 to 1-300
<i>Cuculus canorus, Linn.</i>	Ventricle	1-4000 to 1-2000	1-500
	Pectoral		1-500
<i>Cypselus Apus, Flem.</i>	Ventricle	1-4000 to 1-1777	1-666 to 1-400
	Pectoral		1-666 to 1-400
<i>Columba domestica, Auct.</i> ...	Ventricles	1-3200 to 1-1600	1-1000 to 1-470
	Trapezius.....		1-1000 to 1-470
<i>Phasianus nycthemerus, Auct.</i>	Ventricles (bands)	1-4000 to 1-2666	
<i>Gallus domesticus, Auct.</i> ...	Heart (bands)...	1-4000 to 1-2666	
	Pectoral		1-363 to 1-300
<i>Struthio Camelus, Linn.</i>	Ventricle	1-3000 to 1-1600	
	Auricle.....	1-4000 to 1-2000	
	Abdominal		1-400
<i>Anthropoides Virgo, Vieill.</i> ...	Ventricle	1-4000 to 1-2666	
<i>Ardea cinerea, Lath.</i> (half-grown).....	Ventricles	1-4000 to 1-2666	
	Pectoral		1-2000 to 1-666
	Cervical		1-800 to 1-400
<i>Gallinula chloropus, Lath.</i> ...	Ventricle	1-2666 to 1-1000	
	Pectoral		1-1333 to 1-570
<i>Sterna Hirundo, Linn.</i>	Ventricles	1-4000 to 1-2000	
	Pectoral		1-800 to 1-666
<i>Anas galericulata, Auct.</i>	Ventricle (bands)	1-5333 to 1-2000	
<i>Somateria mollissima, Leach.</i>	Ventricle (bands)	1-4000 to 1-3200	
	Pectoral		1-300 to 1-500
<i>Natrix torquata, Ray</i>	Auricle (bands) .	1-5000 to 1-3000	
	Ventricle (fascicles).....	1-1000 to 1-600	
	Dorsal		1-444 to 1-270
<i>Anguis fragilis, Linn.</i>	Ventricle (bands)	1-4570 to 1-2000	
	Dorsal		1-400 to 1-290
<i>Vipera communis, Leach</i> ...	Ventricle (bands)	1-6000 to 1-2900	
	Intercostal		1-200 to 1-222
<i>Rana temporaria, Linn.</i>	Femoral		1-300 to 1-120
	Ventricle	1-4500 to 1-2400	
<i>Triton palustris, Flem.</i>	Ventricle	1-1000 to 1-666	
	Auricle.....	1-5000 to 1-2000	
	Femoral		1-500 to 1-266
<i>Iguana Cyclura, Cuv.</i>	Ventricle (bands)	1-4000	

Table (continued).

Animal.	Muscle.	Diameter.	
		In the Heart.	In Voluntary Muscle.
Iguana Cyclura, <i>Cuv.</i>	Auricle(fascicles)	1-1000	
	Pectoral		1-240 to 1-100
Alligator	Ventricle and auricle	1-4000 to 1-2000	
	Abdominal		1-400 to 1-123
Testudo Græca, <i>Auct.</i>	Femoral		1-500 to 1-400
Cottus Gobio, <i>Linn.</i>	Gullet		1-1714 to 1-666
	Dorsal		1-400 to 1-141
Cyprinus Cephalus, <i>Linn.</i> ...	Dorsal		1-266 to 1-150
C. Barbus, <i>Linn.</i>	Ventricle	1-5333 to 1-2666	
	Dorsal		1-240 to 1-160
	Gullet		1-1200 to 1-571
Anguilla vulgaris, <i>Linn.</i>	Gullet		1-2000 to 1-888
	Dorsal		1-600 to 1-150

Mr. Gould exhibited to the Meeting an extensive collection of Australian *Halcyonidæ*, and characterized two new species belonging to this family as follows :—

HALCYON PLATYROSTRIS. *Halc. capite, dorsoque ex æruginè viridibus; alis caudâque virescenti-cæruleis; gula pallidè luteolâ, hâc colore gradatim apud nucham et partes corporis inferiores in ceruinum, vel arenaceo-luteolum transeunte.*

Spot before the eye buff; head and back verditer green; wings and tail greenish blue; throat very pale buff, gradually passing into the rich sandy buff of the back of the neck and the whole of the under surface; bill black; the base of the under surface of the lower mandible flesh-white.

Total length, $7\frac{3}{4}$ inches; bill, $1\frac{3}{4}$; wing, $3\frac{1}{4}$; tail, $2\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. Navigators Islands.

For the knowledge of this new species Mr. Gould is indebted to the kindness of Mr. Cunningham, who collected it, and to Mr. Bennett, at Sydney, at whose suggestion Mr. Cunningham presented it, with some other interesting birds, to Mr. Gould, for the advancement of zoological science.

HALCYON SORDIDUS. *Halc. capite, dorso, plumis scapularibus tetricibusque alarum fusciscenti-virescentibus, alis virescenti-cæruleis, tertiariis ad apicem viridi-tinctis; caudâ virescenti-cæruleâ; torque collaris, corporeque inferiore pallidè luteolis.*

Hab. North coast of Australia.

Head, back, scapularies and wing-coverts brownish oil-green; wings greenish blue, gradually changing into green on the tips of the tertiaries; collar surrounding the back of the neck and all the under surface buffy white; tail greenish blue; upper mandible and tip of the lower one black; base of the latter flesh-white.

Total length, 9 inches; bill, $2\frac{1}{4}$; wing, $4\frac{1}{4}$; tail, 3; tarsi, $\frac{5}{8}$.

From the collection of Benjamin Bynoe, Esq.

June 28, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

A Monograph on the Coleopterous family *Phyllophoridae*, by the Rev. F. W. Hope, was read. Following are the characters of the new species and genera contained in this paper.

Family PHYLLOPHORIDÆ, Hope.

Genus *Phyllophorus*, Hope.

Fœmina antennis filiformibus 11-articulatis, articulo 1^{mo} magno, externè crassiore, duobus proximis brevibus, 7 sequentibus gradatim increscentibus et ferè trigonis, ultimo autem ovale, apice parum minori. *Palpi* haud securiformes. *Caput* impressum, maxillis obtusis unidentatis. *Thorax* lateribus carinatis, angulis posticis subspinosus, anticis subrotundatis. *Elytra* thorace quintuplo longiora, sulcata et rugosa, lateribus elevatis.

Phyllophorus gigas. *Elater gigas*, Fab., Syst. Eleut.

Genus *Tetralobus*, Serville:

Tetralobus flabellicornis. *Elater flabellicornis*, Fab.

Tetralobus cinereus, Gory, Ann. de la Soc. Ent. de France, tom. i. p. 220. pl. 4. fig. 1.

TETRALOBUS GORYI. *Tetr. Mas, fusco-cinereus, capite ferè quadrato, anticè subexcavato, angulis anterioribus rotundatis. Thorax marginatus, valdè convexus, ad scutellum elevatus, utrinque depressus, angulis posticis obliquè acutis. Elytra thorace triplo longiora, posticè rotundata, lineis elevatis parum distinctis, tomentosa. Corpus infrà piceo-cinereum, pectore pubescenti. Pedes tomentosi, femoribus compressis, tibiis subarcuatis, tarsisque flavo-membranaceis. Annuli abdominis utrinque foveolati. Long. corp. 18½ lin.; lat. 5½ lin.*

Hab. forsitan in Africâ.

Fœmina differt, long. 21 lin., lat. 6 lin.; antennis serratis, articulo ultimo tribus antecedentibus æquali, subacuto, abdomine multo convexiore.

A small variety of the above species exists in the rich cabinet of M. Dupont at Paris, and has been named by him *T. Sennarius*. It measures twenty lines in length, and differs also in the colour of its pubescence.

TETRALOBUS DUPONTI. *Tetr. nigro-cinereus, capite ferè quadrato, anticè excavato, tomentoso, angulis anticis rotundatis. Thorax convexus, subtilissime punctulatus haud foveis binis in medio im-*

pressus. Elytra thorace triplo longiora, ad suturam subacuminata, lineis vix distinctis. Corpus infrà piceum, tomentosum, binis ultimis annulis foveis, utrinque fortiter impressis. Pedes, femoribus, tibiisque compressis. Long. corp. 28 lin.; lat. 9 lin.

In Musæo Dom. Dupont.

It is probable that the above species is from Africa. It was received by Mr. Dupont (in whose honour it is named) from a foreign traveller, who is lately dead. No locality is mentioned. The antennæ are imperfect.

TETRALOBUS SAVAGEI. *Tetr. totum corpus suprâ fusco-brunneum, aurantiisque capillis obsitum. Caput ferè quadratum, angulis anticis rotundatis, anticè excavatum. Thorax convexus, angulis posticis acutis. Elytra thorace duplo longiora, auratâque pubescentiâ tecta. Corpus infrâ abdomine piceo, pectore aurantiis capillis longis obsito, femoribus tibiisque piceis tarsisque infrâ auricomatis. Long. corp. 13 lin.; lat. 4 lin.*

The above species I have much satisfaction in naming after an American clergyman, the Rev. T. S. Savage. His zeal in the collecting of insects in Western Africa has tended to add greatly to our stock of information regarding the entomology of those countries. Respecting the Goliath Beetles, he has in store for us many important observations, having collected them in the bush: his remarks on them may shortly be expected to arrive in this country.

Tetralobus Australasiæ. Gory, Ann. de la Soc. Ent. de France.

TETRALOBUS FORTNUMI. *Tetr. totum corpus fuscum, auratâ pubescentiâ tectum, antennisque pedibus ferrugineis, elytrisque suturâ acuminatis. Caput vix emarginatum punctatum, fronte foveâ anticè impressâ. Antennæ ferrugineæ. Fasciculus antennarum e lamellis novem rubro-ferrugineis. Thorax angulis anticis lateralibus, porrectis rotundatis; posticis acutis, disco varioloso-punctato, lineâque longitudinali parum impressâ. Scutellum posticè rotundatum. Elytra striato-punctata, striis punctis fortiter impressis, internè acuminata, externèque rotundata. Corpus infrâ atro-piceum aureo tomentosum, capillis pectoris longioribus. Pedes ferruginei, tarsis subtùs pallidioribus et excavatis. Long. corp. 12 lin.; lat. 3 lin.*

The above insect was lately sent to this country by Mr. Fortnum, from the new settlement of Adelaide, and although closely allied to *T. Australasiæ* of Gory, is yet distinct; it is the smallest species that has fallen under my notice, and has been named in honour of the above assiduous collector.

TETRALOBUS PARRYI. *Tetr. niger, capite ferè quadrato, antrorsum foveolato, angulis anticis parum rotundatis. Oculis flavis. Thorax latus punctulatus. Elytra thorace triplo longiora, depressa, striata, striis valdè distinctis. Corpus infrâ nigrum, segmentis abdominis utrinque foveolatis, pedibus piceis, antennis ferrugineis. Long. corp. 18 lin.; lat. 6¼ lin.*

Hab. in Nubiâ. In Musæo Dom. Parry.

Captain Frederick Parry lately received this species in a box with

other Nubian insects. It is of a remarkably depressed form, approaching somewhat in this respect to *Tetralobus Goryi*, which latter insect, however, is certainly much more convex, and differs from it also in various other minor points.

TETRALOBUS MANGLESII. *Fœm. fusco-picea, antennis articulo primo concolore, reliquis ferrugineis. Caput ferè quadratum, punctatum, oculis rubris et nitidis. Thorax valdè convexus, angulis anticis rotundatis, posticis acutis, lined longitudinali mediâ, foveâ utrinque compressâ insignitus. Elytra vix acuminata, striato-punctata. Corpus infrâ rubro-piceum, antennis tarsisque ferrugineis. Long. corp. 17 lin.; lat. 4¼ lin.*

Hab. in Novâ Hollandiâ.

The above insect was sent to me by Capt. Mangles, the Egyptian traveller, in whose honour it is named. He received it from the vicinity of the Swan River.

Since the above was written, I have discovered the male in the collection of the Linnean Society, and the following is a concise description of it:—

Fusco-piceus, articulo primo nigricanti, reliquis ferrugineo flabellatis. Caput ferè quadratum, vix emarginatum. Thorax convexus, marginibus lateralibus subcarinatus. Scutellum valdè depressum. Elytra acuminata, substriato-punctata et sparsim punctulata. Corpus infrâ fusco-piceum, pectore auratâ pubescentiâ tecto, pedibus ferrugineis et auricomatis.

TETRALOBUS AURICOMUS. *Tetr. aureo-tomentosus, antennis flabellatis nigris, thorace posticè producto, elytris thorace triplo longioribus, auricomatis, apicibus rotundatis. Corpus infrâ aureo-tomentosum, pedibus concoloribus. Caput anticè rotundatum, fronte subfoveolatâ. Antennæ articulo 1^{mo} inæquali elongato subsecuriformi, 2^{da} et 3^{tio} minutis, reliquis trigono-ramosis, ultimo sublongo compresso, apice emarginato. Thorax anticè rotundatus, convexus, in medio disci foveâ utrinque impressâ, angulisque posticis acutis. Elytra auricomata vix sublineata. Corpus infrâ tomentosum, annulis abdominis utrinque subimpressis. Long. corp. 12 lin.; lat. 3½ lin.*

In Musæo Dom. Guerin.

Hab. in Africâ.

Since the above description was written a more exact locality has been given me.

Hab. "Le fort de Sedou, au bord de la rivière Casamance, découvert par M. le Capitaine Mion."

TETRALOBUS ROBUSTUS. *Fœm. flavo-fusca, antennis valdè compressis. Caput anticè excavatum, flavisque capillis obsitum. Thorax convexus, angulis anticis rotundatis, posticis acutis. Elytra striata, ad apicem dehiscentia, subacuta. Corpus infrâ flavofuscum, pectore aurato tomento obsito pedibusque concoloribus.*

From the remarkable compressed antennæ I am inclined to consider this insect, which was received from the island of Madagascar,

as the type of a distinct genus. The following characters may be deemed sufficient to mark its peculiarities, which are chiefly taken from the antennæ, and hence it has been named

*Piezophyllus**.

Caput rotundatum, *antennis* valdè compressis, undecim articulatis, articulo 1^{mo} crasso, 2^{do} brevi, octo sequentibus gradatim decrescentibus, ultimo apice acuto. *Thorax* angulis anticis rotundatis, posticis acutis. *Elytra* subacuminata e suturâ dehiscentia lateribus medio subsinuatis. *Pedes* robusti, *tibiis* subincurvis.

Other peculiarities might be mentioned; but as it is well-figured, however, its other characters may easily be distinguished.

PIEZOPHYLLUS SHUCKHARDI. *Tetr. atro-piceus*, capite ferè quadrato, anticè parum excavato, angulis anticis subobliquè truncatis antennisque ferrugineis. *Antennæ* articulo 1^{mo} ferè trigono, crasso, 2^{do} 3^{tio} brevibus, 7 sequentibus lamelligeris; *antennis* capite thoraceque æqualibus. *Thorax* valdè convexus, lateribus carinulâ insignitis, angulisque posticis subacutis. *Elytra* sulcata. *Corpus* infrâ atro-piceum, pectore hirsuto, flavisque capillis longis obsito. *Pedes* picei, auricomi, femoribus tibiisque subcompressis. Long. corp. 24 lin.; lat. 7 lin. ♀ Long. corp. 21 lin.; lat. 7 lin.

I am indebted to Mr. Shuckhard for the above insect, and the species is most probably the *Tetralobus Dumolinii* of Dupont's cabinet. The antennæ and tarsi of this specimen were in too imperfect a state to describe.

PIEZOPHYLLUS SPENCEI. *Tetr. niger*, *antennis* fusco-piceis, articulo primo nigricante. *Caput* ferè quadratum, anticè excavatum. *Thorax* robustus, valdè convexus, lineâ longitudinali impressâ foveâque utrinque insignitus et creberrimè punctulatus, angulis posticis ferè rectis et acutis, carinulâ abruptè interruptâ. *Elytra* ad apicem dehiscentia, subacuta. *Corpus* infrâ atrum, pectore auricomato pedibusque concoloribus. Long. corp. 16 lin.

Hab. in agro Senegalensi.

This singular insect is described from the rich cabinet of Monsieur Dupont in Paris, and it appears to belong to the same subgenus as *Tetr. Shuckhardi*. The same insect I have seen before, and as it was named after Mr. Spence, the celebrated entomologist, I have retained that name.

Oxynterus† *mucronatus*. *Elater mucronatus*, Olivier.

Olivier suspects that this insect is the female figured by Voet (vid. Coleop. tab. 45. fig. 34.); it was originally described from the cabinet of the Prince of Orange, and certainly differs from the *Flabellicornis* of Drury, which Olivier seems to doubt. The following short Latin characters separate it at once from *Tetralobus*.

* *Piezophyllus*, from πίεζω *premo*, et φύλλον *folium*.

Genus *Oxynteris**, Hope.

Caput anticè submarginatum, antennis ♂ apicibus flabellatis clystrisque in utroque sexu acuminatis. *Thorax* angulis anticis ferè rotundatis, posticis acutis. *Elytra* striata et mucronata, pedibus veluti in *Tetralobo*.

Each joint of all the tarsi is clothed beneath with a row of short golden-coloured plush, as in other species belonging to this genus.

OXYNTERIS AUDOUINI. *Oxyn.*, *Mas*, *brunneo-cinereus*, *capite fortiter excavato, parum tomentosio. Thorax emarginatus, posticè subsinuatus, anticè aurantiis capillis obsitus, depressus. Scutellum rotundatum. Elytra brunneo-cinerea, parum tomentosa. Corpus infrà nigro-cinereum. Pedes concolores, femoribus tibiisque compressis, tarsisque piceis. Long. corp. 62 lin. ; lat. 23 lin.*

The above species was described by me, during my late residence in Paris, from the collection at the Jardin des Plantes. It is named in remembrance of the late Professor Audouin, who succeeded to the entomological chair held by the celebrated Latreille. The locality was not stated; I believe it, however, to be from the East Indies, although I cannot actually specify its real locality. It seems to differ considerably from *mucronatus* of Olivier.

OXYNTERIS CUMINGII. *Oxyn. fusco-flavus, antennis ferrugineis. Caput clypeo rotundato atro, medio disci subsulcato. Thorax fuscus, marginibus elevatis, angulis anticis parum productis, posticis acutis et extùs divergentibus. Scutellum posticè rotundatum atrum. Elytra acuminata fusco-flava, tribus lineis parùm elevatis insignita. Corpus infrà atro-piceum, femoribus concoloribus. Mesosternum fortiter excavatum, cornu aprosterni ad medios pedes porrecto. Long. corp. 36 lin. ; lat. 11 lin.*

Fœmina magnitudine differt, thorace etiam paullo latiore antennisque compressis.

The light castaneous appearance of the elytra of the above insect must in a great measure be attributed to abrasion: when recently captured it was remarkable no doubt for a golden pubescence above and beneath, which is a characteristic of other allied species. The above magnificent species is named in honour of Mr. Cuming the conchologist, whose important discoveries at Manilla in various branches of zoology entitle him to the thanks of the naturalists of England. It may be mentioned with regard to the above insects, that the joints of all the tarsi are clothed with a row of short golden-coloured plush; the head and thorax are covered also with very short gray pile, and in the male the elytra are fulvous red, whilst in the female they are saturated on the disc with brown; the latter sex is also a quarter of an inch larger than the male. It is also worthy of notice that the joints of the antennæ to which the leaflets are attached gradually increase after the third joint, the extreme being the most marked.

* From *ὄξυς*, *acuo*, and *πτερόν*, *penna*.

OXYNOPTERUS LATIPENNIS. *Nigro-fuscus, antennis concoloribus, elytris acuminatis et piceis. Caput ferè quadratum, anticè excavatum rugoso-punctatum. Thorax latus, angulis anticis vix productis, posticis acutis, lateribus marginibus elevatis. Elytra atro-picea tomentosa, apicibus acutis. Corpus infrà nigrum, pedibus ferrugineis.* Long. corp.-24 lin. ; lat. 8 lin.

Hab. in Africâ.

The above species was received by me in a box of insects from the Cape of Good Hope : for some time I was induced to regard it as an Asiatic species, but since I have lately received a species nearly similar in form from Sierra Leone, it may be an African insect. It is remarkably broad for a male ; the disc of the thorax also is slightly convex. A label attached to it has 'Gold Coast' written on it.

In Musæo Dom. Hope.

Fœmina adhuc latet.

OXYNOPTERUS JAVANUS. *Oxyn. fusco-flavus et aureo-tomentosus, antennis ferrugineis. Caput atrum, antennis thorace ferè duplo longioribus. Thorax anticè emarginatus, angulis utrinque productis, posticis acutis et divergentibus. Elytra acuminata fusco-picea aurato-tomentosa. Corpus infrà nigrum, pedibus nigricantibus tomento suprâ aspersis, tarsisque auricomatis.* Long. corp. 23 lin. ; lat. 7 lin. ♀ Long. corp. 28 lin. ; lat. $8\frac{1}{4}$ lin.

Fœmina differt antennis compresso-serratis et fuscis.

Hab. in insulâ Javæ.

The above insects, male and female, were brought to this country by Dr. Horsfield from the island of Java ; at first I was inclined to consider the species as the *mucronatus* of Olivier, but the figure in Voet is quite different. I have no hesitation in recording it as another species, and it may be remarked here that the above insects are in a good state of preservation, and that all the species of flabellate Elaters with pubescence should be described immediately they are captured, as when dead they change considerably in colouring, often turning black and greasy, so that it is impossible accurately to describe them as in their original state.

LEPTOPHYLLUS STRACHANI. *Lept. (Mas) piceus, capite anticè excavato antennis, capite cum thorace ferè duplo longioribus, elytris acuminatis. Caput ferè quadratum, anticè excavatum rugosum, antennæ thorace duplo longiores, lamellis elongatis et ferrugineis. Thorax undique marginibus elevatis conspicuis, angulis anticis parùm productis, obtusis, posticis acutis et extùs divergentibus. Elytra valdè acuminata marginata picea et aurato-tomentosa. Corpus infrà concolor, femoribus tibiisque compressis. Fœmina adhuc latet.* Long. corp. 26 lin. ; lat. 7 lin.

The above species was brought to this country by Mr. Strachan, long time a resident at Sierra Leone. His zeal in urging his friends to collect insects in that climate has been the means of considerably enriching our metropolitan collections, and to him chiefly we are indebted for our acquaintance with the Goliath beetles. I have named

the insect above described in honour of this gentleman, who has exhibited such a remarkable zeal in favour of zoology. When his health declined in consequence of the bad climate, he yet made arrangements with his friends for enriching our collections at home. He returned to England, after resigning his laborious situation, broken in health but unsubdued in spirits, and hence we may hope that his health will shortly be re-established. The following characters appear to me sufficient to form into a subgenus, allied to *Oxynteris*, the above insect which I have denominated *Leptophyllus*, from the long leaflets which compose the antennæ.

*Leptophyllus**, Hope.

Caput ferè quadratum, anticè emarginatum. *Antennæ* 11-articulatæ, 1^{mo} magno, 2^{do} subtrigono, octo sequentibus ferè æqualibus et lamellatis, undecimo triplo majori. *Thorax* angulis anticis rotundatis, posticis acutis, lateribus marginatis et carinatis. *Elytra* posticè acuminata, pedibus unguibus ferè æqualibus.

The anatomical sections of this genus are so fully figured by Mr. Westwood that there is no necessity for more ample details, as they may be detected on reference to the plate.

Pectocera†, Hope.

Caput fortiter emarginatum. *Antennæ* valdè pectinatæ, novem ultimis articulis, dentibus gradatim increscentibus, ultimis longissimis. *Thorax* anticè rotundatus, angulis posticis acutis. *Elytra* acuminata, pedibus simplicibus.

The remaining characters may easily be seen in the accompanying plate. It appears to me that the above genus is mediate between *Tetralobus* and *Ludius* and *Ctenicera*.

PECTOCERA CANTORI. *Pect. fusco-castanea, antennis valdè pectinatis brunneis. Thorax niger tomentoque aureo aspersus. Elytra fusco-castanea, apicibus acuminatis. Corpus infrà pilosum, cinereis flavisque capillis obsitum. Segmenta abdominis utrinque brunneo-maculata, maculis glabris. Long. corp. 10 lin.; lat. 2¼ lin.*

Hab. in agro Assamensi.

The above insect I received from Dr. Cantor before he quitted England, and I have since received it from the Khasyah Hills: it is named in honour of the above zealous naturalist.

PECTOCERA MELLII. *Flavo-fusca griseoque variegata, antennis pectinatis. Thorax angulis posticis acutis, subtomentosus. Elytra posticè valdè acuminata, pedibusque fusco-flavis et pubescentibus. Long. corp. 12¼ lin.; lat. 3 lin.*

Hab. circa Semlaa in agris Thibetianis. E Musæo Dom. Melly descriptus.

* From λεπτός *tenuis*, and φύλλον *folium*.

† πεκτός or πηκτός *combed*, and κίρας *horn*, in short, comb-horned antennæ.

Mr. Gould exhibited a new species of Hawk, belonging to the genus *Elanus*, which he thus characterizes:—

ELANUS SCRIPTUS. *Elan. fronte et lined superoculari albis; capite et corpore subtùs saturatè cinereis, rufescenti-fusco lavatis; tectricibus alarum fulgidè nigerrimis; parte alæ interiore notà latè nigrà, per humerum et antibrachium eductà, instar literæ V (aut potiùs VV, utriusque alæ paginà interiore in conspectu,) impressà.*

Forehead and line over the eye white; head and all the upper surface dark grey, washed with reddish brown; wing-coverts deep glossy black; primaries greyish brown, becoming nearly white on their webs, all but the first two or three margined with white at the tip; secondaries brownish grey on the outer web, white on the inner and at the extremity; tertiaries brownish grey; two centre tail-feathers grey; the remaining tail-feathers pale brown on their outer webs and white on the inner; lores black; all the under surface and edge of the shoulder white; on the under surface of the wing following the line of the bones a broad mark of black assuming the form of the letter V, or if both wings are seen at once, of a W; bill black; cere and legs yellow; claws black; irides orange.

Total length, $15\frac{5}{8}$ inches; bill, $1\frac{1}{4}$; wing, $12\frac{1}{4}$; tail, $7\frac{1}{4}$; tarsi, $1\frac{1}{2}$.

Hab. South Australia.

Mr. Gould next called attention to a collection of Birds from India, recently presented to the Society by Walter Ewer, Esq.

A paper by G. B. Sowerby, Esq., containing descriptions of new species of Shells belonging to the genus *Cyclostoma*, was then read.

The species described in this paper were collected in the Philippine Islands by H. Cuming, Esq., by whom they were exhibited.

CYCLOSTOMA ACUTIMARGINATUM.

Cycl. testà suborbiculari, conicà, tenui, levi, subpellucidà, badià, albido-marmoratà, spirà subacuminatà, submammillari, anfractibus quatuor, raptim crescentibus, suprà infràque rotundatis, marginè carinato, acuto, prope suturam marginemque coloribus articulatìs; aperturà magnà, orbiculari, peritremate reflexo, albo, incrassato, prope ultimum anfractum subinterrupto, supernè productione, minimè reflexo; umbilico mediocri, profundo. Long. 0·9; lat. 1·1 poll. Operculo corneo, multispirali.

Hab. supra foliis Palmarum apud Catbalongan Insulæ Laman Philippinarum.

An elegant species, remarkable for the sharpness of its edge (in which it resembles a Carocolla), as well as for the beautiful arrangement of the colouring.

CYCLOSTOMA LUZONICUM.

Icon. Sowerby, Species Conchyliorum, Pars 2^{da}, Cyclostoma, f. 133.

Cycl. testà suborbiculari, albidà, castaneo-variegatà, spirà depressiusculà, obtusà; anfractibus quatuor ad quinque, rotundatis, concinnè

spiraliter striatis, fasciâ albâ infrâ suturam fusco-articulatâ; suturâ profundâ; aperturâ circulari, peritremate crasso, reflexo; umbilico maximo. Long. 0·7; lat. 1·3 poll. Operculum corneum, tenue, anfractuum marginibus lamellosis.

The first specimens of this species were brought from Luçon by J. K. Smith, Esq. Mr. Cuming has collected the following varieties, viz:—

a. Shell variegated, with a brown and white articulated band close to the front of the suture, median band variously mottled. Found under decayed leaves on Mount Isarog in the province of South Camarinas, island of Luçon.

b. Shell variegated, upper or posterior part of the two last volutions with four or five rather prominent elevated striæ. Found under decayed leaves in the island of Masbate.

c. Upper part of the volutions of a pale colour, with a brown and white articulated band next to the suture; median line articulated with brown and white, in front of which the shell is dark brown, becoming paler toward the umbilicus. Found under decayed leaves at St. Jaun in the province of Cagayan, island of Luçon.

d. Shell dark chestnut-brown, articulated with white in front of the suture; median line brown and white mottled; umbilicus and peritreme white. Found under decayed wood at Calauang in the province of Laguna, island of Luçon.

e. Shell brownish, with an articulated band next to the suture, and two median bands, the posterior of which is white and the anterior dark brown; spire more elevated than in the former varieties. Found in earth under decayed leaves at Sinaï in the province of South Ilocos, island of Luçon.

f. Shell rather smaller and with a more elevated spire than in varieties *a.* to *d.*, variously mottled. Found under decayed leaves in the woods at Dolores in the province of Pampanga, island of Luçon.

g. Shell rather paler coloured than most of the varieties, but having the inside of the aperture of an orange-brown. Found under decayed leaves on Mount Isarog, with var. *a.*

h. Similar to var. *e.*, but altogether paler, and from the same locality.

CYCLOSTOMA CANALIFERUM.

Icon. Sowerby, Species Conchyliorum, Pars 2^{da}, Cyclostoma, f. 195, 196.

Cycl. testâ orbiculari, subdepressâ, crassiusculâ, albicante, brunneo-marmoratâ, spirâ depressâ, obtusâ; anfractibus quatuor, rotundatis, spiraliter striatis et supernè cariniferis, prope suturam brunneo albidoque articulatis et cingulo centrali brunneo ornatis; suturâ canaliculatâ, margine canalâ elevato; aperturâ circulari, peritremate incrassato, reflexo, umbilicum patulum versus lamellosopatente. Long. 0·8; lat. 1·4 poll. Operculum corneum, anfractuum margine lamellari, levatiusculo.

This species bears a general resemblance to the last; it may be

distinguished by the flexuose lamella proceeding from the peritreme and overlying the umbilicus, so as nearly to cover it when adult; and also by the narrow channel at the suture. I received the first specimens of this shell from J. K. Smith, Esq. Mr. Cuming has collected two different varieties.

a. Shell depressed, pale in colour, J. K. Smith, Esq.

b. Shell with a more prominent spire and much darker colours. Found under decayed leaves on the island of Burias, H. Cuming, Esq.

c. Shell with the spire prominent as the last; of a rich dark brown, with a white median line and angular flashes of white on the upper side. Found under decayed leaves in the province of Tayabas, island of Luçon, H. Cuming, Esq.

CYCLOSTOMA VALIDUM.

Cycl. testâ orbiculari, crassiusculâ, pallidâ, brunneo-variegatâ, spirâ elevatusculâ, anfractibus quinque rotundatis, spiraliter striatis, et nonnunquam obtusè quatuor- ad quinque-carinatis; suturâ distinctâ; aperturâ circulari, peritremate incrassato, reflexo, umbilicum versus patente; umbilico mediocri. Long. 1·5; lat. 1·8 poll. *Opereulum corneum, tenuiculum, margine anfractuum lamellari.*

The young shell of this species appears to have been of comparatively large size at its first development from the egg, the edge of its aperture being usually distinguished by a broad and dark brown oblique band at about the middle of the third volution from the apex. Mr. Cuming has brought several varieties, as follows:—

a. This is the largest and coarsest variety, and its colours are the least brilliant; the lower part, near to the aperture, appears to be constantly worn away, probably from age; the peritreme also is extended far beyond its first formed edge. It is found on the leaves of trees at Tanauan, in the island of Leyte.

b. Shell of a dark brown, with sometimes angular flashes of nearly white over the upper part of the shell; the median edge is obtusely keeled. It is found under decayed leaves in the province of Tayabas, island of Luçon.

c. Shell of a light brown colour, variously mottled with very dark brown. Found under decayed leaves in dense woods at Catbalonga, and at Basay, in the island of Samar.

d. Smaller than the last, and generally paler in colour, with less of the dark brown. Found under decayed leaves at Cagayan in the province of Misamis, Island of Mindanao.

CYCLOSTOMA STAINFORTHII.

Cycl. testâ tenui, albicante, pyramidalî, carinatâ; spirâ acuminatusculâ, anfractibus quinque ad sex, lateribus subventricosis, ultimo longè maximo, margine mediano carinato, lineis spiralibus fuscis quatuor ad sex ornato; suturâ subobsoletâ; aperturâ magnâ, suborbiculari, latere columellari rectiusculo; peritremate albo, subincrassato, reflexo, supra anfractum penultimum subinterrupto, um-

bilico mediocri. Long. 0·7; lat. 0·8 poll. *Operculum corneum, tenue, marginibus anfractuum lamellosis, levatiusculis*.

A very elegant species, which I have the pleasure of dedicating to my kind and liberal friend, the Rev. F. J. Stainforth. Mr. Cuming has brought the following varieties:—

a. Shell nearly white, variegated with brown mottlings and from four to six dark brown spiral lines. Found upon the leaves of trees on the island of Ticao.

b. Shell smaller, and altogether paler. Found on leaves of trees on the island of Masbate.

c. Shell of a pale rosy brown colour. On leaves of bushes on the island of Siquijor.

d. Shell of a pale colour, mottled with dark brown. On leaves of bushes in the island of Siquijor.

e. Shell nearly white. From the same locality as *c*. and *d*.

f. Shell larger than var. *e*. and nearly white. On leaves of trees in the island of Panay.

CYCLOSTOMA TUBA.

Cycl. testá suborbiculari, depressiusculá, tenui, laevi, albicante rufescente-fusco variegatá et nubeculatá; spirá brevi, subdepressá, acuminatá, anfractibus quinque, planiusculis, primis carinatis, ultimo maximo, rotundato; aperturá maximá, circulari, expansá, albicante; peritremate albicante, tenui, lato, revoluto, supra anfractuum penultimum interrupto; umbilico magno. Alt. 1·5; lat. 2·3 poll.

Hab. sub foliis putridis prope Montem Ophir, Malaccæ.

This species is remarkable for the extent of the reflected lip of the aperture. Mr. Cuming has brought two varieties, differing only in size.

CYCLOSTOMA PHILIPPINARUM.

Sowerby, *Species Conchyliorum*, Pars 2^{da}, fig. 180 to 183.

Cycl. testá globoso-conicá, pallidá, fusco-marmoratá, spirá subacuminatá, anfractibus quinque subrotundatis, supernè longitudinaliter sulcatis, ultimo infrà lævigato; aperturá subrotundá, peritremate obtuso, reflexo, supernè producto, latere umbilici subsinuato; umbilico parvo. Alt. 0·6; lat. 0·5 poll. *Operculum tenue, corneum, læve*.

Of this species, which is very variable in size and colouring, the first specimens I met with were brought from Manilla by J. K. Smith, Esq. Mr. Cuming has collected the following varieties, viz.

a. Shell small, light brown, elegantly marbled with dark chestnut-brown. Found in the earth at the roots of plants at Puerto-galero, in the island of Mindoro.

b. Shell rather larger than *a*, of a pale colour, with very slight dark brown mottlings; apex rosy. From Bai, in the isle of Negros.

c. Nearly similar to *b*, but the apex scarcely rosy. Found under decayed leaves at Piddig, in the province of North Ilocos, island of Luçon.

d. Shell larger, with a pale band round the circumference, and a dark one beneath. Found under decayed leaves at Sinai, and in earth at Bolinao.

e. Shell very darkly coloured, size of *d.* On leaves of bushes at Calauang, and on leaves of trees at St. Christoval, in the province of Batangas.

f. Shell smoother and paler than the other varieties; apex blackish. Found on leaves of bushes at Daleguete, island of Zebu.

g. Shell larger than the other varieties, dark brown, with a white and brown articulated band close to the suture, and a nearly white circumferential band. Found on leaves of bushes at the island of Luban.

CYCLOSTOMA ALTUM.

Cycl. testá acuminato-turritá, crassiusculá, fuscá, lævi, tenuissimè striatá, apice obtusiusculo, anfractibus 7 ad 8 rotundatis; suturá distinctá, tenui; aperturá circulari, labio subincrassato, reflexo-patente, duplici, margine externo magis, interno minus expanso, intùs canali parvâ ad basin columellarem munito; umbilico medii-ocri extùs carinâ obtusâ marginato; operculo corneo, tenui, multi-spirali. Long. 1"; lat. 0·3 poll.

Hab. supra truncos arborum in montibus insulæ Negros, Philippinarum.

This species is remarkable for having a double lip, the inner or newer portion of which is not quite so much expanded as the outer. It may be regarded as the first link of affinity, connecting *Cyclostoma* with *Pupina* by the intervention of the next species, *C. Pupini-forme*.

CYCLOSTOMA PUPINIFORME.

Cycl. testá subcylindrico-turritá, crassiusculá, obscurá, fuscá, lævi, tenuissimè striatá, apice subabruptè acuminato, anfractibus senis, rotundatis, suturá validâ; aperturá circulari, peritremate discontinuo; labio externo subincrassato, revolutò, flavido, ad basin columellarem canali angustissimâ spirali interrupto; deindè supernè latiori, demùm supra ultimum anfractum leviter expanso, canali angustâ tenuique inter anfractum ultimum et partem posticam labii positâ; umbilico parvo, carinâ obtusâ marginato, hæcè carinâ externam partem canalis angustissimæ basis columellaris efformante. Long. 0·7; lat. 0·25.

Hab. supra truncos arborum apud S. Juan provinciæ Cagayan insulæ Luçon, Philippinarum.

This species, which is related to the last and to *Cycl. tortuosum* of Gray, approaches very nearly to the genus *Pupina*, appearing to differ only in having a dull unpolished external surface, while that of *Pupina* is extremely brilliant. It proves the genera *Cyclostoma* and *Pupina* to belong to the same family.

The next communication is from Dr. L. Pfeiffer, and contains the following descriptions of shells belonging to the genera *Helix* and *Bulimus*, also collected by H. Cuming, Esq. in the Philippine Islands.

HELIX ZONIFERA, Sow. *Hel. T. imperforatâ, subglobosâ, tenui, fulvâ, zonis variis opacis lutescenti-albidis ornatâ, obsolete angulatâ; anfractibus 4 convexis, supremis depressis; columellâ pland, rectâ, elongatâ; aperturâ lunato-rotundatâ, intus nitidâ; peristomate simplici, expanso, albo, cum callo columellari angulatim juncto.*
Diam. 1·60; alt. 1·10 poll.

Hab. ins. Leyte.

β. *T. tenuissimâ, luteo-virente, basi unicolore, ad peripheriam fasciâ latâ nigricante et angustiore albidâ, supernè fasciis pluribus albidis interruptis ornatâ.*

Hab. ins. Leyte.

γ. *T. rufo-nigricante, fasciis variis sordidè albidis.*

Hab. ins. Samar.

δ. *T. crassiusculâ, cinnamomeâ, fasciis lutescenti-albidis.*

Hab. ins. Samar.

Differt ab *H. pulcherrimâ*, cui valdè affinis, spirâ depressâ, anfractu ultimo minus inflato, et columellâ neque excavatâ neque dentatâ.

HELIX NORRISII, Sow. *Hel. T. imperforatâ, globoso-depressâ, solidâ, glabrâ, fulvo-citrinâ, zonis opacis candidis et infra suturam maculis irregularibus albis notatâ; spirâ semiglobosâ; anfractibus 4½ convexis, ultimo ad columellam subexcavato; columellâ latâ, albo-cullosâ, arcuatim prolongatâ; aperturâ ferè orbiculari, intus lacteâ; peristomate crasso, latissimè expanso.*

Diam. 1·80; alt. 1·15 poll.

Hab. insula Luçon, ad Montem Triga.

Species intermedia inter *H. pulcherrimam* et *zoniferam*, ab illâ spirâ depressâ et columellâ arcuatâ, ab alterâ columellâ excavatâ, nec angulatâ diversa.

HELIX LUZONICA, Sow. *Hel. T. imperforatâ, conico-globosâ, crassiusculâ, obliquè striatâ, rufâ, apice sanguined, epidermide liberâ ferè omnino tectâ, medio fasciâ latâ albidâ ornato; spirâ conoideâ; anfractibus 5 — 5½ convexiusculis; columellâ obliquâ, dilatâtâ, tuberculosâ; aperturâ lunato-orbiculari, intus lacteâ; peristomate incrassato, latè reflexo, albo vel purpureo latè limbato.*

Diam. 1·60; lat. 1·15 poll.

Hab. Provincia Cagayan insulæ Luçon.

Differt ab *H. pulcherrimâ* testâ crassâ, conoideâ, anfractibus pluribus et sensim accrescentibus, columellâ vix excavatâ et labro incrassato.

HELIX MINDANAENSIS, Sow. *Hel. T. imperforatâ, globoso-conicâ, solidâ, obliquè rugoso-striatâ, apice obtuso, pallidâ, luteo-fuscâ, opacâ, maculis variis rufis pellucidis ornatâ; spirâ conoideâ; anfractibus 4½ convexiusculis, ultimo medio obtusè angulato, infra angulum fasciâ latâ, hydrophanâ, albidâ signato; columellâ lividâ, subrectè descendente, medio subintortâ; aperturâ tetragono-ovatâ, intus plumbeâ; peristomate subincrassato, parùm reflexo, livido-fusco, margine supero arcuatim dilatato.*

Diam. 2·20; alt. 1·65 poll.

Hab. insula Mindanao.

Forma et magnitudo sicut *H. Pan.* Differt anfractu ultimo angulato, colore et formâ columellæ et aperturæ. Ab *H. Harfordii* differt formâ conicâ, maculis non hydrophanis, sed in ipsâ testâ positis, et margine dextro aperturæ sinuato.

HELIX CARBONARIA, Sow. *Hel. T. imperforatâ, subtrochiformi, lævi, purpureo-nigricante, epidermide fuscâ, hydrophanâ, obliquè strigatâ, apice rubrâ vel violacêâ; suturâ lineari; anfractibus 5 planiusculis, ultimo carinato, basi plano; columellâ subrectâ, dilatatâ, fusciculâ; aperturâ subtetragonâ, intùs lividâ; peristomate simplici, vix incrassato.*

Diam. 1·20; altit. 0·95 poll.

Hab. Insula Zebu. 'Daleguete.'

Variat carinâ obtusiore, basi convexiore.

HELIX (CAROCOLLA) PANAYENSIS, Brod. *Hel. T. imperforatâ, depressâ, orbiculari, carinatâ, crassiusculâ, supernè griseo-fuscâ, minutissimè granulatâ, basi radiatim striatâ, nitidissimâ, olivacêâ; spirâ depresso-conoideâ; anfractibus 6 planulatis, ultimo non deflexo; aperturâ angulato-lunari, intùs albidâ; peristomate supernè simplici, basi incrassato, ad columellam expansiusculo.*

Diam. 1·60; altit. 0·85 poll.

Hab. Insula Panay. 'Dingle.'

Var. (Cagayan ins. Luçon). *Spirâ elatiore, anfractibus ultimis tumidis, supernè saturatè rufâ, basi nigricans, deorsum pallescens.*

HELIX MORICANDI, Sow. *Hel. T. umbilicatâ, semiglobosâ, basi planiusculâ, nitidâ, albido-flavâ, fasciis rufis 2-3-cinctâ; anfractibus 5½ convexis, ultimo margine dextro subitò deflexo; umbilico angusto, pervio; aperturâ transversè pyriformi, basi parallelâ; peristomate connexo, margine superiore expanso, basali latè reflexo, ad basin dente unico crasso instructo.*

Diam. 1·35; altit. 0·70 poll.

Hab. Insula Bohol. 'Jacna.'

Differt ab *H. zonalis*, Fér., cui persimilis, basi planâ, aperturæ parte supremâ deflexâ, indè horizontali, et marginibus peristomatis junctis.

HELIX SAGITIFERA, Pfr. an Nanina? *Hel. T. subperforatâ, tenui, pellucidâ, obliquè striatâ et obsoletè rugosâ, fulvâ, maculis seriatis sagittiformibus et ad carinam obsoletam fasciâ unicâ rufâ ornatâ; suturâ impressâ, ad anfractum ultimum subcanaliculatâ; anfractibus 4½ planiusculis, ultimo inflato; aperturâ perobliquâ, lunato-ovatâ, intùs lacteâ; peristomate simplici, ad columellam subincrassato, vix reflexo, margine superiore deflexo.*

Diam. 2; altit. 1·10 poll.

Hab. Sinait insulæ Luçon.

Affinis *H. Lamarckianæ*, Lea. Differt formâ minus depressâ, anfractibus spiræ lentè crescentibus, ultimo vix carinato, et colore.

Varietas: testâ distinctè carinatâ, supernè intensè rufâ, infra

carinam fasciâ nigricante dilutâ circumdatâ, basi olivaceo-fulvâ, maculis sagittiformibus obsoletis.—Bolinao insulæ Luçon.

HELIX FULVIDA, Pfr. an Nanina? *Hel. T. subperforatâ, subglobosâ, tenui, pellucidâ, pallidè fulvescente, supernè confertissimè et minutissimè granulosa, basi glabrâ, nitidâ; spirâ elatâ; anfractibus $5\frac{1}{2}$, supremis planis, $1\frac{1}{2}$ ultimis rotundatis; aperturâ lunari; peristomate simplici, margine columellari subincrassato, ad perforationem obsoletam reflexo.*

Diam. 1.25; altit. 0.85 poll.

Hab. Insula Mindanao.

HELIX JANUS, Chemn. xi. 3016. 17.—Helicella, Fér. pr. 233.—An Nanina? *Hel. T. sinistrorsâ, perforatâ, orbiculari, tenui, diaphanâ, obliquè regulariter et confertim striatâ, supernè fuscâ, basi convexâ, rufâ, nitidiusculâ; spirâ latè depresso-conoideâ; unfractibus 7 planulatis, ultimo carinato; aperturâ lunari; peristomate tenui, acuto, margine columellari reflexiusculo.*

Diam. 1.30; altit. 0.80 poll.

Hab. in monte Ophir, peninsulæ Malaccanæ.

H. Mackensiana, Saul in Revue Zool. 1841, p. 347, eadem esse videtur.

HELIX PORPHYRIA, Pfr. an Nanina? *Hel. T. perforatâ, depressâ, solidâ, obliquè rugoso-striatâ, rufâ, maculis et strigis creberrimis, flavido-albidis subprominulis marmoratâ, carinatâ, infra carinam rufo-fasciatâ, basi olivaceo-fulvâ, nitidiore; anfractibus $4\frac{1}{2}$ planulatis, regulariter crescentibus, ultimo circa perforationem apertam excavato; aperturâ subrhombèd; peristomate simplici, tenui, margine columellari arcuatim reflexo.*

Diam. 1.80; altit. 1.00 poll.

Hab. Insula Burias.

HELIX SAMARENSIS, Pfr. *Hel. T. umbilicatâ, depresso-conoideâ, tenui, obliquè striatâ, fulvido-albâ, fasciis rufis ornatâ; basi planulatâ; suturâ lineari; anfractibus $4\frac{1}{2}$ planiusculis, ultimo basi subcarinato; umbilico angusto, pervio; aperturâ horizontali, ellipticâ; peristomate simplici, margine supero expanso, basali latè reflexo, edentulo.*

Diam. 0.90; altit. 0.50 poll.

Hab. Insula Samar.

HELIX BUTLERI, Pfr. *Hel. T. imperforatâ, globosâ, tenui, lævi, apice obtuso albâ; spirâ semiglobosâ; suturâ mediocri; anfractibus $4\frac{1}{2}$ planiusculis, ultimo inflato, pallidè lutescente, lineis parvis confertis, crispulis vel interruptis ornatâ; columellâ subrectâ, latâ, profundè intrante; aperturâ rotundato-lunatâ; peristomate simplici, vix expanso.*

Diam. 1.25; altit. 1.00 poll.

Hab. Mountains of the Igorrotes.—Forma affinis *H. versicolori* Bornii.

HELIX BECKIANA, Pfr. *Hel. T. umbilicatâ, orbiculari, tenui, obliquè*

striatá, fuscá, vix nitidulá; spirá parùm elatá; suturá lineari; anfractibus 6 planiusculis, ultimo deflexo, ad peripheriam angulato; angulo ad aperturam obsoleto; basi planiusculá; umbilico mediocri, pervio; aperturá ferè horizontali, subtrapezoidali; peristomate simplici, margine columellari brevi, basali reflexo, quasi in tuberculum incrassato.

Diam. 0·85; altit. 0·40 poll.—Nueva Ecija.

HELIX CUMINGII, Pfr. *Hel. T. imperforatá, depressá, obtusè subcarinatá, apice violaceo, obtusá, obliquè striatá, nigricanti-rufá, epidermide rufá, supernè maculis irregularibus, basi fasciis multis stramineo-cinereis ornatá; anfractibus 4, supremis planiusculis, ultimo subinflato; columellá rectè descendente, latè callosá; aperturá latá, subquadrangulári; peristomate latè expanso, margine inferiore incrassato.*

Diam. 1·60; altit. 0·90 poll.

Hab. Insula Zebu.—Affinis *H. Zebuensi*, Brod.

HELIX SCROBICULATA, Pfr. *Hel. T. umbilicatá, lenticulari, tenui, obliquè rugosá, fulvido-albidá, fusco-zonatá, carinatá; spirá parùm elatá, apice obtuso nitidá, glabrá; suturá lineari; anfractibus 4½ convexiusculis, ultimo deflexo; cariná subcutá; umbilico angusto, pervio; aperturá transversè pyriformi; peristomate simplici, continuo, supernè expanso, basi latè reflexo, unidentato; dente obtuso, extùs scrobiculum formante.*

Diam. 1·15; altit. 0·45 poll.

Hab. Insula Bohol.

Affinis *H. rotæ*, spirá elatiore, cariná simplici, subcutá, et costis deficientibus diversá.

BULIMUS BREVICULUS, Pfr. *Bul. T. imperforatá, ovatá, apice obtuso, obliquè obsoletè striatá, nitidá, albá, epidermide lutescente deciduá obductá; anfractibus 6 angustis, convexiusculis; columellá subrectá, in laminam tenuem expansá; aperturá perobliquá, transversè semiovali; peristomate simplici, expanso.*

Long. 1·15; diam. 0·75 poll.

Hab. Insula Romblon.

Affinis *Bulimo stabili*, Sow., formá abbreviatá, anfractibus convexiusculis et aperturá diversis.

BULIMUS CUMINGII, Pfr. *Bul. T. imperforatá, ovatá, tenuissimá, obliquè striatulá, pellucidá, albido-virente, ad suturam lineá rufá circumdatá; anfractibus 4½ convexiusculis, ultimo obsoletè angulato, spiram pauld superante; columellá pluná, subexcavatá, fuscá; aperturá lunato-ovalí; peristomate simplici, margine dextro latè expanso, basali subreflexo.*

Long. 1·35; diam. 0·95 poll.

Hab. Insula Camiguing.

BULIMUS LIGNARIUS, Pfr. *Bul. T. imperforatá, conoideo-globosá, solidá, obliquè striatá, subepidermide lignariá nitidè nigricante, sursum pallescente, apice obtusiusculo, nitide fulvo; spirá conoideá;*

anfractibus 5 convexis, ultimo spirá paulò breviorè; columellá subrectá, extrorsùm latè expansá, fusco-plumbeá; aperturá lunato-ovali, intùs nitidè cærulescente; peristomate simplici, reflexo, saturatè plumbeo, margine dextro valdè arcuato.

Long. 3·05; diam. 2·20 poll.

Hab. Provincia Cagayan insulæ Luçon.

a. Ferè unicolor, epidermide pallidá, saturatius strigatá, fasciá unicá angustá, nigrá suprà, latiore albidá infrà medium anfractus ultimi.

β. Epidermide albo-strigatá, fasciis pluribus angustis nigricanti-rufis, unicá latiore albidá infrà medium anfractus ultimi.

γ. Minor, spira subelongata; color sicut in *a.*

BULIMUS JUGLANS, Pfr. *Bul. T. imperforatá, elongato-globosá, apice obtuso, solidiusculá, obliquè distinctè striatá, unicolore, rufá; anfractibus 5 convexis, ultimo spiram æquante; columellá latá, albá, introrsùm arcuatim prominente; aperturá magná, irregulariter subovali, ad basin columellæ sinuatá, intùs pallidè lividá; peristomate vix reflexo, rufo-marginato.*

Long. 2·20; diam. 1·50 poll.

Hab. 'Mountains of Igorrotes.'

BULIMUS NYMPHA, Pfr. (*Achatina*?) *Bul. T. ovato-turritá, solidiusculá, lævi, sulphureá, epidermide hydrophaná, lignéa crebrè et latè strigatá, lineá suturali rufá et areá columellari nigricante ornatá; apice obtuso, nitide roseo; anfractibus 6 vix convexiusculis, ultimo $\frac{1}{2}$ longitudinis æquante, obsoletè angulato; columellá rectá, planá, vix truncatulá; aperturá magná, ovali, intùs albá; peristomate subsimplici, albo, margine dextro valdè arcuato.*

Long. 2·00; diam. 0·95 poll.

Hab. Insula Luçon, 'San Miguel.'

Var. Testá rufá, sursùm pallescente, apice roseo; epidermide albidá, peristomate rufo. Mt. Triga.

Differt a *Bulimo (Achatina) Boholensi* formâ ventricosiore, anfractu ultimo brevi, aperturá latá, peristomate non expanso.

July 12, 1842.

William Horton Lloyd, Esq., in the Chair.

The following "Descriptions of two new species of *Oniscia*, a genus of pectinibranchiate Mollusks," communicated by Mr. Lovell Reeve, was read.

ONISCIA DENNISONI. *Onisc. testá trigono-ovatá, decussatim costatá, costis tuberculo squamave ad juncturas instructis; anfractibus supernè angulatis, superficie albá, fusco-maculosá, leviter striatá; labro columellari rutilo, albo-granuloso, latissimè effuso; labro externo valdè incrassato, internè denticulis albis irregulariter ornato.*

Reeve, Conch. Syst., vol. ii. pl. 253. f. 5 and 6.

Hab. ——— ?

Long. 2; lat. $1\frac{1}{10}$ poll.

In dedicating this very chaste and beautiful shell to its fortunate possessor, J. Dennison, Esq., we memorize the name of a gentleman whose collection is perhaps unequalled in excellency and preservation. The very rare and valuable specimen before us is closely allied to the *Oniscia cancellata* (*Cassidaria cancellata*, Lamarck), so much so indeed that we at first hesitated to consider it a distinct species; the rich and rosy appearance of the columellar lip is, however, remarkable, and as this part of the shell exhibits its chief *generic* character, may not so decided a variation of it be considered of *specific* importance?

ONISCIA STROMBIFORMIS. *Onisc. testá trigono-pyriformi, albá, transversim irregulariter costatá et nodosá; anfractibus supernè angulatis, angulis valdè nodosis; labro columellari albo, granuloso, leviter effuso; labro externo denticulato.*

Reeve, Conch. Syst., vol. ii. pl. 253. f. 1.

Hab. ——— ? Mus. Cuming.

Long. $\frac{7}{8}$; lat. $\frac{1}{2}$ poll.

An interesting small species, figured in 'Conch. Syst.' together with the former, and which appears to be very distinct from any hitherto described.

A collection of skins, procured by the Honourable Charles Murray during his travels in North America, and presented to the Society by that gentleman, were exhibited. Among these was a curious yellow variety of the Grisly Bear,—*Ursus ferox*, Lewis and Clark.

A series of birds' skins, being the remaining portion of the collection presented by Walter Ewer, Esq., part of which was exhibited at the previous meeting, was laid on the table. These birds were collected in the north-western province of the Bengal presidency, in

north latitude 29° to 31°, and east longitude 77° to 80°, and are chiefly inhabitants of the plain. Mr. Ewer, however, observes, that there are perhaps also a few from the Himalaya mountains in the collection.

The following is a list of the species:—

- Neophron percnopterus*, Temm.
Haliaëtus Macei.
 — *Ponticerianus*.
Circaëtus brachydactylus, Vieill.
Aquila Vindhiana, Frankl.
Morphnus cristatellus.
Astur Hyder, Sykes.
Accipiter nisus.
Falco Chicquera, Lath.
Circus rufus, Briss.
 — *pallidus*, Sykes.
Elanus melanopterus, Leach.
Milvus Cheele.
Ketupa Leschenaulti, Less.
Merops Philippinus, Linn.
 — *viridis*, Linn.
Hirundo filifera, Steph.
 — *riparia*? Linn.
Halcyon Smyrnensis, Linn.
Alcedo rudis, Linn.
 — *Bengalensis*.
 — *Graucalus Papuensis*, Cuv.
Collurio erythronotus, Vig.
 — *Lahtora*, Sykes.
Phænicornis peregrina, Vig.
 — *brevirostris*, Vig.
 — *rubeculoides*, Vig.
Turdus albicollis.
 — *pæcilopterus*, Vig.
 — *sularis*, Auct.
 — ?
Oriolus Galbula.
Malacocercus striatus, Sw.
Hypsipetes psaroides, Vig.
Ixos cafer.
 — *leucotis*, Gould.
Ianthocinclia albogularis, Gould.
 — *leucocephala*, Gould.
 — *erythrocephala*, Gould.
Enicurus maculatus, Vig.
Myophonon Temmincki, Vig.
Megalurus palustris, Sykes?
Anthus Chendoola, Frankl.
Pyrhulauda cruciger.
Saxicola bicolor, Sykes.
- Phænicura ruticilla*, Sw.
Motacilla alba.
Prinia inornata, Sykes.
Timalia hypoleuca, Frankl.
Parus atriceps, Horsf.
Emberiza cristata, Vig.
Pyrgita domestica, Cuv.
Fringilla leuconota, Temm.
Ploceus Philippinus, Cuv.
Sturnus vulgaris, Linn.
Pastor Galla.
Lamprotornis spilopterus, Vig.
Dendrocitta Sinensis, Vig.
 — *vagabunda*, Vig.
Garrulus bispecularis, Vig.
 — *lanceolatus*, Vig.
 — *striatus*, Vig.
Pica erythrorhyncha, Vig.
Nucifraga hemispila, Vig.
Fregilus Graculus, Cuv.
Corvus culminatus, Sykes.
Eudynamys orientalis, V. & H.
Centropus Philippensis, Cuv.
 — *Cirkeer*, Gray.
Palæornis torquatus, Vig.
 — *flavicollaris*, Frankl.
Picus occipitalis, Vig.
 — *Mahrattensis*, Lath.
Bucco caniceps, Frankl.
 — *Philippinensis*, Auct.
Yunx Torquilla, Linn.
Sitta castaneoventris, Frankl.
Pomatorhinus erythrogegens, Vig.
Phasianus albocristatus, Vig.
Perdix Chukar, Vig.
Francolinus Pondicerianus.
 — *vulgaris*.
Coturnix Cambaiensis.
Pterocles exustus.
Cursorius Coromandelicus.
Œdicnemus crepitans, Temm.
Vanellus Goensis, Auct.
 — *cristatus*, Meyer.
 — *Keptuschka*, Temm.
Gallinago stenurus.

Tringa pugnax, Linn.
 — *Temmincki*, Leisler.
Totanus glottoides, Vig.
Herodias Gazetta.
Botaurus stellaris, Steph.
Anas pæcilorhyncha, Gmel.
Dafila acuta, Leach.
Mareca Penelope, Selby.
Fuligula rufina, Steph.
 — *cristata*, Steph.
Nyroca leucophthalma, Flem.
Rhynchaspis clypeata, Steph.

Chauliodes strepera, Sw.
Querquedula Crecca.
Tadorna rutila, Steph.
Anser Indicus, Steph.
Mergus albellus, Linn.
 — *merganser*, Linn.
Podiceps minor, Lath.
Sterna aurantia, Gray.
Plotus Levailanti, Temm.
Phalacrocorax Javanica.
 — *Cormoranus*, Temm.

An abstract of a letter from E. Blyth, Esq., curator to the museum at Calcutta, was then read. It contains the following list of birds, with observations upon them, which are found both in India and Europe:—

Aquila chrysaëtos, Vig. Inhabits the mountains.
Falco peregrinus, Gmel. Inhabits the mountains.
 — *Tinnunculus*, Linn. Common.
Pernis apivorus, Auct. Moderately common.
Circus rufus, Auct. Moderately common.
 — *cyaneus*, Auct. Moderately common.
 — *cineraceus*, Auct. Moderately common.
Otus brachyotus, Flem. Not rare.
Strix flammea, Linn. Common.
Hirundo rustica, Linn. Found in the Himalayas.
 — *riparia*, Linn. Inhabits the Himalayas.
Saxicola Rubetra, Temm. Not uncommon.
 — *rubicola*, Temm. Not uncommon.
Sylvia Hippolais, Lath. Not uncommon.
 — *Suecica*, Lath. Not uncommon.
Turdus viscivorus, Linn. Inhabits the Himalayas.
Pyrgita domestica, Auct. Very common.
 — *montana*, Auct. Inhabits the Himalayas; is found also at

Chusan on the east, and Affghanistan on the west, in both places representing the house-sparrow.

Corvus pica, Linn. Is found, according to report, in Affghanistan. I have seen the true British species from Chusan. There is a distinct but nearly allied species at Bootan, which may also be that of Affghanistan.

Corvus Corax, Linn. Inhabits the mountains, but not the plains; it is there replaced by a smaller species*, often mistaken for the common raven.

Fregilus Graculus, Selby. Abounds in the Himalayas.

Sturnus vulgaris, Linn. Is seen commonly in the bird-shops at Calcutta, being brought from the hills.

* Mr. Blyth probably alludes to the species to which Col. Sykes gave the name *culminatus*.

Cuculus canorus, Linn. Rare ; but the nearly allied species, *Cuculus micropterus* of Gould, is less so.

Yunx Torquilla, Linn. Not rare.

Charadrius minor, Meyer. Very common.

Edicnemus crepitans, Temm. Inhabits the peninsula of India.

Ardea. All the European species of Heron are to be met with.

Botaurus stellaris, Linn.

Ciconia alba, Ray. Rare.

— *nigra*, Ray. Rare.

Platalea Leucorodia, Linn. Very common.

Ibis Falcinellus, Temm. Very common.

Numenius arquata, Lath. Common ; but the *Numenius phaeopus* (Lath.) is not found here.

Totanus fuscus, Leisl. Common.

— *calidris*, Bechst. Common.

— *ochropus*, Temm. Not very common.

— *glareola*, Temm. Excessively abundant.

— *hypoleucos*, Temm. Not very common.

Recurvirostra Avocetta, Linn. Not very common.

Himantopus melanopterus, Temm. Very common.

Limosa melanura, Leisl. Very common ; but the *Limosa rufa* (Briss.) is not found here.

Scolopax Rusticola, Linn. Abounds in the hills.

— *Gullinago*, Linn. Not rare.

— *Gallinula*, Linn. Not rare.

Tringa pugnax, Linn. Common.

— *subarquata*, Temm. Tolerably common.

— *Temmincki*, Leisl. Very common.

— *minuta*, Leisl. Very common.

Phalaropus platyrhynchus, Temm. Rare.

Tadorna rutila, Steph. Common.

— *Bellonii*, Steph. Very rare.

Anas clypeata, Linn. Moderately common.

Chauliodus Strepera, Swains. Moderately common.

Dafila acuta, Linn. Common.

Querquedula circea. Very common.

— *Crecca*. Very common.

Mareca Penelope, Selb. Not common.

Fuligula rufina, Steph. Very common.

— *Nyroca*, Steph. Very common.

— *cristata*, Steph. Not common.

— *ferina*, Steph. Not common.

July 26, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

The following memoirs were read:—

“Observations on the Semen and Seminal Tubes of Mammalia and Birds,” by George Gulliver, F.R.S.

It has long been known that the testicles of Birds become much enlarged in the spring, and that the same organs of Mammalia are more or less increased in size at the rutting-season, and in young animals generally as they become capable of reproduction. Professor R. Wagner (*‘Physiology,’* translated by Willis, pp. 23 and 27) has noticed also the enlargement of the seminal tubes of all these animals at the periods above named; but as I am not aware that we possess any observations on this head sufficiently numerous and precise to be useful for reference and comparison, I am induced to submit to the Society a contribution towards this object, particularly as it appears to me that the condition of the semen and testicles at different periods is an interesting inquiry in relation to the habits and economy of animals.

During winter the coats of the seminal tubes of Birds are tolerably strong and thick. The increased size of the tubes at the season of procreation arises from the accumulation of semen within them, by which their coats are so much distended and attenuated that they are most easily ruptured, and are much thinner than the corresponding parts of Mammalia are at any time.

In the following table the measurements are all expressed in vulgar fractions of an English inch*, and where only one fraction is given it denotes the average size. With the exceptions dated November and December, the animals were all examined during the present year, and, unless noted to the contrary, they were adults. In Birds the left testicle, which is commonly somewhat larger than the right, was generally the subject of observation.

Table of Measurements of the Seminal Tubes, and of remarks on the state of the Semen and Testicles at different seasons.

Date.	Name of Animal.	Size of Tubes.	State of Testes, &c.
Feb. 4.	Man, æt. 22	1-142 to 1-77	Scarcely any fluid in testes. Died of pulmonary consumption.
Nov. 9.	Ditto, æt. 56	1-150 to 1-73	Died of chronic pericarditis. No spermatozoa.

* I take this opportunity of remarking, that all my microscopic measurements have been invariably given in vulgar fractions of an English inch, however they may have been set up in type for the sake of convenience.

Table (continued).

Date.	Name of Animal.	Size of Tubes.	State of Testes, &c.
Nov. 11.	Man, æt. 53	1-150 to 1-80	Died of pericarditis, enlarged heart, and old pleuro-pneumonia. A few spermatozoa in epididymis.
Dec. 7.	Ditto, æt. 42	1-133 to 1-86	Died of phthisis. Some spermatozoa in epididymis.
Nov. 14.	Ditto, æt. 73	1-133 to 1-73	Died of phthisis. Tubes filled with dark, round, and very minute particles; these chiefly aggregated together in irregular masses, and occasionally in the form of round or oval corpuscles with delicate cysts. No spermatozoa.
Nov. 17.	Ditto, æt. 60	1-146 to 1-82	Died of phthisis. Seminal tubes in the same condition as the preceding.
Dec. 10.	Ditto, æt. 86	1-160 to 1-100	Died of pneumonia. Had fatty matter in liver, lungs, and testes; no spermatozoa; tubes in the same condition as in the two preceding.
Aug. 25.	Child, æt. 8	1-422	Died of pulmonary consumption.
Dec. 1.	Child, æt. 18 months	1-400 to 1-266	Child puny and emaciated. Died of pneumonia.
July 15.	Child, æt. 4 months	1-308	Died of tubercles of mesenteric glands.
Oct. 25.	Child, æt. 6 weeks	1-333 to 1-230	Body much emaciated. Died of pneumonia.
Aug. 25.	Child, still-born	1-307	Well-nourished fœtus; born at the full period of utero-gestation.
Oct. 14.	Ditto	1-363 to 1-210	Fœtus weighed 7 lbs.
Oct. 23.	Ditto	1-300 to 1-222	Fœtus weighed 6 lbs.
Nov. 5.	Ditto	1-400 to 1-266	Weight of fœtus 5½ lbs.
June 15.	<i>Vespertilio Pipistrellus</i> , <i>Geoff.</i> ..	1-200 to 1-171	Seminal matter containing abundance of molecules, but no spermatozoa.
June 15.	<i>Erinaceus Europæus</i> , <i>Linn.</i> ...	1-109 to 1-75	No animalcules. Died of disease.
April 30.	<i>Sorex tetragonurus</i> , <i>Herm.</i>	1-109 to 1-85	Semen and spermatozoa very abundant. Many male shrews found dead, with marks of injuries, apparently from fighting; and in

Table (continued).

Date.	Name of Animal.	Size of Tubes.	State of Testes, &c.
July 16.	<i>Canis familiaris</i> , <i>Linn.</i>	1-125 to 1-85	all these the testes were very turgid. A mongrel. Spermatozoa abundant.
Feb. 15.	Ditto; a still-born puppy	1-250	
Dec. 30.	<i>Felis Leo</i> , <i>Linn.</i> (3 years old) ...	1-200 to 1-150	Died of disease of the brain. Molecules abundant, and a few cells containing spermatozoa.
Nov. 6.	<i>Felis domestica</i> , <i>Briss.</i> (nine months old)	1-141 to 1-85	Spermatozoa plentiful.
Oct. 4.	<i>Arctonyx collaris</i> , <i>F. Cuv.</i>	1-100 to 1-60	Tubes large. Spermatozoa rather plentiful. Some cells and numerous molecules. Died in confinement.
Oct. 15.	<i>Ursus Americanus</i> , <i>Pall.</i>	1-200 to 1-125	No spermatozoa. Seminal tubes full of dark-coloured pulp, in which were only visible some altered epithelial cells and numerous oily globules. Died in confinement.
Jan. 6.	<i>Mustela vulgaris</i> , <i>Linn.</i>	1-171 to 1-109	Molecules plentiful in semen; no spermatozoa.
May 20.	<i>Mustela erminea</i> , <i>Linn.</i>	1-120 to 1-80	Spermatozoa plentiful; scarcely any molecules.
April 30.	<i>Cervus Wapiti</i> , <i>Mitch.</i>	1-160 to 1-100	Many perfect spermatozoa; molecules scanty; animal 24 months old. Died of diseased kidneys.
Jan. 12.	<i>Cervus Elaphus</i> , <i>Linn.</i>	1-117 to 1-105	Perfect spermatozoa very abundant; many in different stages of development.
Jan. 12.	<i>Cervus Dama</i> , <i>Linn.</i>	1-160 to 1-100	Perfect spermatozoa very numerous; many in cells.
April 6.	Ditto	1-160 to 1-100	Spermatozoa abundant; none in cells.
Jan. 26.	Ditto, foetus 6 inches long	1-666 to 1-363	Tubes full of corpuscles about 1-2800th of an inch in diameter: no molecules.
March 26.	Ditto, 14 inches long	1-333 to 1-285	Ditto.
June 22.	<i>Antilope picta</i> , <i>Pall.</i>	1-120 to 1-80	Semen and spermatozoa abundant.
Dec. 31.	Ditto (died a few hours after birth)	1-571 to 1-363	Contents of tubes as in other immature animals.
May 28.	<i>Capra Hircus</i> , <i>Linn.</i> (12 weeks old)	1-266 to 1-171	Semen containing abundance of molecules, and rudimentary spermatozoa in cells.

Table (continued).

Date.	Name of Animal.	Size of Tubes.	State of Testes, &c.
Feb. 24.	<i>Ovis Aries</i> , <i>Linn.</i> (just born) ...	1-571	Tubes very small.
Nov. 2.	<i>Camelus Dromedarius</i> , <i>Linn.</i> ...	1-120 to 1-75	Died of dropsy. Spermatozoa plentiful; some rudimentary in cells, with corpuscles; molecules scanty.
Dec. 10.	<i>Sciurus vulgaris</i> , <i>Linn.</i>	1-120 to 1-60	A few spermatozoa.
Nov. 29.	<i>Lepus cuniculus</i> , <i>Linn.</i>	1-150 to 1-92	But few spermatozoa.
Jan. 18.	<i>Mus decumanus</i> , <i>Linn.</i>	1-46 to 1-42	Spermatozoa very abundant; tubes large.
Jan. 18.	Ditto, two-thirds grown	1-120 to 1-109	No spermatozoa.
Jan. 18.	Ditto ditto	1-133 to 1-120	Ditto.
Nov. 3.	<i>Mus musculus</i> , <i>Linn.</i>	1-80 to 1-66	Spermatozoa abundant.
Nov. 11.	Ditto, three-fourths grown	1-120 to 1-86	A few free spermatozoa; a great number immature in cells; molecules pretty abundant.
Feb. 17.	Ditto (blind sucking young one).	1-400 to 1-222	
May 5.	<i>Strix flammea</i> , <i>Linn.</i>	1-230 to 1-133	Died in confinement. Testis one-third of an inch long and one-tenth broad.
March 16.	<i>Corvus frugilegus</i> , <i>Linn.</i>	1-75 to 1-46	Testis one inch long and three-fourths broad; semen and animalcules very abundant; no molecules.
Feb. 25.	<i>Sturnus vulgaris</i> , <i>Linn.</i>	1-250 to 1-166	Testis black, one-fifth of an inch long and one-eighth broad; no spermatozoa; molecules very abundant.
March 18.	Ditto	1-80 to 1-50	Testis brownish white, three-fourths of an inch long and four-tenths broad; spermatozoa abundant; no molecules.
April 27.	<i>Philomela luscina</i> , <i>Sw.</i>	1-75 to 1-60	Testis one-fourth of an inch long and one-fifth broad, containing a little black pigment; spermatozoa abundant.
April 6.	<i>Sylvia Phragmitis</i> , <i>Bechst.</i>	1-68	Spermatozoa abundant; testis same size as the Nightingale's.
Jan. 9.	<i>Fringilla domestica</i> , <i>Linn.</i>	1-333 to 1-222	Testis one-twelfth of an inch in diameter; no spermatozoa.
Feb. 2.	Ditto	1-250 to 1-200	Testis one-twelfth of an inch in diameter; no spermatozoa; many molecules.
March 4.	Ditto	1-166 to 1-109	Testis one-seventh of an inch long and one-tenth broad; numerous cells, about 1-

Table (continued).

Date.	Name of Animal.	Size of Tubes.	State of Testes, &c.
May 3.	<i>Fringilla domestica</i> , <i>Linn.</i>	1-80 to 1-66	1000th of an inch in diameter; great abundance of molecules; no perfect spermatozoa. Testis one-third of an inch long and one-fourth broad; spermatozoa plentiful; molecules not abundant.
Feb. 28.	<i>Fringilla Cœlebs</i> , <i>Linn.</i>	1-90 to 1-71	Testis one-tenth of an inch in diameter; numerous cells containing rudimentary spermatozoa, but none perfect; molecules very numerous.
May 4.	<i>Emberiza Citrinella</i> , <i>Linn.</i>	1-80 to 1-60	Testis one-third of an inch long and one-fourth broad, containing a little yellow pigment; spermatozoa very numerous; molecules not abundant.
May 22.	<i>Cuculus canorus</i> , <i>Linn.</i>	1-100 to 1-66	Testis one-fifth of an inch in diameter, of an intense yellow colour; numerous staff-like bodies in semen 1-2666th of an inch long and 1-25,000th broad. Died in confinement.
Nov. 26.	<i>Picus minor</i> , <i>Linn.</i>	1-571 to 1-363	Testis size of a rape-seed; no spermatozoa or molecules.
May 31.	<i>Cypselus Apus</i> , <i>Flem.</i>	1-130 to 1-100	Testis one-third of an inch long and one-fifth broad; spermatozoa numerous; molecules scanty.
Dec. 5.	<i>Columba Livia</i> , <i>Briss.</i>	1-444 to 1-285	Testis about as big as a hemp-seed; no spermatozoa; a few molecules.
May 12.	<i>Sterna Hirundo</i> , <i>Linn.</i>	1-240 to 1-200	Testis one-tenth of an inch in diameter; no spermatozoa; molecules plentiful.

Molecules of the Semen.—The molecules mentioned in the preceding table are minute, smooth, circular particles, much resembling, both in chemical and physical characters, the “minute oil-like spherules” which I have depicted in the juice of the supra-renal bodies (Appendix to Gerber’s Anatomy, p. 103). The “minute shining globules and smaller molecules,” described by Professor R.

Wagner in the semen of some Mammalia, and the "apparently spherical and dense particles" observed by Dr. Davy (Researches, Physiological and Anatomical, vol. i. p. 332) in the fluid of the human testicle, and which particles he conjectures may be the ova of the spermatozoa, are perhaps identical with the molecules of the semen. They are commonly rather smaller than the particles of the supra-renal gland. I have made many measurements of the molecules of the semen, and find them generally to be 1-20,000th of an inch in diameter, but almost always varying from 1-35,000th to 1-8000th, and of course not at all approaching in size and other respects to the well-known corpuscles and cells of the semen. The molecules, especially those of larger size, refract the light strongly; the smaller ones appear dark and opaque in the centre when the focus of the object-glass is elongated, and bright and transparent when the focus is shortened; while the smallest of all, like those of the supra-renal gland, often seem quite black or opaque, and exhibit very lively vibratory motions, particularly when diluted with water or acetic acid.

That the molecules are connected with the perfecting of the semen, would appear from the fact that they are most abundant in birds and reptiles when the testicles begin to enlarge, and either wholly disappear or become scanty as soon as the testicles are perfectly ripe and the spermatozoa most completely evolved. But very minute vibratory particles are often observable in the seminal tubes of foetal animals.

The figure of the molecules, like that of many other particles equally small, is apparently spherical, and, as already mentioned, they may present either a dark or bright central spot. But, as noticed in the Atlas to Gerber's Anatomy, p. 59, it is difficult to determine the exact shape of particles so exceedingly minute; and the elaborate researches of Dr. Barry (Phil. Trans. 1841, part 2) have rendered it probable that some of the particles which I have formerly mentioned (Appendix to Gerber's Anatomy, and London Medical Gazette for May and November, 1839) as "minute spherules" and "spherical molecules," are in reality discs.

Pigment.—In the foregoing table the black and yellow colour of the testicles of certain birds is noticed. I have carefully examined the black matter of the starling's testicles, and found it to be composed of very distinct pigmentary ramifications, made up of most minute particles, many of which, when floating in the field of vision, exhibit exceedingly active motions. In the winter the testicles are quite black, and the pigment, perhaps from the small size of the tubes, seems to be contained within them; but when the testicles are enlarged in the spring, they present a lighter or brownish white colour, from the accumulation of semen, and the pigmentary ramifications are evidently situated in or close to the coats of the tubes, the boundaries of which may be easily seen with a common hand-lens to be marked out by the black pigmentary dots.

Spermatozoa of the Cervidæ and Camelidæ.—Professor Wagner (Physiology, by Willis, p. 34) regards the spermatozoa as essential

elements of the seminal fluid; and that the spermatozoa are essential to prolific semen seems now to be generally allowed. I merely mention the subject in connection with the statement of Sir Everard Home (Lectures on Comp. Anat., vol. v.; well commented on in Dr. Davy's Researches, vol. i. p. 339), that the seminal animalcules have no real existence, and especially that he and Mr. Bauer had searched for them in vain, and with the best instruments and opportunities, in the seminal fluid of the fallow deer during the season of the rut.

I now exhibit to the Society drawings of the spermatozoa of the fallow deer, wapiti, and red deer, and shall be happy to show my preparations of the animalcules to any one who may be curious about them. I have repeatedly had opportunities of examining the spermatozoa of the fallow deer, and though they are most abundant at the time of the rut, they may be found commonly enough at other seasons. After the rut was passed in January and February, I found the spermatozoa plentiful in the red and fallow deer at Windsor. The animalcules were even then in various stages of development; some coiled up two or three together, in cells, with granular matter; others were still more rudimentary; many appeared just ready to escape from the cells, while a still greater number were free and lively in the seminal canals. In the body of the spermatozoon of the red deer there is occasionally an appearance of internal granules or vesicles, as shown in the drawing.

As the *Camelidæ*, like the oviparous *Vertebrata*, have oval blood-corpuscles, it was interesting to ascertain the form of the spermatozoa of this ruminant family. In the dromedary I found that the seminal animalcules were much like those of other Mammalia, and so nearly resembling the animalcules of the *Cervidæ*, that there was a difference only of size, the spermatozoa of the dromedary being slightly smaller than those of the deer.

Chemical characters of the spermatozoa.—It is remarkable that the spermatozoa of Mammalia are but little or not at all affected by many chemical agents which quickly act on various other animal matters. These spermatozoa preserve their form and appearance when treated severally with nitric, muriatic, acetic, oxalic, tartaric and citric acids; with concentrated solutions of earthy, alkaline, and metallic salts; and with liquid ammonia.

But the spiral spermatozoa of birds are quickly dissolved, destroyed, or reduced to the most minute particles, by the acetic and other vegetable acids, while these animalcules are not much affected by muriatic acid, nor by caustic ammonia and saline solutions. Yet the cylindrical or club-shaped spermatozoa of birds are more nearly allied in chemical characters to the spermatozoa of Mammalia. The seminal animalcules of the common swift (*Cypselus Apus*), for example, remain perfectly entire and distinct after having been subjected to the action of citric or acetic acid. It may be incidentally mentioned that the spermatozoa of the snake (*Natrix torquata*) are not affected by acetic acid.

The matter in the seminal canals of Mammalia and Birds, when it

contains plenty of corpuscles, of which indeed it is almost entirely made up in immature animals, from the embryo upwards, is rendered ropy by alkalies and by saline solutions. This action of these solutions, which is very remarkable on all animal fluids containing a great quantity of fresh primary or isolated cells, appears to take place from the effect on them of the reagents, as I have elsewhere described with respect to the lymph-globules (Gerber's Anatomy, Appendix, pp. 91, 96, and 97). In some recent experiments, however, these globules were not destroyed, but only a little misshapen or made rather fainter, after having been kept some days in solutions of muriate of ammonia and other salts.

“Descriptions of new species of *Delphinula*, a genus of Pectinibranchiate Mollusks (Family *Turbinacea*),” by Mr. Lovell Reeve.

DELPHINULA TYRIA. *Delph. testâ subdiscoideâ, squameâ, anfractibus argenteo-albis, supernè et infernè Tyrio-purpureis, laxè convolutis, umbilicum lævem lacco-purpureum formantibus, angulatis, squamis minutis, in seriebus parallelis dispositis, totaliter tectis; angulo serie unicâ majore funiculato; spirâ depresso-planâ.*

Icones Reeve, Conch. Syst., vol. ii. pl. 211. f. 6.

Long. $2\frac{1}{2}$; lat. $1\frac{3}{4}$. Mus. Cuming, &c.

Hab. Ad oras Novæ Hollandiæ.

This is the first discovered large species of *Delphinula* that is absolutely destitute of spines or nodules. The surface of the shell, which is entirely covered with small scales ranged in parallel series, is of clear silvery white; the upper and lower portions of the whorls are tinged with a rich Tyrian purple, and the umbilicus, which is smooth, is of a lighter lake purple.

DELPHINULA IMPERIALIS. *Delph. testâ subdiscoideâ spiniferâ et squameo-liratâ, anfractibus olivaceo-iridibus, ultimo pallidè purpureo, laxè convolutis, umbilicum amplum formantibus, subangulatis, angulo spinis gracillimis, squamæformibus, nigris, supernè inflexis, coronato; anfractuam parte alterâ spinis brevioribus, contrariè inflexis, in seriebus dispositis, interstitiis squamis nigris, minutis sigillatim impositis, ornatis; spirâ depresso-concavâ.*

Delphinula melanacantha, Reeve, Conch. Syst., vol. ii. pl. 211. f. 4. and pl. 212. f. 10.

Long. $2\frac{3}{4}$; lat. $1\frac{3}{4}$ in. Mus. Cuming.

Hab. Ad insulam Mindanao, Philippinarum.

A magnificent specimen of this remarkable shell was dredged up by Mr. Cuming in — fathoms' water at —, one of the Philippine Islands, and we need only refer to our figures of it in the 'Conchologia Systematica,' in addition to the above description, to show how distinct is this species from any other of the genus. The shell is of a palish-green colour towards the apex, but the last whorl is purple and elegantly surmounted with a row of tall, black, slender, scale-like spines, bending over towards the point of the spire. Be-

low these are five other distinct rows of black spines; they are, however, shorter, and bend the contrary way, whilst the entire surface of the shell is ornamented with a number of very fine ridges of minute scales. We gladly avail ourselves of the opportunity of restoring to this shell the name by which it is commonly known amongst collectors, though not hitherto published.

DELPHINULA INCISA. *Delph. testá globoso-discoideá, liris purpureis angustis, subflexuosis, interstitiis albis profundè incisis, totaliter tectá; anfractibus tuberculis grandibus, complicatis, distantibus, in seriebus duabus dispositis, ornatis; aperturá rotundá, margine inferiori lacunatá; spirá depresso-planá.*

Icon. Reeve, Conch. Syst., vol. ii. pl. 212. f. 11.

Long. $1\frac{9}{10}$; lat. $1\frac{1}{2}$ in. Mus. Cuming.

Hab. Ad insulam Buriás, Philippinarum.

This shell, which we believe to be at present unique, in the collection of Hugh Cuming, Esq., is well-characterized, by having a double row of large, pinched, stunted tubercles; and the tubercles, as well as the entire surface of the shell, is covered with a number of purple flexuous ridges, the interstices being white and unusually deeply cut.

DELPHINULA FORMOSA. *Delph. testá rotundá subdiscoideá, levitèr nodiferá, aureo-ochraceá, cocceo-tinctá, anfractibus perangularatis, angulo squamis grandibus, triangularibus valdè compressis, coronato; anfractuum parte inferiori squamarum minorum seriebus duabus, squamulisque ochraceo-coccineis minutis in seriebus parallelis, subflexuosis, dispositis, ornata; umbilico amplo purpureo-lacco vividè colorato; spirá plano-convexá.*

Icon. Reeve, Conch. Syst., vol. ii. pl. 212. f. 9.

Long. $1\frac{5}{10}$; lat. 1 in. Mus. Cuming.

Hab. Ad insulam Capul Philippinarum.

A very richly-coloured shell, found by Hugh Cuming, Esq., at Capul, one of the Philippine Islands, in seven fathoms' water. The upper portions of the whorls are clothed with a rich golden yellow colour, deeply tinged with scarlet or crimson; the lower part of the whorls are of a peculiarly soft white, and the umbilicus in all the specimens we have seen is coloured with a deep purple lake, entirely free from any indication of the yellow that ornaments the obverse portion of the shell.

DELPHINULA ACULEATA. *Delph. testá subdiscoideá, aculeatá, albidá, anfractibus perangularatis, angulo spinis squamæformibus flexuosis, dorsim coccineis, coronato, anfractuum parte inferiori spinarum seriebus duabus, aculeolisque squamæformibus in seriebus parallelis dispositis, ornata; spirá depresso-planá.*

Icon. Reeve, Conch. Syst., vol. ii. pl. 212. f. 8.

Long. $1\frac{1}{10}$; lat. $\frac{9}{10}$ in. Mus. Cuming.

Hab. Ad insulam Ticao Philippinarum.

This shell is not much unlike that of the preceding species; it differs, however, in having the angle of the outer whorl crowned with

a row of irregular, thin, flexuous, scale-like spines, the back of each being ornamented with scarlet, the only portion of colour in the shell; the surface is remarkable in being covered with a number of sharp prickles, particularly within and around the umbilicus.

Mr. Reeve also described a new species of the genus *Murex*.

MUREX STAINFORTHII. *Mur. testá subsolidá, globoso-ovatá vix fusiformi, multivaricosá, superficie pallido-aurantiá, epidermide tenui indutá, transversim lirátá, liris fusco-lineatis; spirá breviusculá, apice subobtusó; anfractibus quinque, suturis indistinctis; anfractu ultimo varicibus octo ornato, cæteris, varicibus decorticatis, ferè obsolete; varicibus per totam longitudinem densissimè frondosis, frondibus acutissimis, recurvis; canali brevi, latiusculo; aperturá rotundá, fauce crenulatá, politá, utrinque vividè aurantiá.*

Long. $2\frac{1}{10}$; lat. $1\frac{1}{2}$ in. Mus. Inwood.

Hab. —?

The very beautiful and characteristic shell above described has been handed to us by its fortunate possessor, Henry Inwood, Esq., accompanied with a request that it be named in honour of one of our most assiduous collectors, the Rev. Mr. Stainforth. And it is with no little pleasure that we have executed the task; for a shell more chaste in its colour and development, or more striking in its specific character, we do not remember to have seen. It is of a solid and somewhat globose structure, and is profusely ornamented with varices; there are eight distinct varices on the last whorl, and the remains of a similar number are visible on each of the former; but in the specimen before us, and which we believe to be unique, they are so decorticated as to have become almost obsolete. Each varix appears to have been formed by the sudden development of a number of coatings laid successively one upon the other. The edge of each of these coatings is then ornamented with a row of fine prickly branches, recurved back over the shell, and they only remain perfect to the last coating in consequence of those of the previous or under coatings having been necessarily in part removed or absorbed; unless indeed the under coatings are too rapidly developed, the one over the other, to allow of their marginal branches attaining the regularity and beauty of the last. The varix altogether has thus the appearance of being thickly studded from top to bottom with these delicate prickles: so delicately indeed are they formed, that it is only on the last or marginal varix of the shell that they remain in perfect order; in tracing them back round the body whorl, they may be observed to have become gradually more and more eroded. Should a specimen of this shell be found with all the varices in the same beautiful order as the marginal varix in this, it would indeed be "fair to look upon." The canal is rather short; the outer lip is strongly crenulated, and the crenulæ extend within the mouth of the shell, the whole of them, together with the broad columella, being covered with a highly polished orange enamel.

A letter from George Robert Gray, Esq., addressed to the Curator, was next read. This letter refers to the members of J. E. Gray's genus *Tetraogallus*, or Mountain Partridge, a rare species of which is at present in the Society's menagerie, having been brought from Northern Persia, and presented to the Society by E. W. Bonham, Esq., H.B.M. Consul at Tabrez. Mr. G. R. Gray is of opinion that there exist three species of the genus *Tetraogallus*, each peculiar to one of the three following localities, viz. Caucasus, the Himalayan and the Altai Mountains.

The bird in the Society's menagerie, Mr. G. R. Gray observes, is well figured in plate 76 of Jardine and Selby's 'Illustrations,' and the specimen figured is, like that belonging to the Zoological Society, from Persia. It is peculiar in having the head, neck and breast of a slate colour, passing into pale reddish brown on the upper part of the back; a dingy white streak extends from the nostril to the anterior angle of the eye; the chin and throat, as well as an oblong patch on the side of the neck, are white; the breast is of a dark slate colour, and has short wavy black lines, especially just below the white of the throat. The figure referred to represents the typical *Lophophorus Nigelli*, which is most probably identical with the *Tetrao Caucasica* of Pallas; and if this supposition be correct, the earlier specific name given by the author just mentioned should be retained, as *Tetraogallus Caucasicus*.

Mr. G. R. Gray also believes the *Chourтка alpina* of Victor to be the same species as the bird under consideration.

In plate 141 of Messrs. Jardine and Selby's 'Illustrations,' a *Tetraogallus* is represented, which the authors suppose to be the male of the bird figured in plate 76; this is also delineated under the name of *Tetraogallus Nigelli* by Mr. J. E. Gray in the 'Indian Zoology.' This bird Mr. G. R. Gray, however, considers a distinct species, which is peculiar to the Himalaya Mountains, whence he has seen many specimens, all agreeing in colour. For this species the name *Tetraogallus Himalayensis* is proposed. It is distinguishable by its silky white neck and breast; a deep chestnut-brown line runs down, and partly surrounds the base of the neck, and the breast is variegated in front with black, each plume having a transverse band on the middle, which partly appears below the white tips of the other feathers.

The third species, *Perdix altaica* of M. Gebler, the distinctness of which there can be no doubt of, has the breast-feathers grey-black at the base; and this colour extends along the shafts, and forms an arched spot on each side of each feather: the under tail-coverts are white. It should be named *Tetraogallus altaicus*.

August 9, 1842.

Richard Owen, Esq., Vice-President, in the Chair.

The following paper, "On the Blood-Corpuscles of the Ibex," by George Gulliver, Esq., F.R.S., was read.

Before my discovery of the singularly minute size of the blood-corpuscles of the Musk Deer*, those of the Goat were the smallest known. I have since found that the corpuscles of the Ibex are slightly smaller than those of the Goat, and therefore intermediate in size to the corpuscles of the Goat and those of the Musk Deer, as will be shown by the following measurements, which are given in vulgar fractions of an English inch. For the sake of comparison, the dimensions of the discs of the two latter animals are copied from my 'Tables of Measurements of the Blood-Corpuscles of Mammalia†.'

Ibex from Candia (*Capra Caucasica*, Guld.).

1-7500	} Common sizes.	Pale Globules of the Blood,
1-7275		1-3200 Common size.
1-7200		1-4000 Small ditto.
1-7000		1-2666 Large ditto.
1-6858		<hr/>
1-6752		1-3200 Average ditto.
1-6665		
1-9142	Small size.	
1-5650	Large ditto.	
<hr/>		
1-7020	Average ditto.	

Common Goat (*Capra Hircus*, Linn.).

1-6665	} Common sizes.	Pale Globules of the Blood.
1-6400		1-3000 Common size.
1-6000		1-3555 Small ditto.
1-8000	Small size.	1-2666 Large ditto.
1-5333	Large ditto.	<hr/>
<hr/>		1-3032 Average ditto.
1-6366	Average ditto.	

* See Med. Chir. Trans., vol. xxiii.; Dublin Med. Press, Nov. 27, 1839; Annals of Nat. History, Dec. 1839; and Lond. and Edin. Phil. Mag. of the same date.

† See Appendix to Gerber's Anatomy.

Napu Musk Deer (*Moschus Javanicus*, Pallas).

1-13400	} Common sizes.	Pale Globules of the Blood.
1-12000		1-3200 Common size.
1-16000	Small size.	1-4000 Small ditto.
1- 9600	Large ditto.	1-2666 Large ditto.
<hr/>		<hr/>
1-12325	Average ditto.	1-3200 Average ditto.

I may add that Mr. Siddall, who has lately at my request measured the blood-corpuscles of the Ibex and of the Goat, has obtained almost exactly the same results as those above specified.

Mr. Gulliver also communicated a paper "On the Blood-Corpuscles of the British Ophidian Reptiles." To this communication are added some observations on the figure of the blood-corpuscles of other oviparous Vertebrata.

"The observations were made on perfectly fresh blood, and the corpuscles measured as they floated in the serum.

"Though the blood-discs of Birds and Reptiles preserve their shape very clearly when rapidly dried on a slip of glass, they generally appear in this state slightly but distinctly smaller than when suspended in the serum of recent blood; whereas, when the blood-discs of Mammalia are dried in precisely the same way they are commonly slightly larger than in the wet state, as I have noticed more particularly in the 'Philosophical Magazine' for January and February 1840, pp. 25 and 105."

"In Mammalia the envelope of the corpuscle is more delicate, more susceptible of contraction and of modifications of form, and apparently softer, than in Birds and Reptiles; so that the corpuscles of Mammals are more liable to shrink a little soon after removal from the circulating channels, than the corpuscles of Birds and Reptiles; and it may be that this softness of the blood-disc of Mammals allows it to spread out in some degree, even when dried ever so quickly. But it is more probable that the corpuscles preserve their usual size and form when dried almost instantaneously, and that the shrinking or modifications of shape which the corpuscles may undergo in liquid, coagulating, or slowly-dried blood, may be influenced as much by changes in the surrounding fibrine as by a contractility inherent in the corpuscles. The envelope of the blood-disc of Fishes is much more delicate and evanescent than the same part in Birds and Reptiles; hence in the blood of Fishes, even soon after death, the nuclei will be observed in great abundance, while the envelopes have partially-or entirely disappeared; and the form of the entire corpuscles is not so easily preserved by drying as in the other oviparous vertebrate animals.

"The following measurements of the blood-corpuscles of the Slow Worm, Snake, and Viper, are all expressed in vulgar fractions of an English inch. The common sizes are first set down, then a space is left; the small and large discs are next noted, and lastly the ave-

rage, deduced from the numbers above, is placed beneath the lines. L.D. stands for Long Diameter, and S.D. for Short Diameter.

March 19, 1842.—Slow Worm (*Anguis fragilis*, Linn.).

L.D.	S.D.
1-1200	1-2666
1-1143	
1-1333	1-4000
1-1067	1-2000
<hr/>	<hr/>
1-1178	1-2666

Pale Globules of the Blood (abundant).

1-2626
1-2900
1-2400
<hr/>
1-2626

Sept. 9, 1841.—Common Snake (*Natrix torquata*, Ray).

L.D.	S.D.	Thickness.
1-1333	1-2400	1- 8000
1-1455	1-2000	
1-1777	1-2666	1-10666
1-1090	1-1777	1- 7110
<hr/>	<hr/>	<hr/>
1-1371	1-2157	1- 8341

Nuclei, exposed by dilute acetic acid.

L.D.	S.D.
1-4000	1-7110
1-5333	1-9140
1-2900	1-5333
<hr/>	<hr/>
1-3835	1-6817

Pale Globules of the Blood (tolerably numerous).

1-2400
1-3200
1-1777
<hr/>
1-2322

“The pale globules were generally granular and opaque, though some of them were thin and transparent at the edges, as if growing into discs. In the blood there were many circular discs of a deep red colour, and generally 1-2666th of an inch in diameter. The regular discs were rounded at the edges, and almost all flat; but a

very careful search might occasionally detect one or two with slight gibbosity of the surfaces opposite to the nucleus.

March 24, 1842.—Viper (*Coluber Berus*, Linn.).

L.D.	S.D.
1-1333	1-1777
1-1500	1-2400
1-1067	1-1455
<hr/>	<hr/>
1-1274	1-1800

Nuclei, exposed by acetic acid.

L.D.	S.D.
1-3555	1-5333
1-3000	1-4800
1-4000	1-6400
1-2666	1-4000
<hr/>	<hr/>
1-3227	1-4986

“The discs were clearly gibbous on the surfaces opposite to the nucleus. The pale globules were very numerous, and their common diameter was 1-2666th of an inch.

“*Figure of the Corpuscles.*—From the preceding measurements it results, that although the blood-discs of the Viper and Snake present the form of an ellipse rather less than twice as long as it is broad, in the Slow Worm the elliptical figure of the discs is more elongated, since its length is considerably more than twice its breadth.

“As M. Mandl states, all observers had agreed that the long diameter of the oval blood-corpuscles of vertebrate animals was never more than one and a half or twice the short diameter, when he described the corpuscles of the *Crocodylidae* as forming a singular exception to this rule; because he found that the long diameter of the blood-discs of *Crocodylus Lucius* was between two and three times as much as the short diameter. I am not aware whether M. Mandl had examined any other species of this family; but, as described in the ‘Proceedings of the Zoological Society,’ Nov. 10, 1840, I found that in *Crocodylus acutus* and in *Champsia fissipes* the corpuscles had the most common oval form, the length being rather less than twice the breadth*.

“In the ‘Proceedings of the Zoological Society,’ June 9, 1840, I showed that the blood-corpuscles of some birds differ greatly in figure from the corpuscles of other congenerous species. The corpuscles of the Snowy Owl (*Syrnia nyctea*), for example, are singu-

* In an alligator, the species of which was not determined, I found the blood-corpuscles of the same shape. The animal came from Tampico Bay, Vera Cruz, and died at the gardens of the Society in the beginning of October 1842.

larly elongated ellipses, while the corpuscles of the Common Brown Owl have the usual oval form; and a similar peculiarity, though in a less degree, was observed in comparing the corpuscles of the Passenger Pigeon (*Columba migratoria*) with those of other allied species.

"Subsequently I have mentioned, in the 'Appendix to Gerber's Anatomy,' that the corpuscles of Birds may present, comparatively, either the figure of a very broad or of a very narrow ellipse. Of the latter shape, examples may be found in the corpuscles of the Great Butcher Bird (*Lanius excubitor*), Nightingale (*Philomela luscinia*), Snow Bunting (*Plectrophanes nivalis*); and of the former shape in the corpuscles of the Java Sparrow (*Loxia Javensis*), and several other granivorous birds.

"The nucleus of the blood-corpuscles of Birds, when exposed by acetic acid, has almost always a more elongated form than the unchanged envelope, as mentioned in the book just quoted. But to this rule I have since found a few remarkable exceptions. In the Common Fowl (*Gallus domesticus*), for instance, the nucleus is a very short ellipse, and even sometimes nearly or quite circular. For the difference between the shape of the nucleus, when exposed by acetic acid, or by soaking the corpuscles in water, a figure may be consulted which I have given to illustrate this subject in my 'Contributions to Minute Anatomy,' Lond. and Edin. Phil. Mag., August 1842, page 109."

A paper was then read from Mr. Gould, in which he gives the characters of two new genera of Birds, one belonging to the family *Sylviadæ* and the other to the *Psittacidæ*.

"Having observed," says Mr. Gould, "during my late visit to Australia, much difference to exist in the habits of the birds usually placed in the genus *Platycercus*, I was naturally led to investigate the matter as fully as circumstances would admit, and on examination of the two birds known as *Pl. erythropterus* and *Pl. scapulatus*, I found that the difference of their habits from those of the typical *Platycerci* was accompanied by a sufficient difference in their anatomy to warrant their separation into a distinct genus. Independently of the variations indicated in the generic characters given below, these birds are remarkable for possessing a tolerably well-developed *os furcatorium*, which bone is entirely wanting in the true *Platycerci* and *Euphemi*: in their habits they approach nearer to the Lories, are of a dull and sullen disposition, and do not readily become tame and familiar like the *Platycerci*; they are also essentially arboreal, procuring their food among the branches of the trees; while the *Platycerci* resort to the ground and feed principally upon grass seeds."

These two birds he therefore proposed to erect into a new genus, under the appellation of

APROSMICTUS.

Gen. Char. ut in Platycerco.—*Rostrum* attamen debilius, ceromate plumis tenuibus instar pilorum nares adumbrantibus instructo.

Alæ longiores et minùs concavæ. *Cauda* magis quadrata. *Tarsi* breviores. *Digit*i longiores.

Types.—*Platycercus scapulatus* and *erythropterus*, which will now stand as *Aprosmictus scapulatus* and *A. erythropterus*.

The other birds which Mr. Gould proposed to form into a new genus are the *Petroica rhodinogaster* of Messrs. Jardine and Selby, and the *Petroica rosea* of himself. These birds are much more arboreal in their habits than the true *Petroicas*, which are expressly adapted for the ground, while these are equally so to the thick brushwood, to the deepest gullies among which they usually resort. For this group he proposed the designation of

ERYTHRODRYAS.

Gen. Char. ferè ut in Petroicid.—*Rostrum* attamen brevius, ad basim magis depressum, et vibrissis tenuibus anticè ductis naresque adumbrantibus instructum. *Alæ* breviores, magis rotundatæ; primariis primo et secundo brevissimis, quinto longissimo. *Tarsi* breviores. *Digit*i longiores; externi inter se ferè æquales. *Ungues* acutiores et magis incurvati.

Type.—*Erythrodryas rhodinogaster* (*Petroica rhodinogaster*, Jard. and Selb.).

To this genus also belongs the species characterized by him in the Proceedings of the Zoological Society for 1839, p. 142, under the name of *Petroica rosea*, which will now stand as *Erythrodryas rosea*.

August 23, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Prince exhibited, on the part of Mr. Gould, two new species of Australian Birds. These Mr. Gould characterizes as follows:—

ASTUR CRUENTUS. *Ast. capite et occipite plumbeis; torque nuchali castaneo dorso, alis, caudaque eplumbeo-fuscis; fusco colore apud dorsum magis prævalente, plumbeo apud ceteras partes; remigum primorum pogoniis internis ad basim albescentibus et plumbeo-fasciatis; corpore inferiore ferrugineo, fasciis crebris, angustis et semicircularibus ornato.*

Male.—Crown of the head and occiput dark slate-colour; sides of the face grey; at the back of the neck a collar of chestnut-red; back, wings and tail slaty brown, the brown hue predominating on the back and the slate-colour upon the other parts; inner webs of the primaries fading into white at the base, and crossed by bars of slate-colour; the interspaces freckled with buff; inner webs of the tail-feathers marked in a precisely similar manner; chin buffy white; all the under surface rust-red, crossed by numerous narrow semicircular bands of white; irides bright yellow; cere dull yellow; bill black at the tip, blue at the base; legs and feet pale yellow; claws black.

Total length, $14\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, 7; tail, 6; tarsi, $2\frac{1}{2}$.

Hab. Western Australia.

This species is intermediate in size between *Astur approximans* and *Accipiter torquatus*, but is of a more grey or blue colour on the back, and has the transverse lines on the breast narrower and more rufous.

LOBIVANELLUS PERSONATUS. *Lob. vertice et occipite nigerrimis; faciei lateribus nuchâ, uropygio, et corpore inferiore albis; dorso et plumis scapularibus pallidè fuscescenti-cinereis; paleis pendentibus flavis; rostro ad basim flavis ad apicem nigris; pedibus e carneo-rubris.*

Crown of the head and occiput jet-black; sides of the face, back of the neck, rump, and all the under surface pure white; back and scapularies light brownish grey; wing-coverts grey; primaries deep black; secondaries white at the base on their inner webs, cinnamon-grey on their outer webs, and largely tipped with black; the extreme ends of the feathers being cinnamon-grey, particularly the two central ones; irides primrose-yellow; wattles lemon-yellow; bill lemon-yellow at the base, black at the tip; legs and feet carmine-red; the scales in front blackish green.

Total length, 12 inches; bill, $1\frac{3}{4}$; wing, $8\frac{3}{4}$; tail, 4; tarsi, $2\frac{3}{4}$.

Hab. North coast of Australia.

This species is of the same size, but more elegantly formed than the *Lob. lobatus*, the fleshy wattles more extensively developed, the crown of the head only black, and not the back and sides of the neck, as in that species.

Mr. Waterhouse exhibited several species of Mammals, collected in Borneo by the Society's Corresponding Member, James Brooke, Esq., and recently forwarded to England by that gentleman.

Among these specimens was a fine example of the *Paradoxurus Derbianus*, Gray, an animal which has also received the names *Paradoxurus Zebra*, *Hemigalea Zebra*, and *Viverra Boiei*.

Two specimens of *Gymnura*, a specimen of the *Prionodon gracilis*, and two species of Squirrel, also formed part of the collection.

The *Gymnuri* differ much in colouring from the *G. Rafflesii*. Instead of having the fur black, and with longer interspersed white hairs, the Bornean specimens are entirely of a yellowish white colour, with the exception of the long bristly hairs interspersed with the ordinary fur, which are some of them black. In other respects the Sumatran and Bornean specimens of *Gymnura* agree so closely that Mr. Waterhouse did not regard the difference in colouring as indicative of specific distinction.

The existence of the *Prionodon gracilis* in Borneo is noticed by Müller, who applies to the animal the name *Linsang gracilis*. Believing the skull of this animal had never been described or figured, Mr. Waterhouse called attention to the peculiarities in its structure.

In some of its external characters, especially in the structure of its feet, with their truly retractile claws, the *Prionodon* evinces an affinity to the Cats, which would lead the naturalist to seek for some corresponding points of resemblance in the skull; this, however, presents all the characteristics of the *Viverridæ*: it is of the same elongated form; the lower jaw is long and slender, and the rami are curved, so that the angular portion and symphysis are raised. Compared with other *Viverridæ*, the *Prionodon* skull is remarkable for the thinness of the bones and the very slight development of the muscular ridges. In general form it approximates more nearly to *Paradoxurus* than to *Viverra* or *Genetta*. The zygomatic arch, which is slender, is thrown more boldly outwards than in the last two mentioned genera, and the posterior portion of the cranium does not exhibit the sudden contraction immediately behind the posterior root of the zygomatic arch which we observe in the *Viverras* and *Genets*. The post-orbital process of the temporal bone is but little prominent, being in the form of an obtuse angle; the skull differing in this respect from that of *Paradoxurus*, as well as in having the palate continued considerably beyond the line of the posterior molars. The muzzle is much compressed. The temporal ridges are rather widely separated and but slightly marked, though, judging from the dentition, the animal was adult. The ant-orbital opening is larger than in *Genetta* and less advanced, and hence the branch of the superior maxillary which forms its upper boundary is narrower, as in *Paradoxurus*. In the form of the lower jaw there is a close ap-

proximation to *Paradoxurus*; the only important difference consists in the smaller antero-posterior extent of the coronoid process.

The teeth in *Prionodon* differ much from those of *Paradoxurus*; indeed, were the dentition alone to be considered, these two genera would be placed at opposite extremes of the Viverrine group, the last-mentioned genus evincing the nearest approach to an omnivorous diet, whilst the *Prionodon* possesses teeth the most unfitted for mastication.

The incisors are arranged closely together, and in a straight line; the incisor on each side of both jaws, nearest the canines, is rather larger than the others, which are slightly notched at the extremity. The canines are rather long, very slender, and moderately curved.

The false molars, which are $\frac{3 \cdot 3}{4 \cdot 4}$, are much compressed, high, and

sharply pointed. The foremost false molar, both of upper and lower jaws, is small, and has a small tubercle on the hinder part of the principal cusp. The second and third false molars of the upper jaw have each two small notches, and a corresponding number of small tubercles on the posterior margin and at the base of the principal cusp; and there is an indistinct tubercle in front, near the base: the second, third, and fourth false molars of the lower jaw have also the double notch behind, but differ in having a distinct, though small, anterior cusp. The first and second false molars of both jaws are separated from the other teeth and from each other by interspaces, of which the broadest is that which separates the second and third of these teeth in the upper jaw, the space here being nearly a line in width. The carnassier of the upper jaw very nearly resembles that of the Cat, but the central cusp is higher, and the inner tubercle is proportionally smaller. The carnassier of the lower jaw may be best described by comparing it with the corresponding tooth in the Genet, from which it differs only in having the cutting edges rather more produced, in being more compressed; the inner tubercle is more pointed, and the heel proportionately smaller. As regards the true molars, the present animal differs from other *Viverridæ* in possessing but one of these teeth on each side of the upper jaw; its true molars are therefore $\frac{1-1}{1-1}$, and this certainly does not arise from immaturity in the animal. The form of this tooth closely resembles that of the foremost of the two upper true molars in *Genetta*, but is proportionately rather smaller and the tubercles are somewhat more developed. The true molar of the lower jaw is a mere rudimentary tooth, and differs from that of *Genetta* and other *Viverridæ*, not only in its small size, but in being of a compressed form: its cutting edge is divided by notches into three parts.

In the possession of but one true molar in the upper jaw, *Prionodon* would appear to approach the *Felidæ*; but the structure of this tooth, it must be observed, is essentially the same as in the *Viverridæ*, and it is combined with a small true molar in the lower jaw, which is never found in the Cats.

On the whole, *Prionodon* approaches most nearly to the Genets as

regards its dentition; but in the general structure of the skull, Mr. Waterhouse observed, it evinced an affinity with the *Paradoxuri*, to which group it appeared to be linked by the *Paradoxurus Derbianus*, or *Hemigalea Zebra*. Links are nevertheless wanting to prove that *Prionodon* should be regarded as an offset from the *Paradoxurine* group.

One of the two Squirrels alluded to is the *Sciurus ephippium*, described in Dr. Müller's great work on the Zoology of the Dutch Possessions in the Indian Archipelago. The other closely resembles the *Sc. Prevostii* or *Rafflesii*, and may be a variety of that species; it differs in being smaller; the cheeks are freely pencilled with rusty red, instead of being grey as in *Rafflesii*, and the sides of the muzzle are of the same reddish hue, not having the white patch which is observable in Sir S. Raffles's Sumatran specimen; the outer side of the thighs has a grey tint, produced by the admixture of black and white; the hairs being of the former colour, but white or yellowish white at the point. In the type of *Rafflesii* the same part is furnished with uniform white hairs, excepting the hinder part of the thigh, which is black. The tail is uniform black in that animal, but the Bornean specimen has the hairs tipped with white in such a way as to produce rings; these rings, however, do not extend to the apical portion of the tail, about two inches of which is uniform black. The hairs covering the ears are partly black, but chiefly of the same rich rusty red as are all the under parts of the animal. The Sumatran animal has black ears. Dr. Müller, in the work before quoted, describes specimens of a squirrel from Borneo, which he regards as a variety of *Sc. Rafflesii*, and which agree closely with the specimen from Mr. Brooke's collection; this, however, has the hairs on the upper parts of the body of an uniform glossy black colour; Dr. Müller observes they are generally terminated with yellowish points in the specimens he met with.

September 13, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

The first paper read was from J. O. Westwood, Esq. It contains descriptions of some Coleopterous Insects from tropical Africa, belonging to the section *Heteromera*, and is the continuation of a paper on the same subject, communicated to the Society August 24th, 1841, an abstract of which will be found in the 'Proceedings' of that date.

Genus CALOSTEGIA.

Corpus magnum oblongum. *Caput* mediocre, clypeo margine antico recto, angulis anticis valdè porrectis basin labri recipientibus. *Antennæ* crassæ breves, articulis 7–10 præcedentibus majoribus, ultimo majori apice subacuto. *Mandibulæ* ad apicem bidentatæ denteque altero majori in vel versus medium marginis interni armatæ. *Maxillæ* lobo interno in dentem corneum obtusum hamatum terminato. *Palpi maxillares* articulo ultimo securiformi. *Mentum* latum lateribus rotundatis, basi valdè constrictum. *Labium* quadratum. *Palpi labiales* articulo ultimo ovali. *Prothorax* subquadratus anticè paullò latior, lateribus versus angulos anticos serratis. *Elytra* oblongo-ovalia lævia metalli-colorata. *Pedes* crassi, femoribus omnibus ante apicem bispinosi; tibiis intus, ante et pone medium sinuatis.

CALOSTEGIA PURPURIPENNIS. *Cal. nigra subopaca laevis, elytris purpureis sub lente tenuissime striato-punctatis.*

Long. corp. lin. 17; lat. elytror. ferè lin. 6.

Hab. in Ashantee. Mus. D. Hope.

NYCTOBATES MÆRENS. *Nyct. niger subnitidus, capite thoraceque sub lente tenuissime punctatis, elytrisque tenuissime striato-punctatis, pedibus longis, tibiis subincurvis, thoracis angulis posticis acutis.*

Long. corp. lin. $8\frac{1}{2}$; lat. elytr. pone medium lin. $3\frac{3}{4}$.

Hab. in Guineâ. In mus. nost. communic. D. Raddon.

Totus niger parùm nitidus. Caput margine antico (clypeo incluso) subsemicirculari, clypei utrinque incisione parvâ in lineâ obliquâ impressâ desinente distinguendo; lineâque alterâ impressâ longitudinali utrinque ad marginem internum oculorum. *Superficies* capitis regulariter punctata punctis parvis. *Antennæ* articulo primo crasso longitudine 4^{ti}, 2^{do} minuto, 3^{tio} longo, cæteris longitudine ferè æqualibus at sensim latioribus, 5 ultimis compressis setosis, ultimo ovali, basi truncato, apice rotundato. *Mandibulæ* subtrigonæ apice acutæ, intus edentatæ sed spatio mediano membranacco. *Maxillæ* lobo in-

terno in uncum corneum terminato. *Palpi maxillares* articulo ultimo securiformi. *Mentum* subquadratum anticè paulò latius, anticè carinâ curvatâ instructum: labium breve transversum ciliatum. *Palpi labiales* breves articulo ultimo dilatato-ovali apice truncato. *Prothorax* capite multo latior, margine antico truncato, lateribus rotundatis, angulis posticis acutis; marginatus, margine antico tamen in medio interrupto; superficies tota crebre punctata, punctis minutis et non approximatis. *Elytra* basi thorace latiora, humeris rotundatis; sensim latiora, apice utrinque parùm sinuata; dorso gibboso superficies sub lente quasi coriacea; singulo striis 9 e punctis minutis formatis oculo nudo vix conspicuis, striâ internâ propè scutellum abbreviatâ. *Pedes* longi, graciles, femoribus anticis crassioribus; omnibus apice inermibus; tibiis anticis pone medium parùm intus curvatis, apice externè intus setoso, extus obliquè truncato, tibiis 4 posticis subrectis, medio vix subincurvato, apiceque subinflexis; calcaribus omnibus minutissimis.

NYCTOBATES CONFUSUS. *Nyct. niger levis subnitidus, elytris latioribus, pronoti lateribus in medio sinuatis et sanguineo-marginatis.*

Long. corp. lin. 1; lat. elytr. pone med. lin. 5.

Hab. in Africâ æquinoxiali. Mus. Soc. Linn. Lond. D. Banks.

Caput nigrum, sub lente tenuissime punctatum carinâ longitudinali utrinque versus marginem internum oculorum. *Antennæ* articulis apicalibus latioribus. *Pronotum* transversè quadratum, angulis anticis obliquè truncatis et parùm rotundatis, lateribus in medio sinuatis tenuissime marginatis, angulis posticis acutis ferè rectangulis; sub lente tenuissime punctatum; lateribus latè et obscurè sanguineis, colore sanguineo ante medium intus acutè producto, dorso nigro; margine postico in medio versus scutellum parùm producto. *Elytra* nigra nitida lævia, latiora quàm in congenericis, præsertim pone medium, apicem versus attenuata; sub lente seriebus 8 longitudinalibus punctorum minorum. *Pedes* longitudine mediocres, graciles, tibiis simplicibus ferè rectis.

Individuum in mus. D. Hope vidi lineas $9\frac{1}{2}$ tantum habens, staturâque parùm minus robustâ; vix tamen species distincta.

NYCTOBATES PUNCTATUS. *Nyct. niger obscurus, prothoracis angulis anticis rotundatis, lateribus in medio incisis angulisque posticis acutis, elytris punctato-striatis, antennis sensim dilatatis.*

Long. corp. lin. $9\frac{3}{4}$; lat. elytr. pone med. lin. ferè 4.

Hab. in Guineâ. In mus. D. Hope, comm. D. Westermann.

Syn. Helops punctatus, *Fabr.*, Syst. Eleuth. i. 161.

Caput obscurum sub lente tenue punctatum; clypeo posticè impressione transversâ e vertice separato, carinâque utrinque ad marginem oculorum. *Antennæ* mediocres sensim ad apicem incrassatæ compressæ, linea tenui mediâ impressâ posticâ. *Prothorax* subquadratus angulis anticis rotundatis, lateribus in medio sinuatis, tenue marginatis, angulis posticis acutis et parùm extus productis; margine postico versus scutellum posticè producto. *Elytra* thorace haud multo latiora pone medium parùm latiora, singulo seriebus 8 longitudinalibus punctorum impressorum magnitudine irregularium, striâ-

que alterâ abbreviatâ versus scutellum; striis 1 et 2 ad basin connexis; striæ 5 et 6 longe ante apicem conjunguntur; striæ 3 et 4 propriores, 2 et 7, et 1 cum 8vâ connexis. *Pedes* longitudine mediocres, tibiis simplicibus et ferè rectis. *Mesosternum* anticè bidentatum, prosterni apicem acutum recipiens.

I give the insect here described as the true *H. punctatus*, Fab., on the authority of a specimen received by the Rev. F. W. Hope from Copenhagen, from M. Westermann, who has such excellent opportunities of determining those Fabrician species which were described from the cabinets of Lund and Sehestedt, as was the case with the present species. This is the more important, as the Fabrician description is so slight as to be applicable to scores of species of Heteromerous insects.

NYCTOBATES HYPOCRITA. *Nyct. niger subobscurus tenuissime punctatus, prothoracis lateribus subrotundatis integris angulis anticis acutis, antennis longioribus apice parùm latioribus.*

Long. corp. lin. $8\frac{3}{4}$; lat. elytr. pone med. lin. $3\frac{1}{2}$.

Hab. in Guineâ. In Mus. D. Hope, comm. D. Westermann.

Syn. *Iphthinus Hypocrita*, Dej., Cat. sine descr.; *Iphthinus Guineensis*, Westermann, MSS.

Niger subobscurus. *Caput* (præsertim in clypeo) et prothorax punctata; clypeus e vertice lineâ impressâ curvatâ vix separatâ, carinâ utrinque parùm elevatâ ad marginem internum oculorum. *Antennæ* graciles articulis 3 vel 4 ultimis parùm latioribus compressis. *Prothorax* subquadratus, lateribus subrotundatis marginatis integris angulis posticis acutis; margine postico ferè recto tenuè marginato. *Elytra* parùm convexiora quàm in reliquis; singulo sulcis 8 profundis longitudinalibus et punctatis, inter se connexis ut in specie præcedenti; pone medium paullò latiora et posticè acuminata. *Pedes* longiores, simplices, tibiis parùm curvatis.

NYCTOBATES TRANSVERSALIS. *Nyct. niger subobscurus subpunctatus, capite parvo, oculis magnis, antennis apice haud incrassatis, prothorace transverso angulis anticis rotundatis, lateribus integris, elytris striato-punctatis.*

Long. corp. lin. $9\frac{1}{2}$; lat. elytr. lin. 4.

Hab. apud Sierram Leonam. In mus. D. Hope et Waterhouse.

Caput sub lente punctatum, præsertim in clypeo magno transversovato, e vertice lineâ forti impressâ semicirculari diviso; oculi magni, angulis internis intus productis, spatio parvo intermedio tantum relicto; carinæ duæ interoculares subobsoletæ. *Antennæ* breves subdepressæ, articulis 7 ultimis subæqualibus apicem versus haud incrassatis. *Prothorax* latior quàm longus lateribus tenuè marginatis subrotundatis integris angulis posticis vix acutis; margine postico ferè recto; dorso tenuè punctato. *Elytra* ferè parallela, thorace latiora, angulis humeralibus obliquè truncatis longitudinaliter sulcatis, sulcis sub lente punctatis, striâque alterâ abbreviatâ versus scutellum. *Pedes* graciles simplices, tibiis ferè rectis.

NYCTOBATES BREVICORNIS. *Nyct. niger, capite et pronoto tenuis-*

sime punctatis, antennis brevibus, prothorace quadrato lateribus parallelis, elytris punctato-striatis, pedibus brevibus.

Long. corp. lin. 11; lat. elytr. lin. $4\frac{1}{4}$.

Hab. in mus. D. Hope.

Caput sub lente tenuissime punctatum, clypeo e vertice vix separato, carinisque interocularibus obsoletis, oculi margine interno rotundato. *Antennæ* vix capite longiores articulis 6 apicalibus compressis subæqualibus. *Prothorax* quadratus lateribus ferè rectis et parallelis angulis anticis rotundatis, posticis vero acutis margine postico in medio paullò rotundato-producto; disco tenuissime punctato lineâ tenuissimâ punctorum medianâ. *Elytra* subparallela elongata, prothorace parùm latiora, singulis seriebus 8 punctorum profundè impressorum, striâque basali interruptâ punctatâ versus scutellum. *Pedes* breves simplices, tibiis ferè rectis.

NYCTOBATES ROTUNDICOLLIS. *Nyct. niger subopacus, capite pone oculos utrinque sulcato, thorace rotundato varioloso-punctato, elytris profundè punctato-striatis.*

Long. corp. lin. 7; lat. elytr. lin. $2\frac{3}{4}$.

Hab. in Sierrâ Leonâ. In mus. D. Hope et Waterhouse.

Caput punctatum, clypeo magno e vertice impressione curvatâ separato. *Oculi* majores, carinis interocularibus obsoletis, sulco utrinque ex angulo interno oculorum ad prothoracem ducto. *Antennæ* breves, articulis 6 ultimis majoribus subæqualibus subtriangularibus latis depressis ultimo majori. *Prothorax* rotundatus lateribus rotundatis, angulis posticis subobtusis, disco varioloso punctatissimo; margine postico magis marginato quàm laterali, et in medio parùm versus scutellum rotundato. *Elytra* lateribus ferè parallelis, angulis humeralibus rotundatis, singulo striis 9 punctorum profundè impressorum, striis 4 et 5, 3 et 6, 7 et 8, 2 et 9, ad apicem conjunctis. *Pedes* breves simplices, tibiis rectis, femoribus anticis crassioribus.

Genus NESIOTICUS.

Corpus breve rotundatum valdè gibbosum. *Caput* mediocre, breve margine antico (clypei) et lateribus (ante oculos) elevatis, vertice parùm concavo. *Labrum* breve transversum, angulis anticis rotundatis, ciliatum. *Mandibula* trigonæ crassæ, extus rotundatæ, intus sinuatæ, cavitate parvâ in medio. *Maxillæ* lobo externo majori, subarticulato, valdè setoso, interno setoso inermi. *Palpi maxillares* crassi, articulo ultimo maximo securiformi. *Mentum* oblongum, anticè paullò latius angulis anticis acutè productis. *Labrum* subquadratum angulis anticis rotundatis, setosum. *Palpi maxillares* breves articulo ultimo ovato, apice subtruncato. *Antennæ* prothorace ferè longitudine æquales articulo basali detecto, 3^{to} 4^{to} duplo longiori, hoc ad 10^{um} latitudine parùm crescentibus compressis, longitudine æqualibus, articulo 11^{mo} præcedenti parùm longiori subrotundato. *Prothorax* transversus, anticè angustior, lateribus subrotundatis, angulis posticis acutis. *Scutellum* triangulare. *Elytra* valdè convexa ovali-rotundata, thorace ferè duplo latiora. *Pedes* simplices longitudine ferè æquales, tibiis rectis, tarsis subtùs setosis, marginibus acutis. *Mesosternum* obtusum paullò porrectum. *Venter* 5-annulatus.

NESIOTICUS FLAVOPICTUS. *Nes. niger nitidus lævis, clytrorum lumeris apicibusque signaturis flavo-notatis.*

Long. corp. lin. 8; lat. elytr. lin. $4\frac{1}{2}$.

Hab. Gold Coast, Africæ tropicæ. In mus. Westw. comm. D. Raddon.

Niger nitidus lævis sub lente haud punctatus capite excepto. *Labrum* piceum. *Antennæ* nigrae articulo ultimo apice brunneo. *Vertex* tenuissime punctatus. *Thorax* lateribus tenuissime marginatis. *Elytra* valdè convexa nitida, singulo lineis 8 punctorum minorum impresso; fasciâ tenui transversâ flavâ versus basin ad suturam interruptâ, et cum strigâ marginali, alterâque mediâ longitudinali versus basin clytrorum extensâ connexâ; singulo elytro etiam versus apicem signaturâ tenui subtriangulari ejusdem coloris notato.

Genus OGCSOMA.

Corpus breve latissimum. *Caput* mediocre carinâ utrinque e margine antico et interno oculorum ferè ad basin mandibularum ductâ. *Antennæ* longitudine capitis et prothoracis, graciles, vix versus apicem crassiores, articulo 3^{to} longissimo, 4^{to} et reliquis subæqualibus setosis. *Mandibulæ* crassæ, extus rotundatæ, apice subbifidæ, margine interno ferè recto. *Labrum* transversum emarginatum. *Mandibulæ* lobis duobus membranaceis ciliatis. *Palpi maxillares* articulo ultimo magno securiformi. *Mentum* obconicum basi truncatum et angustatum angulis anticis acutis, in medio longitudinaliter carinatum. *Labium* cordatum. *Palpi labiales* articulo ultimo majori ovali, apice acuminato. *Prothorax* latior quàm longus, convexus, lateribus in medio rotundato-angulatis, angulis anticis et posticis acutis. *Elytra* prothorace multo latiora, convexa, rotundata, interrupto-costata. *Pedes* mediocres graciles setigeri.

OGCSOMA GRANULARE. *Ogcos. nigrum sericeum prothorace punctis duobus rotundatis discoidalibus, clytris irregulariter et interrupto-costatis, antennis pedibusque cinereo-setosis.*

Long. corp. lin. 6; lat. elytr. lin. 4.

Hab. in Gambiâ. In mus. Westwood.

Caput et *thorax* nigra, sericea, (sc. sub lente) tuberculis minutissimis alterisque majoribus sparsis nitidis obsita; hoc lateribus sub medio angulato-rotundatis, marginatis. *Elytra* nigra et magis nitida, minutissime granulata, tuberculisque numerosis majoribus elongatis et irregularibus, costas duas in singulo elytro quodammodo formantibus; lateribus marginatis et deflexis latera abdominis cingentibus. *Pedes* sat breves graciles, tibiis posticis parùm curvatis.

Genus MEGACANTHA.

Corpus robustum, crassum, convexum. *Caput* breve, punctatum, lateribus ante oculos elevato-tuberculatis. *Oculi* reniformes. *Labrum* transversum, angulis anticis rotundatis. *Mandibulæ* crassæ, apice parùm bidentatæ. *Maxillæ* lobo interno membranaceo, externo magno valdè setigero. *Palpi maxillares* articulo ultimo securiformi. *Mentum* crateriforme. *Labium* cordatum. *Palpi labiales* breves,

articulo ultimo crasso ovali, apice subtruncato. *Antennæ* sat longæ, articulo 3^{to} vix 4^{to} longiori, 7^{mo} cæteris parùm crassiori, hoc et reliquis præcedentibus paullò latoribus. *Prothorax* rotundatus anticè et posticè subtruncatus, capite multo lator. *Elytra* brevia oblongo-ovalia, thorace latoria, convexa, punctato-striata. *Pedes* satis elongati, femoribus anticis crassis ante apicem internè dente valido curvato armatis; tibiæ anticæ ante medium paullò extus curvatæ; intermediæ intus subserratæ; posticæ rectæ.

Fœmina differt capite et prothorace paullò minoribus, hoc minus rotundato, pedibus anticis brevioribus et gracilioribus, dente femorum anticorum multò minori, tibiisque anticis minus curvatis, tibiisque intermediis haud serrulatis. .

MEGACANTHA TENEBROSA. *Meg. nigra subnitida punctata, elytris striato-punctatis, angulis humeralibus distinctis.*

Long. corp. lin. $9\frac{1}{2}$ - $10\frac{1}{2}$; lat. elytr. lin. $4\frac{3}{4}$.

Hab. Ashantee. In mus. D. Hope.

Caput nigrum punctatum, clypeus brevis vix e vertice separatus. *Oculi* intus subapproximati, lunulâ tenui lævi subnitidâ et subelevatâ interjectâ, tuberculi anteoculares magni, basin antennarum tegentes. *Prothorax* tenuè punctatissimus lateribus rotundatis, angulis anticis acutis, posticis subacutis. *Elytra* sat profundè 8 striato-punctata; striâque alterâ valdè abbreviatâ versus scutellum; striis 4 et 5, 3 et 6, et 2 et 7, posticè conjunctis. *Pedes* et corpus infra nigra subnitida.

An *Helops dentatus*, Fab. ?

Mr. Reeve then communicated to the Meeting "Descriptions of four new species of bivalve shells by Mr. Hanley."

Genus SOLEN.

SOLENI ACUMINATUS. *Sol. testâ albidd, epidermide tenui griseo-viridescente indutâ, elongatâ, latitudine longitudinem tripliciter superante; posticè rotundatâ; anticè acuminatâ extremitate rotundatâ; marginibus arcuatis, ventrali propè in medio incurvatâ; dentibus in utraque valvâ duobus, angustis, uno valdè minore.*

Long. $\frac{3}{4}$; lat. $2\frac{2}{5}$ poll.

Hab. in flumine Hoogley, Indiarum Orientalium.

This shell, which has been found in great abundance at the mouth of the river Hoogley, is somewhat allied to the *Solen acutidens* of Broderip; it is, however, well distinguished by its anterior acumination.

Genus PSAMMOBIA.

PSAMMOBIA COSTATA. *Psam. testâ subellipticâ, anticè angulatâ; posticè breviorè angustatâ, extremitate rotundatâ; pallidâ, radiis angustis roseo-lividis ornatâ; transversim irregulariter costatâ, costis rudibus, planulatis, anticè subfurcatis; intus vel purpureâ, vel auredâ.*

Long. 1; lat. $1\frac{3}{4}$ poll.

Hab. ad oras Novæ Zealandiæ.

The coarse and somewhat prominent ribs render this shell easily distinguishable from the rest of the *Psammobia*.

Genus CYTHEREA.

CYTHEREA EFFOSSA. *Cyth. testá ovali-subcordiformi, subæquilaterali, crassá, nitidd, convexá, transversim profundè sulcatá; sulcis subremotis, interstitiis planulatis; albido-lividá, lineis angularibus, saturatoribus, venulatá; ano impresso, lanceolato; vulvá effossá lateribus candidis, fasciis spadiceis undulatis, transversim pictá; disco interno purpureo, marginibus crenatis.*

Long. $\frac{4}{5}$; lat. $1\frac{1}{2}$ poll. Mus. Stainforth.

Hab. — ?

The very singular manner in which this and the following species are excavated on the anterior side forms their prominent and distinguishing characteristic.

CYTHEREA EXCAVATA. *Cyth. testá rotundato-ovatá, subæquilaterali, posticè expansá, anticè propter marginis ventralis obliquam curvationem angustatá; crassá, levi, nitidá, depresso-convexá, pallidè fulvá, venis lividis angularibus, plus minusve distinctis, marmoratá; ano lanceolato; vulvá valdè excavatá, lateribus planulatis, candidis, spadiceo leviter venulatis; disco interno roseo; marginibus tenuiter crenulatis.*

Long. 1; lat. $1\frac{1}{2}$ poll. Mus. Stainforth.

Hab. — ?

This shell resembles the preceding by its anterior excavation, but differs both in shape and in the absence of the transverse grooves.

September 27, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from the Society's Corresponding Member, Dr. Cantor, was read; it is dated Calcutta, February 12, 1842, and refers to a series of shells collected by that gentleman in Chusan, and which he presents to the Society. The following list of these shells, prepared by Dr. Cantor, was laid before the Meeting:—

Helix ravidæ; *Clausilia pluviatilis*; *C. aculeus*; *Achatina erecta*; *Planorbis papyraceus*; *P. hemisphærule*; *P. compressus*, Hutton; *Lymnæa plicatula*; *Paludina longicornis*; *P. striatula*; *P. quadrata*; *P. lecythoides*; *Melania cancellata*; *Arca galactodes*; *Modiola Senhousia*; *Anodon gibbum*; *Corbicula fuscata*; *Venus Sinensis*; *Sanguinolaria iridescens*.

Mr. Fraser, the naturalist to the Niger expedition, exhibited several new species of Quadrupeds, constituting part of his collection formed at Fernando Po; and Mr. Waterhouse, at the request of the Chairman, read his description of the new species, these having been placed in his hands for examination by Mr. Fraser.

Mr. Waterhouse first drew attention to a very interesting new genus of Rodents, which he characterized under the name

ANOMALURUS*.

Molares $\frac{4-4}{4-4}$, *radicati*. *Cranium* sine processu post-orbitali ossis temporalis, sed foramine antorbitali magno, partem musculi masseteris transmittente. *Palatum* anticè coarctatum, posticè emarginatum in formâ triangulari. *Cauda* modicè elongata et subfloccosa, parte basali triente subtùs scutis magnis in serie duplici longitudinalitèr dispositis (singulis angulo prominente) obtectâ. *Aures* magnæ, subnudæ. *Patagium* inter artus extensum. *Rhinarium* nudum. *Pedes* subtùs nudi; unguibus falcularibus, valdè compressis; pedes antici 4-dactyli, digitis subæqualibus; postici 5-dactyli, digitis subæqualibus, interno excepto, hoc brevior.

ANOMALURUS FRASERI. *An. vellere longo, permolli; corpore super nigro; dorso flavescenti-fusco lavato; fronte incanescente; corpore infrà albo, vel albido; artubus intus, patagio ad marginem et gutture fuliginoso tinctis.*

* From ἀνομος, out of law, and οὐρα, a tail. Should this have been previously used in a generic sense in Natural History, the name Aroæthrus (from ἀροῶν, to plough, and αἶθερα, air) may be substituted.

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	14	0
————— <i>caudæ</i>	8	6
————— <i>auris</i>	1	3
————— <i>tarsi digitorumque</i>	2	6

Hab. Fernando Po.

Upon a cursory inspection this animal would be regarded as a species of *Pteromys*, having most of the general external characters of the members of that group; there are, however, some points of distinction between the present animal and the large Flying Squirrels, which are important; of these the most conspicuous are the extraordinary scales which cover the under side of the basal third of the tail: these scales are of a pale horn-colour, sixteen in number in one of two specimens before me, and fifteen in the other, and arranged in two longitudinal series: each scale is narrow at the base and broad at the opposite extremity, and in fact nearly of a triangular form; but as the scales on one side alternate with those of the other, no interstices are left; they not only cover the under surface of the tail, but overlap the sides; in this overlapping of the scale a ridge is formed, the extremity of which is produced into an angle; the point of the angle is directed backwards. The portion of the tail which is thus protected beneath is well clothed with fur above, but the hairs are not long, and the apical portion (which is cylindrical) is much less bushy than in the large Flying Squirrels constituting the genus *Pteromys*. The hinder feet have the heel clothed with fur, but the outer margin beneath is naked, and not densely clothed, as in *Pteromys*. The lateral flying membrane extends from the wrist to the ankle, and is supported moreover by a long cartilage in front, as in *Pteromys*; but this cartilage has its origin at the elbow-joint, and not at the wrist, as in the genus just mentioned. The interfemoral membrane extends to the heel, and is moreover attached to the sides of the tail, and when expanded forms almost a straight line.

The ears are large, much longer than broad, and naked, excepting at the base on the outer side, where they are covered with long fur, like that on the body; the naked portion has a slight flesh-like tint, but is nearly white, as are also (Mr. Fraser's notes state) the naked portions of the feet and the tip of the muzzle. The hairs of the moustaches are very numerous, and although not very thick, are unusually long. The fur is long and remarkably soft, and the hairs of which it is composed are all of one kind; that is, there are no longer interspersed stronger hairs, such as we usually find in the fur of the Rodents; the fur on the upper parts is sooty black, but, excepting on the membranes, most of the hairs are rather broadly tipped with yellowish rust-colour: on the upper surface of the head the colour is replaced by grey; on the under parts of the body the fur is dirty white; the throat is blackish, and the under side of the throat is tinted with sooty grey. The under side of the membranes is sparingly clothed with hairs; towards the margin the hairs are more numerous, and of a blackish tint.

In the structure of the skull *Anomalurus* differs considerably from the known species of *Sciuridae*. All the species of the family, the skulls of which I have had an opportunity of examining (and they are numerous, embracing all the known genera and subgenera), are distinguishable by the possession of a distinct post-orbital process to the cranium; they have the palate broad, and terminating in a line with the posterior molars, or behind that line; the molars of opposite sides of the jaw are parallel, and the ant-orbital opening is small, in the form of a tube, and serves only for the transmission of the infra-orbital nerve. These characters are not found in *Anomalurus*: the post-orbital process is here reduced to a mere rudiment, being represented by an indistinct projection forming an obtuse angle: the ant-orbital opening is large, and evidently affords a passage for a portion of the masseter muscle as well as the nerve; it moreover opens directly in the bony plate which constitutes the anterior root of the zygomatic arch, and is not produced as it were into a tube, as in the typical Squirrels. The palate is narrow, and has a deep triangular emargination behind, the apex of the triangle being on a line with the hinder margin of the penultimate molar. The molar teeth converge in front, so that the space between the two foremost is scarcely equal in width to one of these teeth; the crowns of the molars of opposite sides of the upper jaw, instead of being on the same plane, or very nearly so, are directed obliquely outwards; and the masticating surface of those of the lower jaw, to meet them, incline in an opposite direction. The incisive foramina are longer than is usual in the *Sciuridae*, and encroach in a slight degree upon the maxillary bones. The nasal portion of the skull is narrower, and the nasal bones are remarkable for a deep emargination in front.

I have been led to institute a comparison between the present animal and the species of the *Sciuridae*, on account of certain points of resemblance which there exist between it and the Flying Squirrels (*Pteromys*), especially in the possession of the expanded flank and interfemoral membranes. In the almost total absence of post-orbital process, however, and in the comparatively large size of the ant-orbital opening, the *Anomalurus* evinces an approach to the *Myoxida*; the approximation is moreover observable in the narrowness of the nasal bones and the slenderness of the zygomatic arch, these parts being compared with those corresponding in the squirrel skull.

The lower jaw is formed like that of the Squirrels, and does not present certain peculiarities observable in the *Myoxus*, viz. that of having the descending ramus perforated, its posterior angle acute, and the upper posterior angle produced.

The incisor teeth are deeper than broad, and almost flat in front. The molars are permanently, it would appear, $\frac{4-4}{4-4}$, for in a skull of a young animal in which but three molars on either side of the jaw are protruded, there is no trace of the small anterior molar so commonly found in the Squirrels. They are very nearly equal in size, and of a quadrate form; the crown of each molar of the upper jaw

is slightly indented, both on the outer and inner side, and the posterior inner angle is somewhat produced; in the young animal it is more distinctly produced and is acute, and the outer and inner indentations are scarcely traceable. The molars of the lower jaw have each a strong indentation on the outer side. The folds of enamel cross the crowns of the molars in the transverse direction, and the spaces between the folds (four or three in number) are about equal in width to these folds. The masticating surfaces of these teeth are worn flat by usage, even in the comparatively young animal, as in other Rodents which have a large ant-orbital opening, and have not the tubercular surface such as we find in the molars of the typical Squirrels. These last-mentioned animals, it would appear, have a rotatory motion of the lower jaw, whilst the *Anomaluri* have a longitudinal, no doubt combined with the rotatory motion; and this difference is perhaps due to the action of that portion of the masseter muscle which passes through the ant-orbital opening.

The apparatus of scales, Mr. Fraser remarked, was used by the animal to support itself when resting on the trees, which it ascends with great agility. He had observed this animal dart from the top of a lofty tree to another at a considerable distance. Descending at an angle, it aimed with great nicety at the trunk of the tree on which it intended to alight, and, settling near the base, it would again ascend to travel to a third tree in the same manner; occasionally, when high up on the trunk, it would rest itself, making use of the singular apparatus of scales on the under side of the tail. The unarmed portion of the tail was then turned backwards and upwards.

Mr. Waterhouse then proceeded to characterize three new species of Squirrels from Mr. Fraser's collection, as follows:—

SCIURUS STANGERI. Sc. pilis longis et rigidis, nigro et flavescenti-penicillatis; genis, guld, corporeque subtùs pilis sparsè obtectis, his plerumque pallidis; caudâ magnâ, nigro alboque annulatâ; auribus parvulis; foramine infra-orbitali haud in canali educto.

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin.	12	0
———— caudæ	15	0
———— tarsi digitorumque	2	8½
———— auris	0	5

Hab. in Insulâ Fernando Po.

The most striking external characters of this species consist in its large tail, which is ringed with black and white; the crispness of the fur and the seminaked condition of the under parts of the body, the sides of the face, muzzle, throat, and the inner side of the limbs:—all these parts are so sparingly clothed with hairs that the skin is visible. On the upper parts of the body there is scarcely any trace of the finer under-fur, nearly all the hairs being of the same harsh character; they are black, broadly annulated with yellowish white or rusty yellow; on the fore parts of the body the former tint prevails, but the hinder parts may be described as black, freely pencilled with bright rusty yellow; on the hind limbs this last-mentioned

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colour prevails, as well as on the upper side of the tarsus. The small adpressed hairs on the sides of the face are partly black and partly yellowish white; on the chest the hairs are for the most part whitish, and on the inner side of the limbs rusty yellow; on the belly the hairs are most of them yellowish white, annulated with black. The tail is very long and bushy: measuring to the end of the hair, it exceeds the head and body in length; excepting quite at the base, where the tail is coloured like the body, all the hairs are black, broadly annulated with white, and the white on the upper surface forms bars or rings; these however become indistinct towards the apex. The ears are of moderate size and rounded. The heel is rather sparingly clothed with hair.

The skull of this animal is remarkable for its oblong-ovate form, and for having the ant-orbital foramen further back than usual; it opens indeed directly into the anterior root of the zygomatic arch, and is not in the form of a longish canal, such as we observe in other Squirrels. The nasal portion of the skull is short and broad, and the nasal bones correspond; the elongated form of the cranium is due to the greatly produced hinder portion: the antero-posterior extent of the extremely oblique bony plate forming the anterior root of the zygomatic arch is great: the post-orbital process is well-developed: the palate terminates very nearly in a line with the hinder part of the posterior molars. The incisive foramina are moderate. The auditory bullæ are rather small. The incisors are strong and very deep from front to back. The molars are small in proportion to the skull. The dimensions of the skull are,

	in.	lin.
Total length	2	10
Greatest width	1	6 $\frac{1}{2}$
Width between orbits	0	10 $\frac{1}{2}$
Length from post-orbital process to occiput.	1	4
—— of palate	1	2
—— from front of the incisors to the first molar.	0	11
Longitudinal extent of the four molars.	0	6
Length of nasal bones	0	8 $\frac{3}{4}$

SCIURUS RUFO-BRACHIATUS. *Sc. pilis mediocriter longis, subrigidis, nigro et flavescenti-penicillatis; corpore subtus sordide flavo vel rufescenti-flavo; artubus infrà rufis; caudâ longâ, non valde floccosâ, annulis nigris et albis, vel flavescenti-albis, ornatâ, ad basin plerumque rufescente; auribus parvulis; dentibus incisoriibus longitudinaliter subsulcatis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin.	8	6
—— caudæ	10	6
—— tarsi digitorumque	2	1 $\frac{1}{2}$
—— auris	0	4 $\frac{1}{2}$

Hab. in Insulâ Fernando Po.

This species approaches very nearly to the *Sciurus annulatus* of authors, but is distinguishable by its richer colouring. The general

S. rufo-brachium

Waters.

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See Waters.

Q35. 1897. p. 438.

tint of *S. annulatus* might be described as yellowish grey, whilst that of the present animal is rusty grey; and especially by the bright rust-like tint of the under side of the limbs, and the pale rust or rusty white colour of the belly. The heel is clothed with hair.

The dimensions above given being from a skin, can only be regarded as an approximation; judging from the skull, the present species must be much larger than the *Sc. annulatus*. Its form is nearly the same, but the nasal portion is narrower and more elongated, and the post-orbital processes are considerably larger in proportion. The dimensions of the skull are as follows:—

	in.	lin.
Total length.....	2	1½
Greatest width.....	1	2½
Width between orbits.....	0	8⅓
Length from the front of the incisors to the first molar.....	0	7¼
Length of palate.....	0	10½
Longitudinal extent of the four molars.....	0	5
Length of nasal bones.....	0	8⅓

SCIURUS ERYTHROGENYS. *Sc. supra rufescenti-fuscus, pilis nigro et rufescenti-penicillatis; genis rufis; gula, corpore subtus, et artubus internè albis; caudá quàm corpus breviorè, nigra, albo-penicillata, pilis ad basin rufescentibus; auribus parvulis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	8	6
———— caudæ.....	6	3
———— tarsi digitorumque.....	1	10½
———— auris.....	0	4

Hab. in Insulâ Fernando Po.

The bright rust-coloured cheeks, combined with the pure white colour of the under parts of the body and inner side of the limbs, will serve to distinguish this species. The fur is rather short and moderately soft, and on the upper parts of the body the hairs are black (inclining to greyish at the base) and broadly annulated with rich rusty yellow at or near the point. A shortish longitudinal pale mark is observable on each side of the body near the shoulders. The feet are finely pencilled with black and yellowish white. The tail is rather short and not very bushy, above black and rather sparingly pencilled with white; upon separating the hairs, however, they are found to be of a pale rust-colour near the base, and along the mesial portion of the under side the tail is of a bright rusty red colour. The tarsus is naked nearly to the heel, but on the heel are a few hairs.

Mr. Fraser's collection also contained a perfect skin of the *Antelope Ogilbii*, an animal originally described from an imperfect specimen by Mr. Waterhouse in the Society's Proceedings for May 1838, p. 60.

This animal belongs to the same division as the *A. sylvicultrix* of authors, and is apparently equal to that animal in size. As in the species just mentioned, the muzzle is naked, and the horns are placed far behind the eye; they are short, straight (or nearly so) and pointed.

Fish part?
as "*Leucogingis*"
Ann. x. 202.

Mr. Fraser's notes state that the animal is provided with a gland between the hoofs, and that the female has four teats.

The fur is short, glossy and adpressed, and of a bright rusty red colour, darkish on the back, and paler on the under parts of the body; a black mark runs along the back very nearly to the tail; this mark is broadest towards the shoulders, where its width is about an inch or rather less; over the shoulders it becomes obliterated, blending gradually into the brownish hue which covers those parts and the neck. The upper surface of the head is of a deep rusty red colour, shading into black at the tip of the muzzle; the sides of the face are yellowish fawn-colour, and the throat is whitish. The ears are of moderate size, broad and somewhat pointed; externally they are clothed with closely adpressed small hairs, which are for the most part of a black colour, but in front at the base they assume a bright rust tint; this is also the colour of the fringe of longish hairs on the anterior margin. About half-way down the fore leg and on the anterior surface some black hairs are observable, intermixed with those of the ordinary colour; these become more numerous lower down and form a mark which becomes gradually broader, and from the front to the hoof it encircles the foot; numerous white hairs are intermixed on this part, and they form a white ring next to the hoof. The hind feet are coloured in the same way.

Mr. Waterhouse then read his description of a species of Cat procured at Sierra Leone.

FELIS RUTILUS. *F. pilis brevibus adpressis; corpore suprâ ferrugineo, ad latera indistinctè maculato, maculis parvulis, subtùs albido maculis rufo-nigricantibus ornato; caudâ brevi, immaculatâ, suprâ obscurè rufâ, subtùs pallidiore.*

	unc. lin.
Longitudo corporis circiter	36 0
————— caudæ	10 0

The skin which furnishes the above characters was procured by Mr. Fraser when at Sierra Leone, and was said to be from the Mandingo country. Unfortunately, like all other skins brought from the interior for sale or barter, it is imperfect, wanting the head and lower part of the limbs. In the shortness of its tail and in its nearly uniform colouring, it approaches the Lynxes. It probably inhabits the mountains.

Imperfect skins of the *Cercopithecus Campbellei* were also procured by Mr. Fraser at the same time; they were likewise said to be from the Mandingo country.

October 11, 1842.

R. H. Solly, Esq., in the Chair.

An extract from a letter from the Society's President, the Earl of Derby, was read. It announced that his Lordship had succeeded in hatching and partially rearing two young Fire-backed Pheasants (*Euplocomus ignitus*? Auct.), and also four young Rheas. The young birds were alive and thriving at the time the letter was written, October 6th, 1842.

Mr. Gould exhibited and characterized the following thirty new species of Australian Birds:—

HIRUNDO NEOXENA. *Hir. fronte, mento, gula, et pectore ferrugineo-rubris; rectricum caudæ (rectricibus duabus intermediis exceptis), pogonio interno obliquè albo notato; corpore suprâ metallicè cæruleo, subtùs pallidè fuscescente.*

Forehead, chin, throat and chest rust-red; head, back of the neck, back, scapularies, wing-coverts, rump and upper tail-coverts deep steel-blue; wings and tail blackish brown; all but the two centre feathers of the latter with an oblique mark of white on the inner web; under surface very pale brown; under tail-coverts pale brown, passing into an irregular crescent-shaped mark near the extremity, and tipped with white; irides dark brown; bill and legs black.

Total length, 6 inches; bill, $\frac{1}{2}$; wing, $4\frac{5}{8}$; tail, 3; tarsi, $\frac{1}{2}$.

Hab. The whole of the southern coast of Australia and Van Diemen's Land.

Messrs. Vigors and Horsfield considered this species to be identical with the bird figured by Sparmann in the 'Museum Carlsonianum' under the name of *Hirundo Javanica*, which is there represented with a square tail, and which, if drawn correctly, is not only specifically but generically distinct. Those gentlemen likewise considered it to be identical with the *Hirondelle Orientale* of M. Temminck's 'Planches Coloriées,' but from which also I conceive it to be distinct. On the contrary, the swallow figured in Griffith's edition of Cuvier's 'Animal Kingdom' is certainly the Australian bird; but as the specific term there given had been previously employed by Sparmann, as mentioned above, the necessity of a new name for the present bird has been forced upon me; and that of *noxena* has suggested itself as appropriate, from the circumstance of its appearance throughout the whole of the southern portions of Australia being hailed as a welcome indication of the approach of spring, and its arrival there associated with precisely the same ideas as those popularly entertained respecting our own pretty swallow in Europe. The two species are in fact beautiful representatives of each other, and assi-

milate not only in their migratory movements, but also most closely in their whole habits, actions and economy.

COLLOCALIA ARIEL. *Coll. vertice ferrugineo-rubro, dorso, plumis scapularibus, et alarum tectricibus saturatè metallico-cæruleis, uropygio fulvescenti-albo, tectricibus caudæ fuscis; corpore subtùs albo, ferrugineo tincto.*

Crown of the head rust-red; back, scapularies and wing-coverts deep steel-blue; wings and tail dark brown; rump buffy white; upper tail-coverts brown; under surface white, tinged with rust-red, particularly on the sides of the neck and flanks; the feathers of the throat with a fine line of dark brown down the centre; irides blackish brown; bill blackish grey; legs and feet olive-grey.

Total length, 4 inches; bill, $\frac{3}{8}$; wing, $3\frac{3}{4}$; tail, $1\frac{7}{8}$; tarsi, $\frac{1}{2}$.

Hab. The southern portions of Australia.

DICRURUS BRACTEATUS. *Dic. corpore suprâ et infrâ saturatè nigro; plumis capitis lunulâ metallico-viridi, illis corporis præsertim pectoris guttâ ejusdem splendoris, ad apicem bracteatis.*

Head, body above and below deep black; the feathers of the head with a crescent, and the feathers of the body, particularly of the breast, with a spot of deep metallic green at the tip; wings and tail deep glossy green; under wing-coverts black, tipped with white; irides brownish red; bill and feet blackish brown.

Total length, $10\frac{1}{2}$ inches; bill, $1\frac{3}{8}$; wing, 6; tail, $5\frac{1}{2}$; tarsi, $\frac{7}{8}$.

Hab. The eastern and northern coasts of Australia.

Syn. *Dicrurus balicassius*, *Vig. & Horsf.*, but not of *Lath.*

RHIPIDURA DRYAS, Gould. *Rhipi. fronte, dorso inferiore, tectricibusque caudæ ferrugineis; caudâ fuscescenti-cinerea, rectricibus duabus intermediis ad apicem obscurè albo notatis, reliquis per partem apicalem tertiam albis.*

Forehead rust-red; crown of the head, back of the neck, upper part of the back and the wings olive-brown; lower part of the back and upper tail-coverts rust-red; tail brownish grey, the two centre feathers obscurely tipped with white, and the remainder white for one-third of their length from the tip; throat white; ear-coverts dark brown; chest black, the feathers being edged with white as they pass on to the abdomen, which is wholly white; flanks and under tail-coverts very faintly tinged with buff; irides blackish brown; bill black; feet dark brown.

Total length, $5\frac{7}{8}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{5}{8}$; tail, $3\frac{5}{8}$; tarsi, $\frac{5}{8}$.

This species is nearly allied to *Rhipidura rufifrons*, but differs in being much smaller, in the red not extending on to the plumes and shafts of the tail-feathers, and in there being more white on their extremities.

Hab. Port Essington, north coast of Australia.

MICRÆCA FLAVIGASTER. *Mic. corpore superiore fuscescenti-olivaceo; alis caudâque fuscis, colore pallidiore plumis marginatis; guldâ albâ, corpore inferiore flavo.*

All the upper surface brownish olive; wings and tail brown, mar-

gined with paler brown; throat white; all the under surface yellow; irides dark brown; bill blackish brown; feet blackish grey.

Total length, $3\frac{3}{8}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{7}{8}$; tail, $2\frac{1}{4}$; tarsi, $\frac{1}{2}$.

Hab. Port Essington.

GERYGONE* **MAGNIROSTRIS.** *Ger. corpore suprâ fusco, infrâ albo; primariis levitè olivaceo-marginatis; caudâ propè apicem indistinctè fuscescenti-nigro vittatâ.*

All the upper surface brown; margins of the primaries slightly tinged with olive; tail-feathers crossed near the extremity by an indistinct broad band of brownish black; all the under surface white, tinged with brownish buff; irides light brown; bill olive-brown; the base of the lower mandible pearl-white; feet greenish grey.

Total length, $3\frac{3}{4}$ inches; bill, $\frac{9}{16}$; wing, $2\frac{1}{4}$; tail, $1\frac{7}{8}$; tarsi, $\frac{5}{8}$.

Hab. Port Essington.

GERYGONE CHLORONOTUS. *Ger. capite et nuchâ fuscescenti-cinereis; dorso, alarum tectricibus, uropygio, tectricibus caudâ, remigum primorum marginibus, et per partem dimidiam basalem marginibus caudâ reetricum nitidè olivaceo-viridibus; corpore subtus, lateribus, crissoque olivaceo-flavis.*

Head and back of the neck brownish grey; back, wing-coverts, rump, upper tail-coverts, margins of the primaries, and the margins of the basal half of the tail-feathers, bright olive-green; primaries and tail-feathers brown, the latter becoming much darker towards the extremity; under surface white; sides and vent olive-yellow; irides wood-brown; upper mandible greenish grey; lower mandible white; feet blackish grey.

Total length, $3\frac{1}{2}$ inches; bill, $\frac{9}{16}$; wing, $2\frac{1}{3}$; tail, $1\frac{3}{8}$; tarsi, $\frac{5}{8}$.

Hab. Port Essington.

GERYGONE LEVIGASTER. *Ger. corpore superiore ferrugineo-fusco; inferiore albo, levitè flavido tincto.*

A narrow obscure line, commencing at the nostrils and passing over the eye, yellowish white; all the upper surface rusty brown; primaries brown, margined with lighter brown; tail whitish at the base, gradually deepening into nearly black, the lateral feather largely, and the remainder, except the two middle ones, slightly tipped with white; all the under surface white, slightly washed with yellow; irides light reddish brown; bill olive-brown; base of lower mandible light ash-grey; feet dark greenish grey.

Total length, $3\frac{3}{8}$ inches; bill, $\frac{1}{2}$; wing, 2; tail, $1\frac{1}{2}$; tarsi, $\frac{5}{4}$.

Hab. Port Essington.

For a new form, nearly allied to *Gerygone*, Mr. Gould proposed the generic name of *Smicrornis*, with the following characters:—

Gen. Char.—*Rostrum parvulum, et instar grani tritici; ferè cylindraceum; a basi incurvatum. Nares basales oblongæ, et oper-*

* *Psilopus* of the former parts of these 'Proceedings,' and for which the term *Gerygone* is now substituted, the former term having been previously employed.

culo obtectæ; ad basin rostri, pili tenuissimi admodum pauci. *Alæ* modicè longæ, alula brevissima, primariae tertia, quarta, et quinta longissimæ, et inter se ferè æquales. *Cauda* brevis, et quadrata. *Tarsi* modici; *digiti* perbreves; *digitus* posticus cum intermedio ferè coæqualis. *Ungues* admodum adunci, et ad hærendum aptati.

SMICRORNIS FLAVESCENS. *Smic. corpore superiore nitidè flavescenti-olivaceo, plumis capitis strigè fuscè ferè obsoletè longitudinaliter notatis, corpore inferiore nitidè flavo.*

All the upper surface bright yellowish olive; the feathers of the head with an indistinct line of brown down the centre; wings brown; tail brown, deepening into black near the extremity, and with a large oval spot of white on the inner web, near the tip of all but the two central feathers; all the under surface bright yellow.

Total length, $2\frac{3}{4}$ inches; bill, $\frac{5}{16}$; wing, $1\frac{7}{8}$; tail, $1\frac{1}{4}$; tarsi, $\frac{9}{16}$.

Hab. Port Essington.

PACHYCEPHALA FALCATA, Gould. *Pach. vertice, loris, plumis auricularibus, dorso, caudæque tectricibus cinereis; gula albà, lunulà nigrà infrà circumdatà.*

Adult male.—Crown of the head, lores, ear-coverts, back and upper tail-coverts grey; wings dark brown, all the feathers margined with grey; throat white, bounded below by a distinct crescent of black; abdomen, flanks, and under tail-coverts orange-brown; tail dark brown; the basal portion of the webs edged with grey; irides reddish brown; bill black; feet blackish brown.

Total length, $5\frac{3}{4}$ inches; bill, $\frac{3}{4}$; wing, $3\frac{1}{2}$; tail, $2\frac{7}{8}$; tarsi, $\frac{5}{4}$.

Adult female.—Crown of the head and all the upper surface grey; ear-coverts brownish grey; throat buffy white, passing into light buff or fawn-colour on the chest, flanks, abdomen, and under tail-coverts; the feathers of the throat and chest with a narrow dark line down the centre; wings and tail as in the male.

Total length, $5\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $3\frac{1}{2}$; tail, $2\frac{5}{4}$; tarsi, $\frac{5}{4}$.

Young male.—Similar in colour to the female, but with the throat whiter and the markings on the chest much more distinct, and extending over the abdomen also.

Nearly allied to *Pachycephala pectoralis*, but differs in being rather smaller, and in having no black round the eyes or on the ear-coverts.

Hab. Port Essington.

PACHYCEPHALA MELANURA. *Pach. capite, lunulà pone oculos, per latera colli ductà et pectus transeunte, caudæque nigris; gula albà, torque nuchali, corporeque subtùs, saturatè flavis.*

Head, crescent commencing behind the eye and crossing the chest, and the tail black; throat pure white; collar round the back and sides of the neck, and all the under surface very rich gamboge-yellow; upper surface rich yellowish olive; wings black; the coverts margined with yellowish olive; the primaries narrowly and the secondaries broadly margined with yellowish grey; bill and feet black; irides brown.

Total length, 6 inches; bill, $\frac{7}{8}$; wing, $3\frac{1}{4}$; tail, $2\frac{1}{2}$; tarsi, $\frac{7}{8}$.

Hab. North coast of Australia.

PACHYCEPHALA SIMPLEX. *Pach. corpore superiore fusco, inferiore fuscescenti-albo, singulis plumis strigâ fuscâ ferè obsoletâ longitudinaliter notatis.*

All the upper surface brown; all the under surface brownish white, with a very faint stripe of brown down the centre of each feather; irides light brown; bill and feet black.

Total length, 5 inches; bill, $\frac{3}{4}$; wing, $2\frac{7}{8}$; tail, $2\frac{3}{8}$; tarsi, $\frac{5}{8}$.

Hab. Port Essington.

Mr. Gould then mentioned, that having obtained another species of the same form as the *Acanthiza pyrrhopygia* of Messrs. Vigors and Horsfield, which latter differs considerably from the other members of that group, he proposed to form the two birds into a new genus, under the name of *Hylacola*, with the following characters:—

Genus HYLACOLA.

Gen. Char.—*Rostrum* capite brevius, compressum, ad basin æquè altum atque latum; culmen gradatim ad apicem mandibulæ superioris declivè; apex levitèr emarginatus; rictus vibrissis raris instructus. *Nares* basales, oblongæ, magis grandes, et operculo tectæ. *Alæ* breves, admodum rotundatæ concavæ; primariæ prima, secunda et tertia, longitudine dissimili, quarta, quinta, et sexta cœquales, et longissimæ. *Cauda* magis elongata, et rotundata. *Tarsi* mediocres. *Digiti* magis elongati; externi cœquales. *Typus*, *Acanthiza pyrrhopygia*, Vig. and Horsf.

HYLACOLA CAUTA. *Hyl. lined albâ per faciem super oculos ductâ, vertice, corporeque superiore fuscis; caudæ tectricibus crissoque pallidè castaneis; alarum tectricibus fuscis, fuscescenti-albo marginatis, primariis fuscis, pogoniis externis ad basin conspicuè albis.*

At the base of the upper mandible a line of white, which continues along the side of the face and over the eye; above this a narrow line of black; crown of the head and all the upper surface brown; upper and under tail-coverts bright chestnut; wing-coverts brown, edged with brownish white; primaries brown, with the outer web at the base white, forming a conspicuous spot in the centre of the wing; tail blackish brown, tipped with white; throat striated with black and white, produced by each feather being fringed with white, and having a strong stripe of black down the centre; flanks mottled brown and white; abdomen white; bill dark brown; irides buff-white; feet flesh-brown.

Total length, $5\frac{3}{4}$ inches; bill, $\frac{9}{16}$; wing, $2\frac{1}{8}$; tail, $2\frac{1}{2}$; tarsi, $\frac{7}{8}$.

Hab. Western Belts of the Murray in South Australia.

CINCLORAMPHUS CANTATORIS. *Cinc. corpore superiore arenaceo-fusco, colore plumarum centrali saturatiore, notâ antè oculos triangulari fuscescenti-nigrâ; guld et pectore sordidè albis, hujus*

plumis strigâ fuscâ longitudinaliter notatis, corpore inferiore pallidè fusco, abdomine medio saturatè fusco.

All the upper surface sandy brown, the centres of the feathers darker; primaries and tail greyish brown, slightly margined with reddish brown; immediately before the eye a triangular spot of brownish black; throat and chest dull white, the latter with a stripe of brown down each feather; under surface light brown; in the centre of the abdomen a patch of dark brown, each feather margined with pale brown; bill and feet fleshy brown.

Total length, 8 inches; bill, $1\frac{1}{8}$; wing, $4\frac{1}{8}$; tail, $4\frac{1}{8}$; tarsi, $1\frac{1}{2}$.

Hab. South Australia.

PTILOTTIS FLAVA. *Ptil. corpore superiore, alis, caudâque olivaceo-flavis; corpore inferiore lucidè ejusdem coloris.*

All the upper surface, wings and tail olive-yellow; inner webs of the primaries brown; all the under surface bright olive-yellow; bill blackish brown; feet reddish flesh-brown.

Total length, $6\frac{1}{4}$ inches; bill, $\frac{7}{8}$; wing, $3\frac{1}{4}$; tail, $3\frac{1}{4}$; tarsi, $\frac{5}{8}$.

Hab. North coast of Australia.

PTILOTTIS VERSICOLOR. *Ptil. corpore superiore fusciscenti-olivaceo, plumis flaviscenti-olivaceo marginatis, alis caudâque subtùs luteolis; strigâ superoculari nigra; plumis auricularibus saturatè cinereis; strigâ infra-auriculari nitidè flavâ, gula et corpore subtùs flavis, singulis plumis strigâ fuscâ longitudinalitèr notatis; crisso pallidiore.*

All the upper surface brownish olive, tinged with yellowish olive on the margins of the feathers; outer webs of the primaries and tail wax-yellow; inner webs brown; under surface of the wing and tail yellowish buff; stripe over the eye to the back of the neck black; ear-coverts dark grey; below the ear-coverts a stripe of bright yellow; throat and under surface yellow, becoming paler as it approaches the vent, each feather with a stripe of brown down the centre.

Total length, 8 inches; bill, 1; wing, 4; tail, $3\frac{3}{4}$; tarsi, 1.

Hab. North coast of Australia.

PTILOTTIS UNICOLOR. *Ptil. loribus et orbitis saturatè fuscis; colore corporis fusciscenti-olivaceo, apud partes inferiores pallidiore; primariis clariore marginatis; humeris internis luteolis.*

Lores and orbits deep brown; all the plumage brownish olive; the under surface paler than the upper; primaries margined with brighter olive than the other parts of the body; under surface of the shoulder pale buff; irides obscure red; bill dark olive-brown; naked gape fleshy white, passing into yellow at the corner of the mouth; legs and feet light ash-grey.

Male.—Total length, 7 inches; bill, 1; wing, $3\frac{3}{4}$; tail, $3\frac{1}{4}$; tarsi, 1.

Hab. Port Essington.

The sexes are alike in colour, but the female is considerably smaller in size.

MYZOMELA OBSCURA. *Myz. colore corporis sordidè fusco, apud partes inferiores pallidiore, et ad caput tincturâ vinacè.*

The whole of the plumage dull brown, with a vinous tinge on the head; paler on the under surface; irides bright red; bill dark greenish black; feet dark bluish grey; tarsi tinged with yellow.

Male.—Total length, 5 inches; bill, $\frac{3}{4}$; wing, $2\frac{5}{8}$; tail, $2\frac{1}{4}$; tarsi, $\frac{5}{8}$.

Hab. Port Essington.

The sexes differ only in the female being much smaller in size.

GLYCIPHILA FASCIATA. *Glyc. vertice fuscescenti-nigro, plumis ad apicem lunulá parvulá albá ornatis; uropygio rufo tincto, faciei lateribus, gulá et corpore subtùs albis, ab angulis oris strigá angustá fuscescenti-nigrá per latera colli ductá; pectore lineis semicircularibus fuscescenti-nigris transversim fasciato-lateribus et crisso luteolis, laterum plumis strigá centrali fuscescenti-nigrá longitudinalitèr notatis.*

Crown of the head brownish black, with a small crescent of white at the extremity of each feather; feathers of the back very dark brown, margined with buffy brown; rump tinged with rufous; wings and tail dark brown, fringed with light brown; sides of the face, throat, and under surface white; from the angle of the mouth down the side of the neck a narrow stripe of brownish black; chest crossed by a number of semicircular brownish black fasciæ; flanks and under tail-coverts buff, the former with a stripe of brownish black down the centre; irides reddish brown; bill greenish grey; feet aurora-red.

Total length, $4\frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{7}{8}$; tail, $2\frac{1}{8}$; tarsi, $\frac{5}{8}$.

Hab. Port Essington.

ENTOMOPHILA? RUFUGULARIS. *Ent. capite et corpore superiore fuscis; primariis et caudæ rectricibus, externè colore cerino marginatis, gulá ferrugined.*

Head and all the upper surface brown; wings and tail darker brown; primaries, secondaries and tail-feathers margined externally with wax-yellow; throat rust-red; sides of the head and all the under surface very pale brown; bill and feet dark purplish brown.

Total length, $4\frac{3}{4}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{5}{8}$; tail, $2\frac{1}{8}$; tarsi, $\frac{5}{8}$.

Hab. North coast of Australia.

ENTOMOPHILA? ALBOGULARIS. *Ent. capite saturatè cinereo, corpore superiore fusco; alis caudáque saturatoribus; primariis, secundariis, rectricibusque caudæ per partem basalem dimidiam cerino marginatis; gulá albá, pectore et lateribus e rubro-luteolis; abdomine medio, et crisso albis.*

Head dark grey; all the upper surface brown; wings and tail darker brown; primaries, secondaries, and basal half of the tail-feathers margined with wax-yellow; throat pure white; chest and flanks reddish buff; centre of the abdomen and under tail-coverts white; irides bright reddish brown; bill blackish grey; feet bluish grey.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{4}{8}$; wing, $2\frac{5}{8}$; tail, 2; tarsi, $\frac{4}{8}$.

The female is similar, but much less brilliant in colour than her mate.

Hab. Port Essington.

CALYPTORHYNCHUS MACRORHYNCHUS. *Cal. mas fulgidè e cæruleo-niger, rectricibus caudæ tribus externis (externæ pogonio externo excepto) ferè apud medium vittâ latâ pulchrè coccineâ fasciatis.*

Fœm. a mari differt plumis cristæ, laterum capitis, tetricumque alarum flavido-guttatis, singulis plumis corporis inferioris, et præsertim pectoris fasciis nonnullis luteolis ornatis; rectricibus caudæ tribus externis subtus, crebrè et irregularitèr flavido-fasciatis; supra ad basin fasciis nitidè flavis ad basin, exinde ad apicem palidè coccineis notatis.

Male.—The whole of the plumage glossy bluish black; lateral tail-feathers, except the external web of the outer one, crossed by a broad band of fine scarlet; bill horn-colour; irides blackish brown; feet mealy blackish brown.

Female.—General plumage as in the male, but with the crest-feathers, those on the sides of the face and neck, and the wing-coverts, spotted with light yellow; each feather of the under surface, but particularly the chest, crossed by several semicircular fasciæ of yellowish buff; lateral tail-feathers crossed on the under surface by numerous irregular bands of dull yellow, which are broad and freckled with black at the base of the tail, and become narrower and more irregular as they approach the tip; on the upper surface of the tail these bands are bright yellow at the base of the feathers, and gradually change into pale scarlet as they approach the tip; irides blackish brown.

Total length, 2 inches; bill, $1\frac{1}{2}$ in length and 3 in depth; wing, 16; tail, 12; tarsi, 1.

Hab. Port Essington.

CACATUA SANGUINEA. *Cac. corpore albo, plumis faciei, ad basin sanguineo-tinctis; primariis, secundariis et rectricibus caudæ, cum pogoniis internis ad basin sulphureis.*

All the plumage white; base of the feathers of the lores and sides of the face stained with patches of blood-red; base of the inner webs of the primaries, secondaries and tail-feathers fine sulphur-yellow; bill yellowish white; feet mealy brown.

Total length, 15 inches; bill, $1\frac{1}{3}$; wing, $10\frac{3}{8}$; tail, 6; tarsi, $\frac{7}{8}$.

Hab. North coast of Australia.

CLIMACTERIS MELANURA, Gould. *Clim. fronte, corpore superiore, rectricibusque caudæ ex holoserico fusciscenti-nigris; occipite et nuchâ ferrugineo-tinctis; primariis et secundariis ad apicem et basin saturatè fuscis; plumis gularibus albis nigro-marginatis; abdomine et lateribus ferrugineis; crisso nigro.*

Forehead, all the upper surface and tail-feathers velvety brownish black; the occiput and back of the neck stained with ferruginous brown; primaries and secondaries dark brown at the base and at the tip; the intermediate space buff, forming a conspicuous band across the wing when expanded; feathers of the throat white, edged all round with black, giving the throat a striated appearance; abdomen

and flanks ferruginous brown; under tail-coverts black, irregularly crossed with bars of buff; bill and feet blackish brown.

Total length, $6\frac{3}{4}$ inches; bill, $\frac{7}{8}$; wing, 4; tail, 3; tarsi, 1.

In size this species rather exceeds the *Climacteris scandens*.

Hab. The north-west coast of Australia.

From the collection of Mr. Bynoe.

PORZANA FLUMINEA. *Porz. corpore superiore olivaceo; singulis plumis strigâ centrali nigrescente, et ad marginem guttis duabus albis anticè et posticè nigro-cinctis, ornatis; facie, guld, pectore et abdomine superiore plumbeo-cinereis, abdomine imo, et lateribus cinerescenti-nigris, lineis albis angustis irregularitèr fasciatis.*

All the upper surface olive, with a broad stripe of blackish brown down the centre and two oval spots of white, bounded above and below with black on the margin of each web of every feather; primaries and secondaries brown; tail dark brown, margined with lighter brown and with an indication of white spots on the extreme edge; face, throat, chest, and upper part of the abdomen dark slate-grey; lower part of the abdomen and flanks greyish black, crossed by narrow irregular bars of white; under tail-coverts white; bill orange-red at the base, and dark olive-green for the remainder of its length; feet dark olive-green.

Total length, 7 inches; bill, $\frac{7}{8}$; wing, $3\frac{5}{8}$; tail, $1\frac{5}{8}$; tarsi, 1.

Hab. New South Wales.

PORZANA PALUSTRIS. *Porz. capite et nuchâ ferrugineo-fuscis, singulis plumis longitudinalitèr strigâ centrali nigrescenti-ornatis; plumis dorsalibus scapularibus, et secundariis fuscescenti-nigris, rufescente marginatis, et strigâ oblongâ albâ nigro interruptâ ornatis; guld, pectore, et abdomine superiore cinereis; abdomine imo et lateribus nigrescentibus lineis latis irregularibus cinereis fasciatis.*

Head and back of the neck rusty brown, with a stripe of blackish brown down the centre of each feather; feathers of the back, scapularies and secondaries brownish black margined with rusty brown, and with an oblong stripe or mark of white, interrupted in the middle with black; wing-coverts rusty brown, a few of them marked on their inner webs like the scapularies; primaries brown, two or three of the innermost with a mark or marks of white at the tip; tail dark brown, fringed with rusty brown; face, throat, chest and upper part of the abdomen grey; lower part of the abdomen and flanks blackish grey, crossed by broad irregular bands of grey; bill and feet olive-brown.

Total length, 6 inches; bill, $\frac{5}{8}$; wing, 3; tail, $1\frac{1}{2}$; tarsi, 1.

Hab. Van Diemen's Land.

STERNA VELOX. *Stern. fronte, loris, colli lateribus, et corpore inferiore albis; spatio circumoculari, occipite et nuchâ nigris; corpore superiore, alis, caudâque bellè cinereis.*

Forehead, lores, sides of the neck, and all the under surface white; space surrounding the eye, occiput, and back of the neck black; all

the upper surface, wings and tail delicate grey; outer web of the external quill greyish black; shafts of all the primaries white; irides blackish brown; bill black.

Total length, 13 inches; bill, $2\frac{1}{8}$; wing, $9\frac{5}{8}$; tail, $6\frac{1}{4}$; tarsi, $\frac{5}{4}$.

Hab. Bass's Straits.

HYDROCHELIDON FLUVIATILIS. *Hyd. fronte, vertice, et nuchá nigris; corpore superiore, alis caudáque pallidè cinereis; facie et guld albis, hóc colore gradatim ad pectus cinerescente, et hóc ad abdomen necnon ad latera nigrescente.*

Forehead, crown and nape deep black; all the upper surface, wings and tail light grey; sides of the face and the throat white, gradually deepening into grey on the chest, and the grey into black on the abdomen and flanks; under surface of the shoulder and under tail-coverts white; irides black; bill blood-red; feet light blood-red.

Total length, $9\frac{5}{8}$ inches; bill, $1\frac{5}{8}$; wing, $8\frac{5}{8}$; tail, $3\frac{1}{4}$; tarsi, $\frac{7}{8}$.

Hab. Rivers and lakes of the interior of New South Wales.

THALASSEUS TORRESII. *Thal. fronte, facie, et collo dorso superiore, partibusque inferioribus lucidè albis; plumis verticis et illis oculos circumdantibus albis, guttá parvulá centrali nigrá notatis; occipite et nuchá nigerrimis; dorso alisque saturatè cinereis, caudá pallidè cinereá.*

Forehead, sides of the face and neck, upper part of the back and all the under surface silky white; feathers of the crown and surrounding the eye white, with a minute spot of black in the centre of each; occiput and back of the neck black; back and wings deep grey; tail grey; primaries greyish black, broadly margined on their inner web with white; the shafts white; irides dark brown; bill ochre-yellow; feet blackish grey.

Total length, $13\frac{1}{2}$ inches; bill, $2\frac{5}{8}$; wing, $11\frac{1}{2}$; tail, $4\frac{5}{8}$; tarsi, 1.

Hab. Port Essington.

Nearly allied to *S. poliocerca*, but much smaller in size.

STERNULA NEREIS. *Stern. vertice et nuchá nigris, hóc colore oculos cingente maculamque anteriorem efficiente, ut non in frontem ducto; fronte albo; dorso alisque bellè ex argenteo-cinereis; corpore inferiore, uropygio et caudá albis.*

Crown of the head and back of the neck black, which colour extends round the eye, and is continued in the form of a spot before that organ; but this colour does not extend on to the forehead, which is white; back and wings delicate silvery grey; the outer web of the external primary dark grey at the base, gradually passing into grey towards the tip; all the under surface, rump and tail pure white; irides black; bill, tongue and feet rich orange-yellow.

Total length, $10\frac{1}{2}$ inches; bill, $1\frac{5}{8}$; wing, $7\frac{1}{2}$; tail, $4\frac{1}{4}$; tarsi, $\frac{9}{16}$.

Hab. Bass's Straits.

A paper, "On the Blood-corpuscles of some of the *Struthionide*," by George Gulliver, Esq., was then read.

I had lately an opportunity of examining the blood of a young

Ostrich, killed by accident in the Society's menagerie. The following measurements of the corpuscles are expressed in vulgar fractions of an English inch :—

Ostrich (*Struthio Camelus*, Linn.).

Length of the discs.		Breadth of the discs.	
1-1690	} Common sizes.	1-3000	Common size.
1-1714			
1-2000	Small size.	1-4000	Small size.
1-1333	Large size.	1-2400	Large size.
<hr/>		<hr/>	
1-1649	Average.	1-3000	Average.

Thickness of the discs.

1-9166

Dimensions of the nuclei, exposed by dilute acetic acid.

Length.	Breadth.
1-3200	1-9166

Diameter of the pale globules of the blood.

1-3329

I have given several measurements of the blood-discs of the Emu and of the Rhea in the 'Appendix to Gerber's Anatomy,' p. 77, from which the following averages are taken :—

Emu (*Dromaius Novæ-Hollandiæ*, Vieill.).

Length.	Breadth.
1-1690	1-3031

American Ostrich (*Rhea Americana*, Briss.).

Length.	Breadth.
1-1898	1-3273

A comparison of these measurements will show that the blood-discs of the common Ostrich are slightly larger than those of the Emu and of the Rhea.

Mr. Fraser laid before the Meeting some new species of Birds, constituting part of his collection formed at Fernando Po, and characterized them as follows :—

PLATYSTEIRA CASTANEA. *Platys. vertice genisque cinereis, mento albo; dorso, alis supernè, guld et pectore castaneis; abdomine albo, appendiculis carnosis circum oculos rubris; rostro nigro iridibus rufescenti-fuscis; tarsis cæruleo-purpurescentibus.*

Inter sexus haud coloris diversitas.

Long. tot. $3\frac{5}{10}$ unc.; rostri, $\frac{6}{10}$; alæ, $2\frac{2}{10}$; caudæ, $\frac{8}{10}$; tarsi, $\frac{5}{10}$.

Hab. Clarence, Fernando Po.

Found among the branches of the naked trees in June, sometimes in pairs; they are short and thick in form, the feathering being of downy nature. Its note is short.

This bird differs from Jardine and Selby's *Platyrhynchus Desma-restii*, Ill. Orn., vol. i. pl. 9. fig. 2, in having the chestnut back and wings and the short black tail.

PLATYSTEIRA LEUCOPYGIALIS. *Platys. (mas) capite, genis, collo, dorso, alis, caudâ et vittâ latâ pectorali, sic et femoribus e cæruleo nigris, uropygio, gulâ et abdomine albis.*

Long. tot. 4 unc. ; rostri, $\frac{6}{10}$; alæ, $2\frac{2}{10}$; caudæ, $\frac{9}{10}$; tarsi, $\frac{6}{10}$.

Hab. Clarence, Fernando Po.

Found in the same situations as *P. castanea*.

Fleshy appendages around the eye, red ; irides, red hazel ; bill, black ; legs, purplish : the gizzard contained insects.

This bird differs from Jardine and Selby's *Platyrhynchus collaris*, Ill. Orn., vol. i. pl. 9. fig. 1, in having a white rump, the wings entirely black, the band across the chest much broader, and the fleshy appendage around the eye red.

PLOCEUS COLLARIS. *Ploc. vertice, capitis lateribus, et mento, nigris, torque collari lato, castaneo ; rostro nigro, tarsis fuscescentibus, reliquis partibus aurantiaco, olivaceo et fuscescente variegatis, ferè ut in Ploceo textore (vide Ploceus Textor, Swains.).*

Long. tot. $7\frac{5}{10}$ unc. ; rostri, $1\frac{2}{10}$; alæ, 4 ; caudæ, $3\frac{1}{2}$; tarsi, $1\frac{1}{10}$.

Hab. apud Insulam St. Thomas, Afric. occid.

This bird differs from *P. textor* in being of a greater size, in having the chestnut collar encircling the neck, and the general colouring of the body being less vivid.

EUPLECTES RUFOVELATUS. *Euplec. (mas) vertice et nuchâ, nitidè rubris, colore rubro in latera colli ducto ; corpore in toto nigro, iridibus e corylo rubris, tarsis et rostro nigris.*

Long. tot. 7 unc. ; rostri, 1 ; alæ, 4 ; caudæ, $2\frac{5}{10}$; tarsi, 1.

Hab. Clarence, Fernando Po.

A very good songster. These birds, although in deep moult (in June), appeared to be pairing. One specimen was shot from the top of a very lofty tree, the others much nearer the ground. In an apparently young male the black extends across the forehead.

October 25, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Yarrell laid on the table, and called the attention of the Members to the seventh part of MM. Ekstrom and Sundervall's work on the Fishes of Scandinavia.

Prof. Owen exhibited a specimen of the Pearly Nautilus (*Nautilus Pompilius*), animal and shell, obtained by Capt. E. Belcher, R.N., at Amboina. Prof. Owen alluded to the fact of the specimen described by him in 1832 having been detached from the shell, which was destroyed in its capture, and to the analogies which had guided him in determining the position in which he had restored the soft parts to the shell, and figured them, *in situ*, in his memoir. Objections had been made to this restoration by Mr. Gray* and by Dr. Grant† and De Blainville‡, who were led by other analogies to believe that the upper or outer lip of the shell must have crossed the back of the head, instead of crossing the opposite side or funnel, as represented by Mr. Owen. M. Valenciennes, who had subsequently received the soft parts of a *Nautilus*, had adopted the position assigned to them in the shell by Mr. Owen.

The present example, in which the animal had been restored by Capt. Belcher to its shell in precisely the same position in which it was received by him, when recent, closely agreed with the description and figure in Prof. Owen's work§. The involuted spire of the shell is covered by the dorsal fold of the mantle, and is lodged in the concavity at the back of the muscular plate above the head. The funnel rests upon the outer wall of the large chamber containing the animal.

Capt. Belcher has signified his intention to present the specimen to the Royal College of Surgeons, when the requisite investigations into other doubtful or mooted points in the organization of the Nautilus will be made.

A paper by G. B. Sowerby, Esq., Jun., containing descriptions of two new species of shells belonging to the genus *Strombus*, was then read. The specimens were collected by the Society's Corresponding Member, H. Cuming, Esq., in the Philippine Islands, and exhibited by that gentleman to the Meeting.

STROMBUS CRISPATUS, Sow. Jun., Thes. Conch. part i. pl. 8. f. 62,
63. *Str. testá turritá, fusiformi, concentricè plicatá, spiraliter*

* Phil. Trans. 1833, p. 774. † Lancet, Dec. 28, 1833, pp. 506, 509.

‡ Nouvelles Animales du Muséum, tom. iii. p. 7.

§ Memoir on the *Nautilus Pompilius*, 4to, 1832; published by the Royal College of Surgeons.

striatâ; aperturâ ovali, posticè in canalem brevem crispatam desinente; anticè canali brevi rostratâ; labio externo crasso, crenulato; labio interno crasso; operculo lateraliter serrato.

Long. 1.5; lat. 0.40 poll.

Hab. Ins. Luzon, Panay, et Bureas, Philippinarum. H. Cuming legit.

A finely sculptured species resembling the well-known *Str. fissurella*, but rather more ventricose, with the edges of the posterior canal free, rather short, and coiled at the extremity. The colour is pale straw, with three brown bands across the body whorl.

STROMBUS BULBULUS, Sow. Jun., Thes. Conch. part i. pl. 9. f. 81, 82, 83. *Str. testâ ovali oblongâ, lavi, spirâ brevi; anfractu ultimo anticè obliquè truncato; aperturâ internè usque ad marginem striatâ; labio externo vix expanso, paululùm incrassato; sinu antico invalido; labio interno valido.*

Long. 1.45; lat. 0.60 poll.

Hab. Ins. Philippinæ. H. Cuming legit.

This species differs from *S. Terebellatus* in being more ventricose, in having the striæ in the aperture extended to the outer margin, and in having the inner lip more distinct.

Mr. Fraser communicated to the Meeting the following descriptions of new species of Birds, constituting part of the collection he had formed in the Niger expedition:—

Pelicanus rufescens, Gmel., vol. i. part 2. p. 571. sp. 13; Lath.

Gen. Hist., vol. x. p. 404. sp. 8; Rüpp. Atlas, vol. ii. taf. 21.

This specimen was killed at Egga, in which place it was seen in large flocks in the month of October. This was the highest point to which the Niger expedition ascended. The specimen in question was killed by the late W. C. Willie, Esq., mate of H.M.S.V. Albert, and presented to Mr. Fraser by Lieut. J. W. Fairholme, R.N., of the same expedition.

SYLVIA BADICEPS. *Sylv. (mas) vertice cinnamomino, plumis auricularibus et corpore superiore cinereis; alis caudâque e cinereo fuscis; genis gulâ, tectricibusque alarum inferioribus albis; fasciâ pectorali nigrâ; corpore inferiore cinereo, apud medium pallidiorè. Iridibus e corylo-fuscis tarsis flavis.*

Long. tot. $3\frac{1}{2}$ unc; rostri, $6\frac{1}{2}$; alæ, $2\frac{1}{2}$; caudæ, $1\frac{6}{12}$; tarsi, $\frac{8}{12}$.

Hab. Clarence, Fernando Po.

A small beetle was found in the stomach.

COCCOTHRAUSTES OLIVACEUS. *Coccoth. capite, collo, pectore, dorso, alarum tectricibus, corporisque lateribus saturatè olivaceo-viridibus; hóc colore ad uropygium, femora et caudam, tectricibus alarum inferioribus, secundariis, reetricumque caudæ apicibus flavis; primariis nigris, ad apicem flavescenti-albis; secundariis in mediâ parte nigris, ad marginem internum albis, ad apicem flavescentibus; rostro tarsisque flavis.*

Long. tot. $7\frac{1}{4}$ unc.; rostri, $\frac{1}{2}$; alæ, $2\frac{3}{4}$; caudæ, 2; tarsi, $\frac{8}{12}$.

Hab. Clarence, Fernando Po.

NIGRITA FUSCONOTUS. *Nigr. capite, collo, tectricibus caudæ, sic et reatricibus nitidè nigris; dorso, et plumis scapularibus cinereo-fuscis; alis nigrescentibus; corpore inferiore sordidè albo, rostro tarsisque nigris, iridibus e corylo-fuscis.*

Long. tot. $4\frac{1}{4}$ unc.; rostri, $\frac{1}{2}$; alæ, $2\frac{1}{4}$; caudæ, 2; tarsi, $\frac{1}{2}$.

Hab. Clarence, Fernando Po.

Mr. Fraser stated it as his opinion that the bird above described belonged to the *Fringillidæ*. It certainly appertains to the genus characterized by Mr. Strickland in the 'Proceedings' for April 1841, p. 30, under the title *Æthiops*. This genus was founded upon a bird (*Æthiops canicapillus*) also from Fernando Po, specimens of which Mr. Fraser had obtained and exhibited to the Meeting. Finding the generic name *Æthiops* had been previously used for a genus of Monkeys, Mr. Fraser had been requested by Mr. Strickland to substitute for it the new generic title *Nigrita*. The species described by the gentleman last mentioned will therefore stand as *Nigrita canicapillus*, Strickl.

AMADINA POENSIS. *Amad. nitidè nigra, primariis guttatis, secundariis uropygio, plumisque lateribus albo-fasciatis; abdomine, tectricibus alarum inferioribus, crissoque albis; iridibus e corylo-fuscis; rostro cæruleo; tarsis nigris.*

Long. tot. 4 unc.; rostri, $\frac{3}{8}$; alæ, 2; caudæ, $1\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. Clarence, Fernando Po.

Very common about Clarence, in flocks of about fifty; their note is 'tweet-tweet.' The young have a brownish cast; they feed entirely upon seeds of the three-forked grass. The sexes do not differ.

AMADINA BICOLOR. *Amad. (mas) corpore superiore, pectore, et lateribus nigris; abdomine, tectricibus alarum inferioribus, crissoque albis; rostro cæruleo; tarsis nigris.*

Fœm. vel Jun.: colore fusco, fronte genis, guldque nigrescentibus; lateribus et uropygio indistinctè albo-fasciatis.

Long. tot. 4 unc.; rostri, $\frac{3}{8}$; alæ, 2; caudæ, $1\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. apud promontorium Cape Palmas dictum.

A third specimen, which is smaller, is entirely brown, without any indication of the white marks.

Common in the roofs of the huts belonging to the fish-men of Cape Palmas, in which situation they breed and commit much mischief, like our domestic sparrow (*Pyrgita domestica*, Cuv.). The native name is *Saybue*.

This differs from *Amadina Poensis* in the absence, in the adult, of the white markings on the wings, rump, and sides.

Mr. Waterhouse exhibited and described two new species of Mouse, one collected in the Philippine Islands by H. Cuming, Esq., and the other forming part of Mr. Gould's Australian collection.

MUS CASTANEUS. *Mus intensè castaneus, corpore subtùs pallidiore; caudâ corpore cum capite longiore; auribus mediocribus.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin. . . .	2	7
————— ad basin auris	0	8
————— <i>tarsi digitorumque</i>	0	7½
————— <i>auris</i>	0	4½
————— <i>caudæ</i>	3	0

Hab. ad Insulas Philippinarum.

This little mouse is remarkable for its nearly uniform deep and rich chestnut-brown colour, at least such is the tint it presents in spirits; the under parts of the body are rather paler than the upper; the feet and tail are uniform in hue with the body. Compared with the common mouse (*M. musculus*), it differs in being smaller, in having the rostrum more slender, and the tail proportionately longer.

MUS NOVÆ-HOLLANDIÆ. *Mus suprâ canus flavescens-lavatus; corpore subtùs pedibusque albis; auribus mediocribus; caudâ quoad longitudinem corpus ferè æquante.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin. . . .	3	0
————— <i>caudæ, circiter</i>	2	0
————— <i>tarsi digitorumque</i>	0	9¼

Hab. New South Wales.

This mouse was found, together with two young specimens, under a large slab of bark at Yarrundi, Upper Hunter, New South Wales. In size and colouring it approaches most nearly to the *Mus sylvaticus*, but its tail is considerably shorter than in that animal. In the form of the skull the present species also approaches the *M. sylvaticus*, but the nasal portion of the cranium is shorter; the molar teeth are of the same structure, but apparently rather larger in proportion. The fur is rather long and very soft; on the upper parts the hairs are of a deep grey colour, tipped with brownish yellow; on the belly the hairs are of a less deep grey colour next the skin, and white externally. The tarsi are rather long and slender. The tail is white beneath and dusky above.

November 8, 1842.

R. C. Griffith, Esq., in the Chair.

An extract of a letter from the Society's President, the Earl of Derby, was read. His Lordship observes, with reference to some young Rheas hatched in the menagerie, that the eggs were laid in one of his Lordship's paddocks, and were collected into a nest by the male bird, who sat upon them very perseveringly until the keeper, thinking the spot selected was too exposed, removed the eggs and placed them under some Turkeys. They were ultimately, however, placed in Mr. Appleyard's hatching apparatus, and in about a week or ten days were hatched. The letter moreover announces the safe arrival of three Elands (*Antilope Oreas*, Pall.) in his Lordship's menagerie.

A memoir on the anatomy of a species of *Calyptrea* with a ventral shelly valve (*Lithedaphus longirostris*, Ow.), by Prof. Owen, was then read. The normal valve secreted by the *Lithedaphus* resembles a *Calyptrea*, and indeed is possibly a variety of the *Calyptrea equestris* of authors; but the animal is inclosed, like the Acephalous Mollusks, in a bivalve shell. The additional plate, in the present instance, Professor Owen shows to be connected with a modification in the organization of the animal which establishes its claim to a subgeneric distinction among the *Calyptraida*. The specimens dissected were collected by H. Cuming, Esq. in the Philippine Islands, and the circumstances connected with this discovery are recorded by that gentleman in the 'Conchologia Systematica' of Mr. L. Reeve (vol. ii. p. 31).

"*Lithedaphus* differs from all previously described *Calyptraida* in some well-marked external characters of its soft parts. The head, instead of being short, broad and flat, is long and subcylindrical; the part anterior to the tentacles being produced in the form of a proboscis, equalling in length the whole body behind it, and terminated by a clavate extremity. The tentacles or antennæ are of proportional length, reaching, in some specimens, to the beginning of the terminal expansion of the proboscis. The second external character is a moderately long subcompressed process, projecting forwards between the head and the anterior margin of the foot, like a second head, but consisting only of a soft duplicature of the mantle, with muscular fibres for protraction and retraction. In some specimens the apex of this process was expanded and a little produced on each side.

"The foot, in the specimens examined, was much smaller in proportion than in *Calyptrea* or *Calypeopsis*; it presents a subcircular form, as in *Cal. Sinensis*, but only equals half the diameter of the

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entire body* ; its whole margin is free, not produced anteriorly into lobes, as in *Calypeopsis*. The dorsal surface of the mantle is impressed with a deep horse-shoe fissure, receiving the internal plate of the upper shell. The aperture of the branchial chamber extends transversely across the back of the head, but conducts to a cavity of unusually small extent. The contained breathing-organs differ not merely in relative size, but likewise very remarkably in structure, from the previously dissected *Calyptraidæ*. In these the branchiæ consist of a single series of simple, elongated, close-set and very numerous filaments, extending along the left side of the body in *Calyptraea Sinensis*, and making the tour of the mantle in the *Calypeopsis*. In *Lithedaphus* the branchiæ consist of two short parallel rows of conical, subcompressed, plicated vascular processes, twelve to fourteen in each row, and limited, like the branchial cavity, to the anterior part of the dorsal aspect of the body. The heart, lodged in a wide pericardium, and consisting of a large auricle with thin, sub-transparent walls, and a small, opaque, conical ventricle, is situated at the left extremity of the branchial chamber, receiving the branchial veins, and sending its largest artery to the ovarium, which, in the specimen dissected, formed the left portion of the visceral mass. The oviduct, at first slender and convoluted, expands on the right side, where it is disposed in three long folds, which were laden with unusually large elliptical ova. At its termination, close to the branchial orifice, there is an oval mucous gland, and a short conical filament projects from the inner surface of the mantle. The proboscis is surrounded by a thick muscular tunic, inclosing a long, rasp-like, horny tongue, and at its base are two simple salivary follicles. The œsophagus expands into a small stomach, imbedded in a follicular liver. The intestinal canal is more complicated than in *Calyptraea* or *Calypeopsis*; it bends towards the left side, and there forms a small mass of double spiral coils, five or six in number, from which the rectum is continued along the floor of the branchial chamber, in the interspace of the gills, to the outlet of that chamber on the right side of the neck.

“The nervous system is chiefly distinguished from that of the *Calypeopsis* by the larger relative size and closer approximation of the supra-œsophageal ganglions, which here equal the inferior masses. Besides the chords connecting the upper with the lower ganglions, the upper ganglions give off each three nerves: the largest runs forward in a zigzag course to the clavate mouth; the second supplies

* It is here described as contracted in specimens preserved in spirit, the specimens of *Calyptraea* and *Calypeopsis* compared with it being in the same state. It is, doubtless, expanded in the living animal, as a thin, muscular and secreting disk over the basal plate. Much sharp criticism has been expended on the genus *Gastroplox*, De Blainville. It was founded in error, no doubt; but future conchologists, who may be tempted to cast a reflection on its author, should remember that he has rendered services to Conchology such as few can hope to rival, and will do well to bear in mind, that the secretion of a shelly valve by the foot of a gastropod is not only a possibility, but is a reality in nature.

the substance of the tentacle; the third, a slender nerve, goes to the minute eye-speck on the outer side of the base of the tentacle. The wavy disposition of these nerves, especially of the rostral pair, clearly indicates a provision for considerable elongation of the parts which they supply.

“Thus the genus *Lithedaphus* differs from the other known forms of the *Calyptraeida* in the smaller development of its locomotive and respiratory organs, and in the greater development of the organs for the prehension and assimilation of food.

“Probably no oyster, cemented to its native rock, is more fettered in its movements than this highly developed gastropod, to which, however, a voluntary detachment of the foot from the gastric plate may be possible. M. Dufo however testifies that the only movement he was able to recognise in his *Calyptraea Roissii* was an elevation of the anterior part of the shell, and a corresponding separation of it from the supporting plate beneath.

“The circumstances under which Mr. Cuming discovered his specimens would hardly be consistent with a greater extent of motion. The foot, therefore, whose normal functions as an instrument for traversing space must be restricted to the early age of the *Lithedaphus*, may well offer diminished proportions when the animal has chosen a site for the deposition of its ventral plate and has taken up a fixed abode. Muscular action being thenceforward much restricted, the necessity for extensive respiration is in the same degree abolished. The compensation for this abrogation of the power of moving about in quest of food is obviously the great development of the proboscidi-form head, which, when outstretched in the living mollusk, must appear like some worm moving to and fro from between the valves of the shell. The tactile organs of sense are co-extended with the prehensile organ; but the eyes, so useful to the young wandering mollusk, have much shrunk in the sedentary aged; and the complete elaboration of whatever nutriment may be introduced into the system has been provided for by the long and convoluted alimentary canal.

“These facts in the anatomy of the *Lithedaphus*, and their harmonious adjustment to its peculiar condition as a sessile gastropod inclosed in a bivalve shell, leave scarcely any doubt as to this state, strange and anomalous though it may seem, being essential to its nature and of original design.

“For assuming that the secretion of a ventral plate may be excited by some accidental position of an individual of a species not commonly possessing such plate, it would be an extreme hypothesis to attribute to the consequent abrogation of the locomotive power a gradual and progressive elongation of the head, during successive endeavours on the part of the imprisoned mollusk to attain whatever food might come within its reach.

“And admitting that, the supplies of food being casual and scanty, the nutriment would require to be longer retained and more completely assimilated, to conclude that the alimentary canal thereupon acquired additional convolutions, would be still more hazardous. But when we find that, the demands upon the respiratory actions

being much diminished after the loss of locomotion, the branchial apparatus does not merely present an atrophied state of its usual structure in the free *Calyptræidæ*, but a different condition of that structure,—two very short gills replacing one very extensive one, and the form of the branchial filaments being quite different,—the conclusion seems unavoidable, that the *Lithedaphus* is a good and constant genus, created with reference to that peculiar mode of life to which its bivalve shell and other generic characters as a Calyptræidan are correlated.”

The next paper read was also from Prof. Owen, and contains an account of the anatomy of the *Pholadomya candida*. The genus *Pholadomya* was founded by G. B. Sowerby, upon certain peculiarities observable in the structure of a shell which in some of its characters approaches the genera *Solen*, *Pholas*, and *Mya*. The animal exhibits the ordinary characters of the *Acephala inclusa* of Cuvier, being everywhere shut up in a mantle which gives issue only to the siphonic tube and the foot; it presents, however, in addition to the pedal and the two siphonic apertures, a fourth orifice, at the under part of the siphon, which is of small size and circular form. This orifice alone, observes Prof. Owen, is sufficient to distinguish the present mollusk from any known genus of the *Inclusa*. It would seem to be an inlet for respiratory currents, supplementary to the ordinary ventral siphon. The animal, compared with that of the *Panopæa australis*, the characters of which are detailed by M. Valenciennes, is distinguishable not only by an accessory bifurcate foot and valvular aperture, but by its undivided branchiæ and some other less marked characters; nevertheless the affinity to *Panopæa*, as indicated by the hinge of the shell, is illustrated by a closer general resemblance of its soft parts to that genus than to *Mya*, *Solen*, or *Pholas*. These two papers, from the pen of Prof. Owen, and of which the above is a brief abstract, are illustrated with beautifully executed drawings.

Dr. Pfeiffer's descriptions of new species of Shells collected by H. Cuming, Esq. in the Philippine Islands, were then read.

HELIX CROMYODES. *Hel. testâ imperforatâ, depresso-globosâ, tenuissimâ, pellucidâ, olivaceo-fulvâ, apice violaceâ; anfractibus 4 planiusculis, ultimo magno, medio fasciâ latâ albâ cingulato et epidermide tenuissimâ cinerascente fasciatim ornato; columellâ perobliquâ, latâ, albâ; aperturâ lunato-ovali; peristomate simplicis, expanso, margine rufo-violascente.*

Diam. $1\frac{1}{2}$ poll.; altit. $10\frac{1}{2}$ lin.

Hab. Cagayan, province Misamis of the island Mindanao. Found on leaves of trees.

HELIX LANGUIDA. *Hel. testâ imperforatâ, globosâ, tenuiusculâ, regulariter et confertim obliquè striatâ, apice obtuso lutescente, anfractu ultimo rufo, epidermide hydrophand cinerascente indutâ, albo-lineolatâ, basi nudo, nitido; suturâ lineâ fuscâ nitidâ, notatâ; anfractibus $4\frac{1}{2}$ convexiusculis; columellâ verticali, albo-callosâ; aperturâ subovali; peristomate . . . ?*

Diam. et altit. 15 lin.

Two specimens only were found, not yet perfect, on leaves of palms in the island of Siquijor. These resemble some of the varieties of *Bulimus metaformis*, but are more globular.

HELIX BULLA, Pf. an *Nanina*? *Hel. testá subperforatá, globoso-depressá, tenuissimá, pellucidá, striis confertis spiralibus et obliquis minutissimè decussatá, subcarinatá, pallidè fulvá, ad carinam rufo-cingulatá; suturá vix impressá; spirá parùm exsertá; anfractibus 4 planiusculis; aperturá lunato-rotundatá, intùs margaritaceá, unifasciatá; peristomate simplici, margine supero introrsum flexo, columellari vix expanso.*

Diam. 1.60; altit. 0.90 poll.

Hab. Provincia Albay insulæ Luçon.

In form it resembles *Nanina bistrialis*, Beck.

HELIX PHLOIODES. *Hel. testá imperforatá, depressá, solidá, subepidermide corticiná (strigis saturatoribus variegatá), nitidè nigricanti-rufá; spirá subplanulatá; suturá profundá; anfractibus 4½ convexis; columellá subrectá, perobliquá, subexcavatá; aperturá latè lunari, intùs lividá; peristomate incrassato, reflexo, fusco.*

Diam. 14½; altit. 9 lin.

Hab. Argao (island of Zebu): on leaves of trees.

HELIX TEPHRODES. *Hel. testá imperforatá, subglobosá, solidá, ponderosá, supernè rufá, strigis latis epidermidis cinereæ hydrophanæ ferè obductá, basi stramineá, rufo-fasciatá; anfractibus 4½ convexis, supremis depressis, denudatis, rufescentibus; columellá latá, albá, subarcuatá; aperturá lunato-orbiculari, intùs albá; peristomate simplici, reflexo.*

Diam. 19; altit. 15½ lin.

Hab. Sual (province of Pangasinan, Luçon): on leaves of bushes.

HELIX UNICA. *Hel. testá imperforatá, globosá, solidiusculá, obliquè striatulá, albidd; suturá profundá; anfractibus 5½ inflatis, supremis planiusculis; columellá profundè intrante, arcuatá, subcanaliculatá; aperturá perobliquá, suborbiculari, intùs albá; peristomate latè expanso, basi incrassato, intùs fulvido, marginibus approximatis.*

Diam. 19; altit. 14½ lin.

Hab. Samboanga, of the island of Mindanao.

This species, of which no more than one specimen was found, is very similar to *Hel. mammilla*, figured by Férussac and by Quoy and Gaimard, but the shell is almost smooth and quite imperforated.

BULIMUS COCHLIODES. *Bul. testá imperforatá, turritá, solidá, obliquè irregulariter striatá, apice obtusiusculá, albidd; suturá impressá; anfractibus 9 planiusculis; ultimo ¼ longitudinis æquante; columellá subincrassatá; aperturá oblongo-ovali; peristomate simplici, recto.*

Long. 2 poll.; diam. 6 lin.

One specimen was found at the island of Cuyo.

BULIMUS CUYOENSIS. *Bul. testá subperforatá, ovato-pyramidatá, glabriusculá, nitidulá, cinnamomeo-fulvidá, strigis flexuosis pallidioribus et fasciá unicá rufescente ornatá; suturá leví; anfractibus $5\frac{1}{2}$ planiusculis, ultimo $\frac{1}{3}$ longitudinis vix superante; columellá breví, incrassatá, latè reflectá; aperturá ovali; peristomate tenui, parùm expanso.*

Long. 15; diam. $7\frac{1}{2}$ lin.

Hab. Island of Cuyo. One specimen was found, on leaves of trees.

BULIMUS EFFUSUS. *Bul. testá imperforatá, ovatá, solidiusculá, obliquè minutissimè striatá, nitidá, albá; anfractibus 5 convexiusculis, ultimo spiram vix æquante; columellá obliquá, dilatatá; aperturá perobliquá, lunato-ovuli; peristomate simplici, valde expanso.*

Long. $19\frac{1}{2}$; diam. 14 lin.

Hab. Island of Tablas.

β . *Anfractu ultimo subtùs fasciá 1 fulvá ornato.*

This species resembles somewhat the *Bul. Cumingi*, but it differs in having the shell more solid, the aperture more oblique, the columella oblique and simple, and the last whorl shorter.

BULIMUS MACROSTOMA. *Bul. testá imperforatá, ovatá, solidiusculá, rufo-nigricante, apice pallidioré, epidermide hydrophaná fuscá indutá, lineis nigris circumdatá; anfractibus 6 convexiusculis, ultimo spiram subæquante; columellá verticali, dilatatá, medio subincrassatá; aperturá latá, lunato-ovali, intùs albá; peristomate expanso, subincrassato, intùs saturatè fusco, margine dextro valde arcuato.*

Long. $30\frac{1}{2}$; diam. $19\frac{1}{2}$ lin.

Hab. Dolores, province of Pampanga, in the island of Luçon: found on trunks of trees.

β . *Anfractu ultimo medio bifasciato, fasciá superiore angustá, nigrá, alterá adnatá latiore, albá.*

Long. 34; diam. $22\frac{1}{2}$ lin.

From Sual (island of Luçon); on leaves of trees.

BULIMUS ROMBLONENSIS. *Bul. testá imperforatá, ovato-pyramidatá, tenui, striis obliquis et transversis confertis obsoletè decussatá, albá, rufo-trifasciatá, epidermide hydrophaná deciduá, liberá, præsertim in fasciis, maculatá; anfractibus $6\frac{1}{2}$ planiusculis, ultimo $\frac{1}{3}$ longitudinis vix superante; columellá subrectá, angustá, planatá; aperturá ovali; peristomate simplici, subexpanso.*

Long. 2 poll.; diam. $11\frac{1}{2}$ lin.

Hab. The island of Romblon, on leaves of trees. It is perhaps an *Achatina*.

BULIMUS SOLIDUS. *Bul. testá imperforatá, ovato-oblongá, solidá, obliquè striatá, saturatè rufá, epidermide fusco-albá irregulariter strigatá; spirá conicá, sursùm pallescente; anfractibus 7 vix convexiusculis, ultimo spirá paulo brevioré; columellá rectá, basi subintortá; aperturá auriformi, lateraliter subeffusá, intùs albá;*

peristomate subreflexo, intùs rufo-nigricante, marginibus callo lato tenui junctis.

Long. 41; diam. $21\frac{1}{2}$ lin.

Hab. S. Juan, province of Cagayan (island of Luçon).

Var. testá magis inflatá, anfractu ultimo medio albido-fusciato.

Long. 39; diam. $22\frac{1}{2}$ lin.

Hab. Sual, province of Pangasinan (island of Luçon).

BULIMUS SUBCARINATUS. *Bul. testá imperforatá, pyramidatá, tenui, striis obliquis et spiralibus confertissimis minutè decussatá, albidd, diaphand, epidermide fuscescente, hydrophand irregulariter strigatá, ad suturam fasciá pallidè fulvescente ornatá; anfractibus $6\frac{1}{2}$ planiusculis, ultimo $\frac{2}{3}$ longitudinis subæquante, obsoletè carinato; columellá rectá, planá, angustá; aperturá oblongo-subtetragoná, intùs albá; peristomate simplici, parùm expanso.*

Long. $22\frac{1}{2}$; diam. $12\frac{1}{2}$ lin.

Hab. The island of Romblon, on leaves of trees.

BULIMUS UBER. *Bul. testá imperforatá, ovatá, apice obtusá, tenui, subdiaphand, lutescenti-albidd, obliquè regulariter et confertim striatá; spirá semiglobosá; suturá impressá, albo-marginatá; anfractibus 4 inflatis, ultimo spiram superante; columellá subrectá, propè basin subincrassatá; aperturá ovali; peristomate simplici, latè expanso.*

Long. $24\frac{1}{2}$; diam. 16 lin.

Hab. The island of Guimaras, on leaves of trees.

BULIMUS VIRENS. *Bul. testá imperforatá, ovato-pyramidatá, tenui, læviusculá, nitidá, albá, anfractu ultimo pallidè viridi; anfractibus 7 planiusculis, ultimo $\frac{1}{3}$ longitudinis vix superante, obsoletè angulato; columellá subrectá, propè basin subincrassatá, albá; aperturá obliquá, lunato-ovali; peristomate recto, vix incrassato.*

Long. 27; diam. $14\frac{1}{2}$ lin.

Hab. Island of Burias; on leaves of trees. In form it resembles *Bul. carinatus*; Lea.

November 22, 1842.

William Yarrell, Esq., Vice-President, in the Chair.

The following paper, by M. C. A. Récluz, entitled "Descriptions of various species of *Navicella*, collected by Mr. Cuming in the Philippine Islands," was communicated by H. Cuming, Esq., Corresponding Member, who exhibited specimens to the Meeting in illustration of the descriptions.

The longitudinal diameter of the *Navicellæ* described in this catalogue has been taken from the anterior to the posterior side, and the transverse diameter from the summit to the base of the external opening, in its broadest part.

1. NAVICELLA JANELLI, Récluz, Revue Cuvérienne, 1841. p. 376. No. 9.

Var. α . Testa ellipticâ, convexâ, crassiusculâ, vix cancellatâ, lineis nigris reticulatâ, interstitiis lutescentibus.

Var. β . T. lineis nigris supernè reticulatis, anticè remotiusculis, sub-æquidistantibus; aperturâ margine cinereo-nigrescente, in fundo aurantid, interdum nigro-maculatâ.

Var. γ . T. dorso nigro latè pictâ et maculis concoloribus variegatâ, anticè lineis nigris radiatâ, posticè densè lineolatâ; labio lateraliter emarginato, medio subproducto ac rectiusculo.

Var. δ . T. lutescente, dorso transversim latè et remotè nigro undatâ; zonis interdum anticè conico-angulatis.

Var. ϵ . T. orbiculari, dorso nigerrimâ, maculis lutescentibus sparsis notatâ, margine brevè lineatâ, posticè lateraliter, interdum luteo-viridescente; aperturâ margine cinereo-nigrescente.

Dimensions.—Var. α , 1.80 poll. longa; 1.28 ad 1.40 lata; 0.76 ad 0.80 convexa. Var. ϵ , long. 1.20 ad 1.40; lat. 0.96 ad 1.08; conv. 0.48 ad 0.52 poll.

Hab. ad Insulas Philippinas. Var. α and γ from Agoos, province of Pangasinan, island of Luçon: on stones in a rapid river. The var. β , δ , and ϵ , from Iba, province of Sambales, island of Luçon: on stones in a deep river.

The only difference I find between the varieties brought from the Philippine Islands and those from Guam (of which I have only been able to examine a single specimen) is, that the former are rather more solid and more convex. As to form and colour, they are too variable to dwell upon.

The operculum of this *Navicella* has particular characters, which it is important should be known, as confirming the specific value of this shell.

Operculum almost square, rather longer than broad, subconvex

above, of a light bluish black mingled with flesh-colour, striated upon the surface and upon the anterior side, divided by a broad and shallow canal, ending in a deep and wide anterior notch, which is cut square at the base. The canal and notch are bounded on the right by a smooth, linear, flesh-coloured rib, which is a little prolonged and truncated at the end with a furrow throughout its length. The left side of its inferior surface is striated above, sinuous at the margin and finely denticulated at its base, which is of a rosy red.

2. NAVICELLA VARIABILIS. *N. testâ ellipticâ, striis vix sub lente cancellatâ, lineolis transversis undulatis obsoletisque sæpiùs confluentibus olivaceis et maculis lutescentibus nigrescente anticè obumbratis variegatâ; apice marginali eroso, retusissimo; labio albo, posticè aurantio, margine subrecto; aperturâ albido-cærulescente.*

Long. 1.16 ad 1.28; lat. 0.80 ad 0.84; conv. 0.46 ad 0.54 poll.

Var. β . *T. ovatâ, posticè subtruncatâ, tenuiusculâ; apice ante marginem inserto, deroso.*

Long. 1.24 ad 1.28; lat. 1.10 ad 1.14; conv. 0.52 ad 0.56 poll.

Hab. Cagayan, province of Misamis, island of Mindanao: found on stones in a large river.

Although these two varieties appear to differ from each other in the position of the summit, I do not think they can be separated. Nevertheless the operculum varies perceptibly, and if their respective characters proved constant, which it would be necessary to verify by examining a certain number of specimens, then alone could one be distinguished from the other. The surface of this *Navicella* shows upon the anterior side longitudinal striæ, as deeply impressed as the transverse ones.

The operculum of the type is blackish throughout, except at the base, which is of an orange-red. The anterior side is notched. The dental apophysis is linear, smooth, a little raised, faintly striated both longitudinally and transversely. The external margin of this tooth projects but little, and its inferior part shows the commencement of a crest, but without teeth.

The operculum of the variety is of a rosy colour, with the inferior margin of an orange-red; the anterior side is more slightly notched in the middle, its dental apophysis projects rather more, and is linear, smooth, and divided by a longitudinal groove. The external margin of this tooth is narrow, without any trace of a denticulated crest at its base.

3. NAVICELLA SUBORBICULARIS. Sowerby, Cat. Tank. App. p. 10. No. 1092; Récluz in Guérin, Rev. Cuv. 1841. p. 377. No. 10.

Var. β . Récluz, l. c.; Rumph. Mus. Amb. p. 40. f. 0. Optime.

Var. γ . Minori, tenuiori.

Hab. ad Insulas Philippinas. From the island of Camiguing: found on stones in mountain-streams. Var. β , from Cagayan, province of Misamis, island of Mindanao: on stones in a large river. - Var. γ , from Banguay, province of North Ylocos, island of Luçon: found on stones in a small stream.

I see neither in the general form nor in the operculum of these

varieties any character sufficient to distinguish them from the type: the colour alone is variable.

The operculum is of a pale flesh-colour, flattened with an arched notch at the anterior side. The apophysis projecting, smooth, a little more arcuated than that of the operculum of *Nav. Janelli*; its external margin is narrower, almost straight, finely crenulated in its lower half. The posterior border is very thin and of a dirty red.

4. NAVICELLA LUZONICA, Souleyet. *N. testá ellipticá, rufo-fuscá seu olivacé unicolori seu nigro obsoletè reticulatá aut punctatá, lateribus compressiusculá, dorso valdè convexá, solidá; apice ad marginem posteriorem incurvo, subintegro ac eroso; labio semilunari aurantio, anticè rectiusculo; aperturá albido-cærulescente, margine posteriore laterali nigrescente.*

Nav. Luzonica, Souleyet, Rev. Cuv. 1841. p. 375. No. 6. Junior.

Var. β . *T. olivaceo-fuscescente, maculis minimis lutescentibus via nigrescente marginatis irroratá.*

Var. γ . *T. rufo-fuscá immaculatá; apice dero, convexo.*

Var. δ . *T. rufo-fuscá, posticè tenuissime nigro et lutescenti longitudinaliter lineolatá, maculisque minimis lutescentibus conicis nigromarginatis, obsoletisque (sub lente) pictá.*

Var. ϵ . *T. rufo-fuscá, inter oculum et laminam maculis minimis subnigrescentibus adpersá.*

Var. ζ . *T. minori, tenuiori, olivacé, posticè lineolatá, suprâ nigro tenuissime reticulatá, anticè maculis squamiformibus pictá, labio stramineo, nigrescente circumvallato.*

Long. 1.28 ad 1.60; lat. 0.84 ad 1.12; conv. 0.52 ad 0.76 poll.

Hab. From Dingle, province of Ylo Ylo, island of Panay: found in a placid river on stones. The var. γ and δ from Cagayan, province of Misamis, island of Mindanao: on stones in a large river. Var. ϵ , from the mountains of the island of Negros: found on the rocky bed of a small stream.

The individual which served as type to M. Souleyet was young, and had been brought home in spirits of wine, which hindered him from seeing the black lines which adorn the external surface of this *Navicella*. There is then no difference between his specimen and these of Mr. Cuming.

The operculum of this *Navicella* is rose-coloured, clouded with white and blue, but the rose-colour predominates. The notch of its anterior portion is somewhat rounded; its subarcuated apophysis bears a longitudinal groove more or less impressed; the external margin of this apophysis is tolerably large, and rather concave below the middle, at the usual origin of the crest, which is wanting in this species. The inferior or internal surface is of a pale flesh-colour, with a blackish tint on its left margin. The muscular impression is rose-colour, very shining, almost square, truncated anteriorly and upon the left side, somewhat rounded at its base, straight and oblique on the right side, with an acute angle at its base.

This operculum varies in form and colour; its notch in one individual had the form of a Δ , or profoundly acute; in others it was

very open : some are altogether rose-coloured, others rosy on one side, yellow on the other, and blackish in the middle ; others again almost entirely of a bluish tint, and mingled with these various colours.

The summit, sometimes almost entire or decorticated only, is at other times entirely eroded at its inferior surface ; it is prolonged upon the posterior margin of the opening, though not beyond, and there it is worn away, as if it had been rubbed upon a grindstone.

5. NAVICELLA CUMINGIANA. *N. testá orbiculari seu ovatá, convexá, solidá, vix striatá luteo-fuscescente, lineis concentricis nigris undulatis arcuatisve interdum reticulatis cinctá ; apice marginali eroso, retuso ; labio plano, albo, anticè in medio producto ; aperturá albá, cordiformi.*

Var. β . *T. nigro-reticulatá, lutescente maculatá et subfasciatá.*

Var. γ . *T. ovato-ellipticá, dilutè olivacé, posticè lineolis nigris transversis, interdum majoribus et remotis notatá.*

Hab. Var. α et ϵ from a mountain-stream in the island of Camaguig. Var. β from Cagayan, island of Mindanao.

Long. 1.00 ad 1.20 ; lat. 0.84 ad 0.92 ; conv. 0.40 ad 0.56 poll.

The columella is 0.24 to 0.28 poll. in diameter.

Operculum irregularly oval, of an uniform white or rayed with rose-colour above, profoundly notched anteriorly ; the notch rounded at its base. The apophysary rib is only apparent at the anterior summit of the operculum ; it projects but little, and is nearly acute. Its external margin is oblong, very thin and very smooth ; the left or opposite margin is striated, somewhat imbricated above, and crenulated throughout its extent. The inferior surface is of a pale uniform flesh-colour. The subrotund or oboval muscular impression is of a rose-red anteriorly, and of a dark red at the base. Upon the operculum of the var. γ the left margin is completely wanting, which gives an oblong and a subtriangular form to the muscular impression. These characters are only accidental.

I have dedicated this interesting species to Mr. Cuming, whose numerous discoveries in natural history have enriched science with a crowd of new facts, as a testimony of my esteem.

6. NAVICELLA CLYPEOLUM. *N. testá ovato-oblongá, anticè et posticè rotundatá, tenuè et concentricè striatá, lineolis nigro-violaceis seu purpurascensibus, interdum confluentibus et maculis albido-lutescentibus oblongis elongatisve nigro-marginatis sub-serialibus et passim radiis pallidis binis pictá ; apice brevi ad dextram vix obliquante, ante marginem posito ; labio semilunari, convexiusculo, fuscescente ; aperturá patulá.*

Var. β . *T. olivaceo-nigricante, maculis obsoletis ; apice eroso ; labio latiore, carneo, in medio subproducto, recto.*

Var. γ . *T. olivacé, lutescente maculatá, in medio ventre obsoletè biradiatá ; apice purpurascente, labio fuscescente.*

Var. δ . *T. atratá, immaculatá ; apice eroso ; labio et margine aperturæ carneo-fuscescentibus.*

Var. ϵ . *T. nigrescente lineolatá pallide virescente radiatá et maculatá, apice submarginali roseo, integerrimo.*

Var. ζ. *T. fuscescente maculis linearibus albidis nigro acutè marginatis obsoletis sparsis variegatâ; apice purpurascente; labio et margine aperturae dilutè fuscis.*

Long. 0·80 ad 1·32; lat. 0·76 ad 0·92; conv. 0·24 ad 0·48 poll.

Hab. Var. β and γ from Cagayan. Var. α and ε from Banguay, province of North Ylocos, island of Luçon: found on stones in a mountain stream. Var. γ, island of Guimaras, on the rocky bed of a small stream. Var. δ, rocky bed of a stream in the mountains of the isle of Negros. The type itself is found at Pasuguing, province of North Ylocos, island of Luçon.

Operculum almost square, thin, of a rose-colour, cut squarely anteriorly, with a projecting, obtuse, linear tooth, which is divided by a slightly impressed longitudinal groove; the right margin very narrow, very thin, and without crest.

It is possible that this species may prove only a stronger, more robust state of the *Nav. tessellata*; nevertheless it differs in its general form, and its operculum also shows some differential characters.

7. NAVICELLA TESSELLATA, Lamarck.

Var. α. *T. lateribus angustatâ, subrectis; sub epidermide lutescente lineolis violaceis seu purpureis creberrimis, et maculis conicis concentricè seriatis pictâ; vertice recto. luteo; labio triangulari, anticè subarcuato, lateribus prolongato.*

Var. β. *T. ut in var. α, sed posticè subemarginatâ, griseo-fusca, maculis minoribus luteo-fuscescentibus conicis crebrè pictâ; apice dilutè purpurascente, recto; labio subtriangulari, angusto, roseo, anticè arcuato.*

Var. γ. ? *T. oblongo-ellipticâ, anticè et posticè rotundatâ, crassiore sive oblongo-acutâ, lateribus angustatâ, nigerrimâ, apice eroso; labio semilunari, interdum triangulari, latiore, subrecto, lateribus non prolongatis.*

An *Nav. Clypeolum*, var. ? credo, sed difficile est probandi sine operculo.

Long. 0·80 ad 0·92; lat. 0·76 ad 0·92; conv. 0·24 ad 0·48 poll.

Hab. Var. α, Cagayan: found in a large river on stones. Var. β, from Baccara, province of North Ylocos, island of Luçon: found on stones in a placid river. Var. γ. ?, from Abulug, province of Cagayan, island of Luçon: found on stones in a large river.

Operculum square, a little elongated, narrow, and cut almost square anteriorly, with a slight notch towards the apophysis, which is slightly curved inwards (instead of being straight or turned backwards, as in that of *Nav. clypeolum*). The inclined angle of the middle of the left side is deeper, and in this species shows a depression or broad canal, in form of a Δ, the whole length of the apophysis; this canal is limited to the left by two slightly raised ribs.

These characters of the operculum, if they be constant, should suffice to avoid all confusion of this species and the one which precedes.

8. NAVICELLA LINEATA, Lamarck.

Var. α. *T. oblongâ, posticè acutâ, luteo-aureâ, supernè lineis spadicis radiantibus ex lineolis transversis obumbratis, anticè et late-*

caliter maculis oblongo-conicis subserialibus picta; apice lateraliter compresso, suprà fornicato, roseo-purpurascente recto, marginali; labio angusto-triangulari, medio concavo-emarginato, lateribus anticè prolongatis.

Var. β . *T. ellipticà, posticè angustatà, luteà medio dorsi lineis nigris angustis et latiusculis, et lineolis obliquis creberrimis radiis latioribus lateraliter efformantibus interdum confluentibus picta, labio triangulari anticè arcuato.*

Var. γ . *T. oblongà, posticè angustà, subacutà, luteà radiis angustis nigris medio dorsi notatà, anticè et lateraliter crebrè nigrescente lineolatà, et maculis linearibus luteis subseriatis picta; apice subviolascete; labio triangulari, anticè arcuatim excavato.*

Var. δ . *T. elongatà, lateribus compressà, dorso convexo-fornicatà, anticè subacuto, interdum truncato; luteo-fuscescente, maculis oblongis anticè nigris acutis lateraliter lineolis tenuissimis obsolete que obumbratis picta; apice interdum nigrescente, labio triangulari, luteo-fuscescente.*

Var. ϵ . *T. oblongo-ellipticà, lateribus compressà, lineolis pallide fuscis aut purpurascensibus, et maculis oblongo-conicis luteis picta; radiis binis, pallide luteis in medio dorsi notatà; labio triangulari, anticè arcuato.*

Var. α : long. 0.88 ad 1.08; lat. 0.44 ad 0.56; conv. 0.24 ad 0.48 poll. Var. β and γ : long. 0.96 ad 1.04; lat. 0.60 ad 0.64; conv. 0.32 ad 0.36. Var. δ : long. 0.52 ad 0.64; lat. 0.32; conv. 0.28 ad 0.32.

Hab. Var. α , from Banguay, province of North Ylocos: on stones in a mountain-stream. Var. β , from Cagayan: on stones in a large river. Var. δ , from Baccara: on stones in a rapid river. Var. ϵ .?, cum præcedenti.

All these varieties are very remarkable, and, with the exception of var. ϵ , whose operculum I have not seen, all certainly belong to the same species. The operculum of *Nav. lineata* is oblong, very thin, pale yellow, a little inclined to pale green, rounded behind, notched before, notch in an oblique line at the base. The left side of this operculum is slightly arcuated in the centre; the right side almost rectilinear and limited by an apophysary tooth, very narrow and a little prolonged anteriorly. Muscular impression triangular, elongated, inclined obliquely to the left.

9. NAVICELLA ENTRECASTAUXI, Récluz. Rev. Cuvier. p. 380, No. 14.

Var. β . *T. obovatà, nigro-purpurascete, concentricè et crebrè lineolatà, maculis luteis conicis aut subquadratis picta; apice purpurascete marginali, non exserto; aperturà albido-cærulescente.*

Long. 0.80 ad 0.90; lat. 0.56 ad 0.60; conv. 0.20 ad 0.28 poll.

Hab. ad insulas Philippinas.

Operculum almost square, of the form and sculpture of that of *Nav. tessellata*, offering however some characters which the state of that which was submitted to me does not allow me to judge of

with certainty. Its colour is of a rosy white, and yellow in the centre. It is possible that the *N. Entrecastauxi* may prove only an oboval variety, with a marginal summit of *N. tessellata*. When I shall have seen a greater number of specimens with their opercula I may be enabled to pronounce with more certainty.

It results from this examination of the *Navicellæ* collected by Mr. Cuming, together with those I have had an opportunity of studying up to the present time—1st, that the number of known species of this genus amounts at present to eighteen; 2ndly, that the Asiatic Islands is that part of the world which contains the greater number of species; and 3rdly, that Polynesia is afterwards the most rich locality in species of this genus.

A communication by Mr. Lovell Reeve, “On the genus *Phorus*, a group of agglutinating Mollusks of the family *Turbinacea*,” was then read.

“It is remarkable that a group of mollusks of such decided importance as those which I have selected for consideration should have so long escaped the especial notice of conchologists. The genus *Phorus* was introduced many years since by De Montford; but as it was not recognised by Lamarck, few authors thought it worthy of adoption. Little enough is known of the nature or anatomy of the *Phori*, but the remarkable character which their shells exhibit may be sufficiently estimated to rest their claim upon that alone to the rank of a genus.

“The character here alluded to is a property which these mollusks possess of agglutinating to the outer surface of their shells any fragments of stones, shells, corals, or other marine debris that they may chance to be in contact with, and which become so firmly attached that they cannot be dislodged without violence. The well-known Carrier Trochus (*Trochus agglutinans*, Lamarck; *Phorus onustus*, mihi) was for a long time the only species of *Phorus* known; when others even were discovered they were only regarded as varieties of that species, and the agglutinating property which they showed their animal occupants to possess, was not considered to be of any generic importance. The distinction however which De Montford assigned to these animals has become of infinite value, for we now possess several species of them, and the agglutinating power operates in different ways in each; some shells, for example, are found with only a few small pebbles agglutinated to the earlier whorls, whilst others are characterized by their having only such fragments of shells or stones as are flat or tile-shaped collected round the edge or periphery of the whorls; and these several methods of agglutinating are each confined to particular species. Other modifications of this property may yet be discovered, and I trust, as the *Phori* are not uncommon in the West Indies, that they will ere long be made the subject of anatomical examination.

“I see no reason at present for altering the situation which is commonly assigned to these mollusks in the general system; the struc-

ture and formation of the shell, as well as the presence of an operculum, seem sufficiently to indicate that they are allied to the *Trochi*, and not to the *Calyptraæ*, as supposed by Mr. Gray.

“I now proceed to lay seven species of this interesting genus before the Society, four of which are entirely new to me.”

Genus PHORUS.

Testa orbicularis, subconica, spirâ obtusâ, anfractibus regularibus, peripheriâ tubulis cavis interdum ornatâ, conchyliorum lapidumque frustis irregulariter agglutinatis; facie infernâ concaviusculâ, granosâ aut lamellosâ; umbilico amplo, profundo, sæpè ætate occultato; aperturâ depressâ, marginibus disjunctis, labro simplici, acuto. Operculum corneum tenue, ovale.

“Such are the characters which appear to me to apply generically to this group. The specific differences consist, not in the nature of the materials which are agglutinated, as supposed by Born and others, who had their *Trochi lithophorus* and *conchyliophorus*, for stones, shells and corals may often be found collected on the same individual; but in the perpetuated variations of the living shell, and the manner in which the surrounding debris become attached to it.”

PHORUS SOLARIS. *Phor. testâ orbiculari, subconicâ, paucis calculis versus apicem agglutinatis; apice acuto; superficie striis obliquis et undulatis inscriptâ; anfractibus tubuloso-radiatis, tubulis tenuibus cavis, apertis; infernâ facie plano-concavâ, undulatim striatâ; aperturâ semicordatâ; umbilico angusto.*

Reeve, Conch. Syst., vol. ii. pl. 214. f. 1 and 2; Conch. Icon. Phorus, pl. 2. f. 5 a and b.

Trochus solaris, Linnæus, Lamarck, &c.

Hab. Malacca. (Found in coarse sand at the depth of seven fathoms.) Cuming.

“This very beautiful shell, in which the periphery of the whorls is extended throughout into hollow spouted spines, has never more than a few pebbles agglutinated to the first one or two whorls. The finest specimen I know of is in the collection of the Rev. Mr. Stainforth, and has furnished me with the drawing above referred to.”

PHORUS ONUSTUS. *Phor. testâ orbiculari, conicâ, brunnescente-albâ; anfractibus subangulatis, rudibus, vel conchyliis vel lapidibus agglutinatis; infernâ facie subconcavâ, rufâ; umbilico ætate occultato.*

Reeve, Conch. Syst., vol. ii. pl. 214. f. 3, and 215. f. 8; Conch. Icon. Phorus, pl. 1. f. 3 a and b.

Trochus agglutinans, Lamarck.

Trochus conchyliophorus, } auctorum.

Trochus lithophorus, }

Hab. West Indies.

This is the original and best known species of the group; it is by far the most profusely covered, and is generally heavily laden with shells, stones, or corals.

PHORUS INDICUS. *Phor. testâ orbiculari, convexo-conicâ, ad api-*

cem acutá, tenuissimá, subtilissimè striatá, albá, supernè rosed; anfractuum peripheriá dilatatá, acutissimá; infernâ facie profundè umbilicatá, fusco-fasciatá, lamellá laterali cavitatem formante.

Reeve, Conch. Syst., vol. ii. pl. 215. f. 6; Conch. Icon. Phorus, pl. 1. f. 2.

Trochus Indicus, Gmelin, Lamarck.

Wagner, Supp. to Chemnitz, p. 129. pl. 229. f. 4062 *a, b*.

Hab. Cochin-China.

"I never remember having seen this shell with any shells or pebbles attached to it, but the first two or three whorls sufficiently indicate that some have been agglutinated to it at one time or another by the numerous indentations which they exhibit. The under surface of the shell is generally marked with a circular brown band, the centre being widely umbilicated."

PHORUS EXUTUS. *Phor. testá orbiculari, depresso-conicá, ad apicem acutá, rosaceo-fulvá, tenuissimá, volutám peripheriá inconcinniter undulatá, dilatatá, superficie diagonaliter striatá et sulcatá; infernâ facie pallidá, nitente, striatá, versus marginem granosá, lamellá cavitatem formante.*

Reeve, Conch. Syst., vol. ii. pl. 215. f. 9 and 10; Conch. Icon. Phorus, pl. 2. f. 7 *a* and *b*.

Hab. — ?

"This shell exhibits very slight evidence of ever having had any matter agglutinated to it. It somewhat resembles the preceding species, but may be readily distinguished by the elaborate manner in which the whorls are diagonally carved with grooves and striæ. The periphery of each whorl is most unusually dilated beyond their laminal bases; it is exceedingly thin and fragile, and very unevenly undulated."

PHORUS CALCULIFERUS. *Phor. testá orbiculari, convexo-conicá, tenui, subtilissimè granosá et striatá, volutis calculis et conchyliorum frustis supernè symmetricè ornatis; facie infernâ profusè granosá et striatá.*

Reeve, Conch. Syst., vol. ii. pl. 215. f. 7; Conch. Icon. Phorus, pl. 1. f. 1.

Hab. — ?

"I have seen several specimens of this very pretty species; the shell is of a bright subrosaceous fawn-colour, and entirely covered with fine diagonal striæ and cross grains. The agglutinating property seems confined to the upper portion of the whorls, so that there is always a band of fine pebbles or shells around the sutures, and they exhibit a regular increase in their selection as the agglutinating surface increases with the growth of the shell."

PHORUS PALLIDULUS. *Phor. testá solidá, albá, acutissimè pyramidalí, volutis angulatis conchyliorum frustis sparsis agglutinatis; infernâ facie leviter concavá, pallidulá, subtilissimè striatá.*

Reeve, Conch. Syst., vol. ii. pl. 214. f. 4; Conch. Icon. Phorus, pl. 1. f. 4.

Hab. Coast of Japan : Siebald.

This shell is most nearly allied to the *Phorus onustus*; it is very solid, sharply pyramidal, and of a singular live pallid appearance. There are two or three specimens of it in the collection of H. Cuming, Esq.; and the fragments of shells which are agglutinated indiscriminately to the area of the whorls are very much broken in all, though the shells to which they are agglutinated are in every respect live and perfect.

PHORUS CORRUGATUS. *Phor. testá orbiculari, obeso-conicá, albá, diagonaliter corrugatá, volutarum peripheriá conchyliorum lapidumque frustis planis ornatá; facie infernâ pallidá, leviter granosá et striatá.*

Reeve, Conch. Syst., vol. ii. pl. 214. f. 5; Conch. Icon. Phorus, pl. 2. f. 6.

Hab. — ?

The method or disposition of the agglutinated fragments in this species is very peculiar and distinct from that in any other. The generic property is here confined to the base of the whorls, and the fragments which become attached are all inserted edgewise, ranging with great regularity side by side. The specimen above described is in the collection of the Rev. Mr. Stainforth.

Mr. Cuming exhibited to the Meeting the various species of *Phorus* referred to in the above communication, and also a series of specimens of the genus *Pecten*, descriptions of which, by G. B. Sowerby, Jun., were read. The species described are figured in Sowerby's 'Thesaurus Conchyliorum.'

PECTEN PICTUS, Thes. Conch. pl. 20. f. 233. *Pect. T. obliquè ovatá, compressá; auriculis subæqualibus, radiatim sulcatis, ad basim emarginatis, ad margines undulatis; lateribus striatis; costis 13, triangulatis, elevatis, lævibus; interstitiis angustis, bisulcatis, crenatis; colore pallidè fulvo, fasciis et punctis et lineis rubris variegato; intùs albo.* Long. 0.80; lat. 0.25 poll.

Hab. Ins. Baïæ, Ins. Negros, Philippinarum. H. Cuming legit. Found in coarse sand at a depth of seven fathoms.

Equivalve, nearly equilateral, flat, with thirteen nearly triangular ribs, slightly flattened at the upper angle; the ears nearly equal, and the general characters of the species indicating some degree of affinity with the group containing *P. Radula*.

PECTEN SUPERBUS, Thes. Conch. pl. 12. f. 11. *Pect. T. subovali, obliquè, posticè expansá, compressá, crassá; auriculis parvis, obtusis; costis 23, crassis, rotundatis, lævibus, interstitiis angustis; colore propè umbones roseo, propè margines pallidè luteo, fasciis rubris, præruptis, angulatis variegato.* Long. 2.40; lat. 0.65; alt. 2.60 poll.

Hab. — ? Mus. H. Cuming.

Flat, solid, obliquely oval, with the auricles small, obtuse; twenty-three rounded, smooth, thick ribs; the general colour pale straw,

pink at the umbones, variegated with interrupted angular bands of brightish red.

PECTEN VELUTINUS, Thes. Conch. pl. 13. f. 31. *Pect. T. subovali, subcompressa, æquilaterali, radiatim leviter striata, ad marginem subinflata; auriculis subæqualibus, striatis, margine obliquè plicato; costis 5, crassis, rotundatis, gradatim declinantibus; colore fulvo-rufescente, fasciis albis, angulatis, subtus fusco-marginatis variegato; intus albo.* Long. 1·15; lat. 0·37; alt. 1·25 poll.

Hab. Macassar. Hinds legit.

Nearly oval, rather flat, equilateral, with fine radiating striæ; auricles nearly equal, striated; hinge obliquely plicated; ribs five, rounded, not very deep; colour dull fawn, variegated with angular bands of white edged with brown lines. The whole surface of the shell has a somewhat velvety appearance.

PECTEN SERRATUS, Thes. Conch. pl. 13. f. 56. *Pect. T. obliquè ovali, irregulari, posticè subproducta, subcompressa; auriculis inæqualibus, posticis minoribus, costis numerosis, minutissimè squamiferis; colore sulphureo, maculis magnis fuscis variegato, intus ad marginem purpureo.* Long. 1·20; lat. 0·50; alt. 1·40 poll.

Hab. ad Insulas Philippinas. H. Cuming legit. Found under stones at low water on the island of Zebu.

Resembling *P. squamosus*, but more oblique and more ventricose, with the scales more minute.

PECTEN ALBOLINEATUS, Thes. Conch. pl. 14. f. 69. *Pect. T. ovali subtrigona, compressa, æquivalvi; auriculis inæqualibus, posticis minimis, anticis magnis, acutis, sulcatis; costis numerosis, æqualibus, subquadratis; interstitiis griseo-maculatis, valvæ sinistrae costis griseis, lineis albis interruptis, costarum tribus albis.* Long. 0·93; lat. 0·25; alt. 1·19 poll.

Hab. Ins. Guimaras, Philippinarum. Found under stones at low water.

Resembling *P. ornatus*, Lam., but with the ribs more numerous, equal and regular.

PECTEN SINGAPORINUS, Thes. Conch. pl. 13. f. 151, et pl. 18. f. 71. *Pect. T. rotundata, subtrigona, subcompressa, æquivalvi, subæquilaterali, subtenui; auriculis inæqualibus; anticis magnis; costis 24 elevatis, subquadratis, lævibus; colore albo, pallidè roseo tincto, radiis quatuor latis, fusco-maculatis; prope umbones griseo maculato.* Long. 1·30; lat. 0·40; alt. 1·30 poll.

Hab. Singapore. Found in coarse sand at the depth of six fathoms. More depressed spreading and circular than *P. Tranquebaricus*.

PECTEN CRASSICOSTATUS, Thes. Conch. pl. 15. f. 111. pl. 17. f. 152. *Pect. T. subtriangulari, crassa, subæquilaterali, sublævi; auriculis inæqualibus, costas squamiferas ferentibus; costis 24, crassis, elevatis, subquadratis, annulatis; lateralibus squamiferis; interstitiis ferè lævibus, colore pallidè purpureo, vel aurantiaco.* Long. 4·50; lat. 1·50; alt. 4·30 poll.

Hab. Japan. Mus. H. Cuming.

A much larger and more solid shell than *P. senatorius*, with the ribs much more elevated and more square.

PECTEN SPLENDIDULUS, Thes. Conch. pl. 20. f. 246. *Pect. T. ovali, subtrigona, tenui, compressa, ad latera angulata; auriculis valde inæqualibus, squamoso-sulcatis, complanatis; anticis latis, elongatis; sinu magno; costis 25, concinnis, subdistantibus, rotundato subquadratis, squamas acutas erectas, distantes ferentibus; colore rubro, maculis albis elongatis, ad auricula lateraque fasciatim variegato.* Long. 1·20; lat. 0·35; alt. 1·35 poll.

Hab. Singapore. Mus. H. Cuming. Found at a depth of six fathoms in coarse sand.

A much more compressed and regularly formed shell than *P. varius*.

PECTEN PSEUDOLIMA, Thes. Conch. pl. 20. f. 235. *Pect. T. rotundato-ovali, subobliqua, subæqualvi, ventricosa; auriculis inæqualibus, squamoso-sulcatis; anticis elongatis, acutis, valvæ dextræ ad marginem spinosis; posticis parvis obtusis; costis 27, crassiusculis, bisulcatis, subrotundatis, squamarum acutarum series tres ferentibus; interstitiis angustis planis; colore aurantiaco, albo (præcipuè ad umbones) variegato.*

Hab. Jacna, ad Ins. Bohol, Philippinarum. H. Cuming legit.

The ribs are beautifully ornamented by three rows of close, sharp, erect, slightly curved scales.

Mr. Sowerby also characterized a new species of *Rostellaria*.

ROSTELLARIA CURTA, Thesaurus Conchyliorum, part i. pl. 5. f. 7. *Rost. testâ crassa, levi, fusiformi; apice leviter plicata; anfractibus numerosis planis; canali postico super anfractûs penultimæ partem decumbenti; canali antico brevi, recto; labio interno crasso; labio externo subexpanso, dentibus sex irregularibus; colore fulvo, fasciâ latâ castaneâ partem posticam anfractuum decurrente.*

Hab. —? Mus. Cuming.

The whorls of this species are flatter than in *Rostellaria curvirostrum*; the last whorl is much shorter and the anterior canal is straight. The outer lip being irregular, led me at first to suppose that the specimen from which the description is taken might be one of the common species in which the completed aperture had been prematurely formed, it being well known that *R. curvirostrum*, in a young state, has the beak straight. But a slight difference in the shape of the whorls, the broad chestnut bands on the upper part of them, and the fact of several other specimens precisely similar having been seen by Mr. Cuming at Berlin, have determined me to describe this as a new species, which I now do with little hesitation.

Mr. Gould exhibited a new species of Parrot belonging to the genus *Coryphilus*, which he characterized as follows:—

CORYPHILUS DRYAS. *Cor. vittâ frontali metallicè viridi, cærulescente verticem versus; hujus plumis elongatis et saturatè cæruleis;*

dorso et alis obscurè viridibus, uropygio, caudæ tectricibus, et crisso pallidè viridibus, caudæ reetricibus albis, marginibus pallidè vire-scenti-cæruleo tinctis; loris albis, pectore vittâ saturatè cæruleâ ornato; abdomine albo, femoribus saturatè cæruleis.

A band of verditer-green crosses the forehead, changing into blue towards the crown, the feathers of which are lengthened and of a deep blue, with a narrow line of shining paler blue down the centre of each; back and wings dull verditer-green; rump, upper and under tail-coverts light verditer-green; primaries black, margined on the outer webs with deep greenish blue; tail-feathers white, gradually passing into pale greenish blue on their margins, and the shafts brown; lores white; throat and front of the neck deep blue, each feather with a spot of white at the tip; breast crossed by a band of deep blue; abdomen deep blue, each feather largely tipped with white; thighs deep blue; bill dark horn-colour; feet yellowish white.

Total length, $7\frac{1}{4}$ inches; bill, $\frac{7}{16}$; wing, $4\frac{3}{4}$; tail, $3\frac{1}{4}$; tarsi, $\frac{1}{2}$.

Hab. The Marquesas Islands.

From the indistinct character of the markings of the throat and abdomen, the bird from which the above description was taken would appear to be somewhat immature.

Mr. H. E. Strickland then communicated to the Meeting a list of the Birds in the Chinese collection now exhibiting at Hyde Park Corner:—

“In the present very imperfect state of our knowledge of Chinese zoology, any contribution, however small, becomes valuable, and I have therefore thought it worth while to draw up as accurate a list as I can of the species of birds contained in the very interesting collection of Chinese productions now exposed to public view. Most of the species enumerated exist also in the British Museum, where the kindness of Mr. G. R. Gray has aided me in identifying them.”

N.B. The Nos. refer to the printed catalogue and to the specimens.

Case 19, No. 374. *Euplocamus nyctemerus*, (Linn.)*

375 & 376. *Polyplectron Hardwickei*, Gray.

377 & 378. *Thaumalea picta*, (Linn.)

379. *Paradisea sanguinea*, Shaw.

380 & 382. *Paradisea apoda*, Linn.

381. *Cicinnurus regius*, (Linn.)

383. *Cygnopsis cygnoides*, (Linn.)

Case 21, Nos. 385 & 386. *Phasianus torquatus*, Gm. This is the true wild Ring-necked Pheasant indigenous to China. The Ring-necked Pheasants sometimes shot in this country are supposed to be a mixed breed between this species and *P. colchicus*.

387. *Aix galericulata*, (Linn.)

388. *Oriolus chinensis*, Linn.

389. *Arborophila sphenura*, (Gray.)

* The brackets () imply that the authority refers to the *specific names only*.

390. *Acridotheres cristatellus*, (Gm.)

391. *Lanius erythronotus*, Gould.

392. *Centropus*. Several of the Asiatic species of this genus are as yet so imperfectly determined that I do not venture to affix a specific name to this bird.

393. *Ceryle varia*, Strickl. This, which is the Eastern representative of the *C. rudis* of Europe and Africa, is distinguished by the round black spots on the throat and the greater amount of white on the upper parts.

394. *Gallinula gularis*, Horsf.

395. *Coturnix communis*, Bonn.

396. *Fuligula cristata*, Steph.

Case 22, Nos. 398 & 399. *Rollulus cristatus*, (Gm.)

400 & 401. *Gallus bankiva*, Temm.

402. *Turnix pugnax*, (Temm.)

403. *Acridotheres ialla*, (Horsf.)

404. *Palæornis bengalensis*, (Gm.)

405. *Acridotheres sericeus*, (Gm.) This species is quite distinct from *A. dauricus*, Pall., with which it is united by Wagler.

406. *Hæmatornis jocosus*, (Linn.)

407. *Merops philippinus*, Linn.

408. *Palæornis torquatus*, Vig.

409. *Amadina punctularia*, (Linn.)

410 & 411. *Amadina oryzivora*, (Linn.)

412. *Pyrrhulauda gingica*, (Gm.) (*Fringilla cruciger*, Temm.)

413. *Merops viridis*, Linn.

414. *Acridotheres malabaricus*, (Gm.)

415. *Palæornis torquatus*, Vig. Female.

416. *Amadina malacca*, (Linn.)

417. *Hydrophasianus sinensis*, (Gm.)

418. *Psittacus sinensis*, Gm.

419. *Anser albifrons*, (Gm.)

420. *Phalacrocorax*. An immature specimen, apparently identical with *P. carbo*, (Linn.) of Europe.

423. *Xema*, apparently referable to *X. ridibundum*, (Linn.)

424. *Rhynchaspis clypeata*, (Linn.)

There are also in Case 22, but without numbers, the two following: *Porzana rubiginosa*, (Temm.), and *Rallus gularis*, Horsf.

Case 51, Nos. 862 and 863. *Francolinus perlatus*, (Gm.)

864. *Querquedula falcaria*, (Pall.)

866. *Coturnix chinensis*, (Linn.)

867. *Lanius lucionensis*, (Linn.)

868. *Ianthocincla canora*, (Linn.)

869 & 875. *Coccothraustes melanurus*, (Gm.)

870 & 871. *Pyrgita rutilans*, (Temm.)

872 & 873. *Psittacula galgula*, (Linn.)

874. Apparently the young of *Melophus Lathamii*, Gray.

876. *Turdus*, apparently referable to *T. merula*, Linn., fem.

877. *Gallinula chloropus*, (Linn.)

878. *Gallinula phænicura*, (Gm.)

879. *Dafila acuta*, (Linn.)

880. *Calenas cruenta*, (Gm.)

Case 52, No. 884. *Querquedula formosa*, (Georgi.)

885. *Coturnix communis*, Bonn.

886. *Anthus*. This genus is at present imperfectly worked out, and it is therefore difficult to attach a specific name accurately to the above specimen.

887. *Herodias garzetta*, (Linn.)

888. *Oriolus chinensis*, Linn.

889. *Asio brachyotus*, (Linn.)

890. *Halcyon atricapilla*, (Gm.)

891. *Copsychus longirostris*, (Swains.)

892. *Carduelis sinica*, (Linn.) (*Fringilla kawariba*, Temm.)

893. *Melophus Lathamii*, Gray.

894. *Gallinula phænicura*, (Gm.)

895. *Liothrix sinensis*, (Gm.)

896. *Yunx torquilla*, Linn.

897. *Mareca penelope*, (Linn.)

898. *Querquedula crecca*, (Linn.)

Case 54, Nos. 917 and 921. *Argus giganteus*, Temm.

918 & 920. *Turtur suratensis*, (Gm.)

919. *Acridotheres tristis*, (Linn.)

922. *Palæornis malaccensis*, (Gm.)

“The birds above enumerated were obtained by Mr. Dunn during his residence at Canton. Some of them appear to have been imported thither from Malacca, and the remainder form but a small sample of the zoological treasures that might be obtained were the Chinese Empire opened to naturalists. It seems strange that so little has yet been done to obtain specimens of Chinese zoology through the medium of the natives. Thousands of bird-skins are annually sent to Europe by the natives of Brazil, Senegal and Malacca, and there can be no reason why a similar trade should not be established with China. All that the Chinese want is a little instruction in the art of preserving specimens, which might be easily communicated if some of the merchants connected with the tea-trade would take an interest in the subject.”

H. E. S.

The following descriptions of new species of *Nerites*, collected by Mr. Cuming in the Philippine Islands, by M. C. A. Récluz, were also read.

Observation.—By length is meant the distance from the summit of the spire to the external base of the columella; by breadth, the diameter formed by the extremities of a line which should pass from the anterior to the posterior side, and by convexity or thickness, the distance comprised between the most convex parts of the columella and of the last whorl.

Second Section of the Genus.—Shells smooth, or striated lengthwise; outer lip without teeth and without furrows internally; columella not notched at the summit; columellar lip sharp, or crenulated at the margin. *Neritina*, Lamarck.

* *Orbiculatæ seu subhemisphæricæ.*

1. *NERITA LABIOSA* (Sowerby). *N. testâ orbiculari, posticè angustatâ, fornicatâ, crassâ, maximâ, striatâ, fusco-viridescente, nigro et rufo obsoletè variegatâ; anfractibus duobus ad suturam compressis; apice compresso-concavo; aperturâ orbiculari, subcontinâ, intùs albidâ; labio latissimo, depresso-plano, fusco-aurantio, margine subarcuato, edentulo; labio rotundato, supernè et infernè dilatato.*

Var. β . *Testâ nigrescente, immaculatâ.*

Long. 1.52; lat. 1.84; conv. 1.04 poll. Aperturæ altitudo 1.52; lat. 1.60 poll.

Hab. Ad Insulas Philippinas; Tanhay, isle of Negros: in a small river. Var. β , Agoo, province of Pangasinan, isle of Luçon: on stones in a rapid river.

Two pyriform muscular impressions, and more forward than in any other species, are visible at the internal base of the columella, which has no trace of callosity.

The upper tooth of the operculum is oblique, lamellated, with a strongly-cut crest, a character which is unique in the genus *Nerita*.

2. *NERITA SQUAMÆPICTA*. *N. testâ ovato-subhemisphæricâ, supra medium vix depressâ, striis longitudinalibus remotis supernè et anticè subarcuatis impressâ, sub epidermide olivaceo maculis squamiformibus anticè nigro-marginatis undique pictâ; apice rotundato-obtusio; aperturâ extùs ovatâ, intùs albido-cærulescente; labio plano, lutescente, medio albo, anticè tenue arcuatim denticulato.*

Long. 1.16; lat. 1.44; conv. 0.88 poll.

Hab. Agoo, province of Pangasinan, isle of Luçon: in a rapid river.

Operculum similar to the Nerites, allied to *N. pulligera*; subconvex above, finely striated lengthwise, of a whitish fawn-colour posteriorly; rosy anteriorly, streaked with circular bands of a blackish blue; subconcave below, of a dirty green, spotted with rosy white at the anterior side. Two teeth: the upper one ovate, acute at the summit, reddish; the lower one circular, canaliculated lengthwise, feebly striated transversely, yellowish.

3. *NERITA PETITI*, Récluz, Rev. Cuv. 1841. p. 274. No. 24.

Var. β . *T. majori, fusco-castanè; infimè et supernè ad suturam compressâ et subcanaliculatâ; spirâ retusâ.*

Var. γ . *T. minori, fusco-nigrescente, sub oculo et lumine maculis nigris diversiformibus notatâ; aperturâ subrotundâ, supernè et infernè dilatatâ, intùs aurantiâ.*

Long. 1.40; lat. 1.96; conv. 1.16 poll.

Hab. Cagayan, province of Misamis, island of Mindanao: on stones. Var. γ , Agoo: in a mountain-stream.

The operculum of this species differs from that of *N. pulligera* only in its paler colour.

4. *NERITA ASPERULATA*. *N. testâ ovato-ellipticâ, striis intertextis granulosis asperulatâ, fusco-nigrâ, sub oculo et lumine, lineis ni-*

gris ramosis transversis intricatis notatâ; anfractibus 1½, supernè depressis; apice prominulo, obtuso; aperturâ rotundatâ, supernè et infernè dilatâ, luteo-fuscescente; labio plano-compresso, margine vix arcuato et tenue ruguloso.

Long. 0·56; lat. 0·76 ad 0·84; conv. 0·40 ad 0·44 poll.

Hab. Pasaguig, province of North Ylocos, island of Luçon: on stones in a small river.

The operculum of this species does not differ from that of *N. puligera*, except in its colour, which is of a brownish black, faintly and indistinctly striated with fawn-colour from the summit to the anterior margin; the striæ often scarcely apparent.

5. *NERITA PANAYANA.* *N. testâ parvâ, ovato-hemisphæricâ, ventricosâ, posticè angustatâ, tenui; luteo-viridescente, lineolis nigrescentibus angulato-flexuosis creberrimis pictâ; anfractibus 1½ supremo eroso-retuso; aperturâ extûs orbiculari, intûs dilatâ, albido-cærulescente; columellâ semi-lunari planâ, albâ, anticè rectiusculâ.*

Long. 0·28; lat. 0·40; conv. 0·20 poll. Apertura altit. et diam. 0·28 poll.

Hab. River Dingle, province of Ylo-Ylo, island of Panay: on small stones.

Operculum unknown. This species resembles some varieties of *Ner. dubia*, but differs from them by its form and by its spire; also in the absence of any depression at the inferior margin of the columella.

6. *NERITA CREPIDULARIA* (Lamarck).

Var. *major.* *T. hemisphæricâ, crassiusculâ, dorso fornicatâ, purpureo-nigrescente maculis quadratis luteis tessellatâ, aperturâ extûs continuâ pallidè cinnamomeâ; labio subplano, in medio longitudinaliter arcuatimque sulco notato, anticè arcuatim crenulato.*

Long. 0·80; lat. 1·04; conv. 0·60 poll.

Hab. Jimmaymilan, isle of Negros: found on the trunks of the Nepa Palm, in brackish water.

I do not see in the characters of this Nerite anything to cause its separation from the *Neritina crepidularia*, Lam.; *N. mitrula*, Menke, 'Synopsis,' p. 48; nor from the *N. violacea*, Gmelin, if it is not its larger proportions. I presume that the *Patella neritoidea*, Linn., Mus. Lud. Ulr., p. 688. No. 409, is the same shell, worn and occupied by a *Pagurus*.

7. *NERITA RANGIANA*, Récluz in Guérin, Rev. Cuv. 1841. p. 339. No. 46.

Var. *minor.* *T. pulchrè viridi, punctulis albis, anticè nigro marginatis, transversim 2-4 seriatis, ad suturam maculis albis subarcuatis lacteis ornatâ.* An *Ner. viridis*, Sowerby, Conch. Illustr., f. 24?

Long. 0·23; lat. 0·24 poll.

Hab. Dumaguété, island of Negros: found in a small stream.

Operculum green, slightly concave above, finely striated length-

wise, with two other circular striæ from the summit to the posterior margin; very convex underneath, hollowed at the posterior side for the insertion of the muscle, and provided with two teeth at the top; the upper one very short, lamellated, and truncated at the summit; the second circular, equally short, dilated into a sort of plate on the side of the summit of the operculum, which gives to this tooth a lanceolate form.

The figure published by Mr. Sowerby under the name of *Neritina viridis*, Linn., and which this author says inhabits Antigua, appears to me to be the same as *Ner. Rangiana*, var. *minor*; but as I have only his figure to guide me, I cannot state it as a fact.

8. *NERITA PULLIGERA*, Linn., Lamarck (non Lesson, Voy. Coq.).
Var. β . *T. labio posticè aucto*.

Hab. Cagayan, island of Mindanao: on stones in a deep river.

This prolongation of the posterior border of the columella renders this variety remarkable. This Nerite may possibly be found hereafter biauriculated.

** Auriculatæ.

9. *NERITA SUBAURICULATA*. *N. testâ ovato-hemisphæricâ, convexâ, fusco-violascente, punctis albido-lutescentibus densè aspersâ; apice brevissimo; aperturâ extûs ovatâ, posticè truncatâ, continuâ, plumbeo-nigrescente, dilatatâ; columellâ convexo-depressâ, sulco obsoleto circumcinctâ, anticè vix arcuatâ, denticulatâ; labro supernè in auriculâ brevissimâ prolongatâ.*

Long. 0.52 ad 0.56; lat. 0.68 ad 0.72; conv. 0.32 ad 0.40 poll.

Hab. Jimamailan, isle of Negros: on the Nepa Palm trunks in brackish water.

This *Neritina* is very nearly allied to *Ner. violacea*, Gmel., but is smaller, less convex, with the summit more inclined towards the margin; the opening truncated posteriorly, dilated at the summit and at the base, and auriculated on the superior side. The operculum does not differ materially; it is a little darker above, with a flesh-coloured zone on the middle, visible only at its base.

10. *NERITA BICANALICULATA*. *N. testâ ovatâ, posticè truncatâ, dorso convexâ, tenui, pellucidâ, fuscescente, lineis violaceo-nigris, crebrè et eleganter reticulatâ; apice brevissimo, dorso interdum compresso plano; labio lato, subconvexo, margine arcuatim tenuè denticulato; labro posticè biauriculato; auriculis angustis, subtùs canaliculatis.*

Var. β . *T. fuscescente, lineolis obsoletis, interstitiis interdum conico-angustis; spirâ integerrimâ, punctiformi; auriculis concaviusculis, aperturâ pallidè fuscâ.*

Var. γ . *T. pallidiore, vix reticulatâ.*

Hab. Island of Camiguing: found in a small pond. Var. β , Pasiguing, province of North Ylocos: on stones in a rapid river. Var. γ , Abulug, province of Cagayan: on stones in a large river.

A fine *Neritina*, very distinct from all the auriculated species

hitherto known. Its auricles are narrow, convex above, and hollow beneath, or in form of a short canal.

Operculum oval, flat above, flesh-coloured, and radiated from the summit to the anterior side with five to seven blackish lines; the anterior side bordered with a blood-coloured zone, enclosed by another pellucid zone; very fine striæ spring from the summit, and radiate to the anterior side in an opposite direction to the bands. Inferior surface less flat, pale rosy brown or reddish brown, as well as the teeth, which offer nothing particular, and which resemble those of the opercula of *Ner. pulligera* and other allied species. The operculum of var. β is of an uniform colour above, on account of its zones being confluent. That of var. γ is of a very pale green, with a circular stria, which divides its external surface in two parts almost longitudinally. This character is also observable upon the operculum of var. β , but very faintly. There is no trace of it upon the type.

*** Spinosæ, interdum muticæ (*Clithon*, Montfort).

11. *NERITA OLIVACEA*. *N. testâ ovato-globosâ, ventricosâ, crassâ, griseo-olivaceâ, anfractibus 2½, supernè depressiusculis; apice subconvexo, obtuso, laterali, in medio deroso; aperturâ extûs subquadratâ, intûs exalbiddâ, labio posticè rufescente, plano, margine crenato, et in medio vix arcuato.*

Long. 1.12; lat. 1.36; conv. 0.76 poll.

Hab. Agoo, province of Pangasinan, island of Luçon: on stones in a rapid river.

This *Clithon* has sometimes a brownish zone posteriorly, with some faint reddish spots. The summit of the shell is corroded and excavated. Operculum of a *Clithon*, rosy white, spotted with red at the summit, and faintly marked with a circular streak in the centre of its external surface. The interior surface is reddish, convex, and flattened at the base; two teeth at the top, the upper one lamellated, elevated into an obtuse point; the second or inferior one circular and striated. Underneath this tooth there is a great depression.

12. *NERITA BICOLOR*. *N. testâ ventricoso-ovatâ, crassiusculâ, sub suturâ depressiusculâ, strigis nigris et olivaceis longitudinalibus densè pictâ; apice eroso; aperturâ extûs subquadratâ exalbiddâ; labio plano, supernè calloso basi canaliculato, margine in medio arcuato, et obsolete dentato; dente cardinali majori.*

Long. 1.04; lat. 1.20; conv. 0.76 poll.

Hab. Agoo: in a mountain-stream.

Operculum of a *Clithon*, oval, solid, whitish, striated lengthwise in an oblique direction, and marked with a circular furrow from the summit to the posterior margin, ending in a slight notch; inferior surface furnished with a large, circular, slightly raised rib, prolonged in an obtuse angle at the posterior margin. Two teeth at the top: the upper one an oblique rosy plate terminated at the summit; the lower one circular, delicate yellow, enlarged at the summit, and striated lengthwise and across.

13. *NERITA INTERRUPTA*. *N. testâ ovato-semiglobosâ, apice valdè corrodâ et truncatâ, olivacâ, lineolis luteis interdum interruptis creberrimis et fasciis latiusculis luteis transversis pictâ; aperturâ extùs semi-ovali, intùs luteâ; labio subsemilunari, plano-concavo, margine in medio arcuato, acuto, dente cardinali exserto.*

Lat. 0·96; conv. 0·64 poll.

Hab. Yba, province of Zambales, isle of Luçon: on stones in a rapid river.

The flat and greatly eroded summit does not allow the form and length of the shell to be ascertained with exactitude. It appears to me to have at most a whorl and a half faintly depressed below the suture.

Operculum very like that of *N. bicolor*, but of a yellowish white colour externally. On the inferior surface I observe that the upper tooth is stronger; the lower one annulated transversely, in a more distinct manner. The intermediary plate is more compressed and less sinuous at the margin, and the notch at the posterior part appears to me to be deeper.

14. *NERITA ANGULOSA*. *N. testâ ventricosoglobosâ, supernè depresso-planâ, subtùs angulosâ, olivacâ, maculis luteis parvulis obsoletis notatâ; anfractibus duobus inæqualiter rugatis; supremo deroso-concavo, aperturâ subrotundatâ, anticè et posticè angustatâ, supernè et infernè dilatatâ; columellâ angustâ, medio concavâ, supernè callosâ, anticè tenuè denticulatâ, medio emarginatâ.*

Long. 0·72; lat. 0·92; conv. 0·60 poll.

Hab. Casan, province of Misamis, island of Mindanao: on stones in a small stream.

Operculum oval, waved with grey on the anterior side, with a narrow circular furrow ending in a strong posterior notch: this furrow bounds a superior, obtuse and circular angle. The summit of an orange colour; internal surface bearing a curved rib in the centre, of greater or less width. Superior tooth yellowish and obtuse; the inferior yellowish white and substriated lengthwise; the intermediary plate between the two teeth of a citron colour, cut obliquely at the margin. The depression existing at the base of the lower tooth is of a flesh-colour approaching to cinnamon.

15. *NERITA CIRCUMVOLUTA*. *N. testâ globoso-subovatâ, dilutè fulvâ in roseo vertente, punctis luteolis anticè lineis nigris marginatis marmoratâ, zonis nigris remotis circumcinctâ; anfractibus duobus nigro-marginatis; supremo obtuso, decorticato; aperturâ albidâ; labio plano, supernè calloso, anticè ruguloso, et in medio arcuatim emarginato.*

Long. 0·72; lat. 0·84; conv. 0·68 poll.

Hab. ad Insulas Philippinas.

Operculum of a *Clithon*, oval, of a rosy white, with a broad, rather concave and central furrow; on the interior face of a pale yellowish colour, shaded with rose. One lamellated and pointed tooth near the summit, and an inferior one, which is circular, subcanaliculated in the centre, and striated transversely.

16. *NERITA SQUARROSA*. *N. testá ventricosoglobosá, interdum subovatá, supernè depressá et subangulatá, epidermide squarrosá, maculis rufescentibus angulatis confertis nigro seu olivaceo marginatis pictá, apice rotundatá, aperturá extùs subquadratá, intùs albido-cærulescente; labio suprâ lutescente, plano, anticè ruguloso, medio arcuato.*

Var. β . *T. subrubicundá, nigro-fasciatá.*

Var. γ . *T. roseo-purpurascente, albo-maculatá, labio margine detrito.*

Var. δ . *T. roseo-purpurascente, albo-maculatá, nigrescente fasciatá; labio detrito.*

Long. 0·80 ad 0·84; lat. 1·04 ad 1·08; conv. 0·68 ad 0·76 poll.

Hab. Jimamailan, isle of Negros: on stones in a mountain-stream. Var. β , Ginijeran, isle of Negros: on stones in a sluggish river. Var. γ and δ , island of Burias.

Operculum of a *Clithon*, whitish or rather rosy externally, with one or two circular striæ in the centre; of a livid rose-colour, spotted with yellow on the interior. Two teeth: the first lamellated, pointed at the summit; the lower one circular, narrow, striated lengthwise and across, but faintly. Subapophysary canal spotted with livid rose, showing below two remote angles, but slightly raised.

17. *NERITA SOWERBIANA*. *N. testá subglobosá, tenuè striatá nigro et albido alternatim fasciatá; fasciis nigris albo-articulatis, albidis maculis nigro-marginatis anticè sagittatis ornatá; anfractibus tribus, convexis; spirâ vix prominulá, rotundatá; aperturá obliquè cinerascente; labio subconvexo, lutescente, anticè denticulato arcuatoque.*

Var. β . *T. cinereo-lutescente, maculis sagittatis ut suprâ subzonatá; ad suturam maculis arcuatis nigris ornatá.*

Var. γ . *T. nigerrimá, maculis triangularibus albidis adpersá, ad suturam interdum subspinosá.*

Var. δ . *T. nigerrimá, maculis raris subpunctatá, zonis duabus lutescentibus cinctá, ad suturam subspinosá.*

Long. 0·56 ad 0·60; lat. 0·64 ad 0·72; conv. 0·48 poll.

Hab. Sinait, province of North Ylocos, island of Luçon: on the stony bed of a small river. Var. β , γ and δ , island of Guimaras: found in a small stream on rocks.

Operculum of a *Clithon*, deeply hollowed with a circular stria in the centre, zoned transversely with bluish in the anterior portion of its external surface; the interior of a yellowish or livid rose-colour: upper tooth citron, short, obtuse, united to the lower one, which is smooth, circular, striated lengthwise and across by a short plate, which is subsinuuous anteriorly.

I see no difference among all the varieties which I unite to this Nerite, except those of colour. The characters of the operculum are the same.

I have very great satisfaction in dedicating this species to that scientific conchologist, Mr. G. B. Sowerby.

18. *NERITA MONTACUTI*. *N. testá ventricosoglobosá, suprâ medium spinis brevibus coronatá, obliquè striatá, lutescente, supernè*

et infrà medium zonis nigris lutescente maculatis pictà; supremà latiore; anfractibus tribus supernè depresso-planis; spirà depresso-convexà; aperturà dilatà, rotundatà, albido-lutescente; labio angusto, medio concavo, margine denticulato, in centro arcuato.

Var. β . *T. olivacea*, maculis lutescentibus adpersa, ultimo anfractu supernè convexiusculo, labio denticulato.

Var. γ . *T. dilutè olivacea*, maculis pallidioribus nigro anticè sagittatis marginatisque; ultimo anfractu supernè subconvexo, labio edentulo, integerrimo.

Var. δ . *T. nigerrima*, punctis albis sparsis notatà; labio denticulato.

Var. ϵ .? *T. fulva*, nigrescente tinctà, sub oculo et lumine punctulis pellucidis obsità; spinis extrorsum curvatis; ultimo anfractu basis costulà notato; spirà vix prominulà.

Long. 0.76; lat. 0.80 ad 0.88; conv. 0.60 ad 0.64 poll.

Hab. Island of Burias: on stones in a rivulet.

I consider it my duty to dedicate this Nerite to the learned conchologist Montagu, as a homage due to his talents.

19. NERITA DONOVANI. *N. testà semiglobosà, tenuè et densè striatà, viridescente, lineis obliquis purpureo-nigrescentibus, equidistantibus undatis ornatà; anfractibus tribus convexis, supra medium spinis incurvis armatis; apice deroso; aperturà cærulescente, basi effusà, angulosà; labio angusto, supernè calloso, basi concavo, margine subrecto denticulato; dente cardinali majori.*

Var. β . *T. ovatà, nitidà, maculis viridibus et purpurascensibus densè tessellatà; spinosà, ultimo anfractu supernè ascendente, basi costulà transversà notato; spirà prominulà.*

Long. 0.50; lat. 0.60; conv. 0.40 poll. Var. β , long. 0.56; lat. 0.60; conv. 0.44 poll.

Hab. Island of Guimaras: on stones in a small stream.

Whatever the difference of form and colour, it does not appear to me possible to distinguish these two shells otherwise than as varieties of the same type. Their operculum is unknown to me.

20. NERITA MICHAUDI, Récluz in Rev. Cuv. 1841. p. 315. No. 38.

Var. β . *T. tenui, lineolis nigris longitudinalibus rectis creberrimis, et maculis luteis lineà nigrà anticè cinctis concatenatis triserialibusque pictà.*

Var. γ . *T. anfractibus supra medium spinis brevibus angustisque armatis.*

Hab. Bauang, province of Pangasinan, isle of Luçon: on small stones on the bank of a river.

21. NERITA PULCHELLA. *N. testà subglobosà, nitidà, vix striatà, luteo-viridescente, maculis nigris sagittatis et zonis æqualibus remotis nigris lutescentè articulatis ornatà; spirà nullà; apice convexo; aperturà semi-rotundà, cærulescente; labio angusto, subconvexo, supernè calloso, anticè subrecto, denticulato; dente cardinali majori.*

Var. β . *Testà sordidè purpurascente, albo punctatà et zonis cæruleo-viridescensibus albo-maculatis cinctà.*

Var. γ . *Testa purpurascens, maculis albis nigro sagittatis et zonis nigris albo-articulatis ornatâ.*

Var. δ . *Testa rubicundâ, punctulis albis, anticè obsoletè purpureo-nigrescentibus, anticè marginatis marmoratâ; labro crassiore.*

Long. 0·36 ad 0·40; lat. 0·44 ad 0·48; conv. 0·32 poll.

Hab. Sual, province of Pangasinan, isle of Luçon: in a small stream.

Operculum of a *Clithon*, yellowish white, marked with a fine circular streak in the centre: two teeth at the summit of the interior face; the upper one short, yellow; the lower one circular, yellow, striated lengthwise and across, sometimes dilated at the summit; the intermediary plate between the two teeth of a whitish colour.

Mr. Yarrell exhibited some coloured plates of a large work on the Mammalia of North America, by Mr. Audubon and Dr. Bachman.

December 13, 1842.

Prof. Rymer Jones in the Chair.

A letter from A. N. Shaw, Esq., Corresponding Member, dated Dhawar, October 14, 1842, was read. It announces that a young Tiger and a Bear, which that gentleman had presented to the Society, were in the possession of Sir Jamsetjie Jejubhoy, of Bombay, who had kindly undertaken to forward them to England free of expense.

Two letters from the Society's Corresponding Member, E. D. Dickson, Esq., were read. The first, dated Constantinople, October 2, 1842, announces that Mr. Dickson had forwarded as a present to the Society a collection of specimens, preserved in spirit, part of which was a donation from himself and part from H. J. Ross, Esq., Corresponding Member. The second letter is dated Tripoli, October 24, 1842; it acknowledges the receipt of letters, &c. from the Society, and states that another collection had been forwarded for the Society. Some of the specimens in this latter collection were procured by Mr. Ross at Samsoon, and the remainder by Mr. Dickson.

The following paper, by G. Newport, Esq., "On some new genera of the class *Myriapoda*," was then read:—

"The family *Geophilidæ* of Leach, composed of those little, gliding, wormlike Myriapodes so abundant in our gardens, and yet so imperfectly known to the scientific naturalist, includes at least two distinct genera, one of which only has hitherto been characterised. Dr. Leach himself, to whom we are indebted for the foundation of nearly all the scientific knowledge we possess of these animals, appears to have regarded one of the five native species with which he was acquainted as distinct from the others, and placed it accordingly in a division of his genus *Geophilus*, founding his divisions on the comparative length of the joints of the antennæ. These divisions, with the same distinguishing characters, have been retained by M. Gervais, who in 1837 published a monograph on the whole class, and added a third section to the genus *Geophilus*, composed of two species, one of which, *Geophilus ferrugineus*, had been described by Koch; and the other, *Geophilus maxillaris*, was then first described by M. Gervais as a new species. It is this division, added by M. Gervais, the *Geophili maxillares*, which I now propose to establish as a separate genus, under the name of *Mecistocephalus*, the characters of which, derived from the peculiarly elongated form of the head, are as distinctly marked as in any genus of this order.

"In a collection of *Myriapoda*, from the magnificent cabinet of the No. CXIX.—PROCEEDINGS OF THE ZOOL. SOC.

Rev. F. W. Hope, which that gentleman many months ago, in the most handsome manner, placed entirely at my control for the purpose of describing, I discovered a third species, brought to this country by the late Rev. Lansdowne Guilding, from the island of St. Vincent, which I immediately recognized as a new genus; and on examining the unarranged specimens of *Myriapoda* in the collections of the British Museum, which the head of the zoological department, J. E. Gray, Esq., has kindly permitted me to describe and arrange, I have since found two other species, both new to science, one of which was brought from India by — Elliot, Esq., but the locality of the other is unknown. The genus I am now about to propose will thus include five species, agreeing most accurately in their generic characters. They are all of them foreign to this country. The only native species which at all approaches to *Mecistocephalus* is the *Geophilus longicornis* of Leach, supposed by M. Gervais to be *Scolopendra electrica* of Linnæus, which constitutes Leach's second section of *Geophilus*. This I propose to separate as a distinct subgenus, by the name of *Necrophlæophagus*, although its characters are not so distinctly marked as in the preceding. The name proposed for it is derived from its being mostly found under rotten wood, or under the rotten bark of trees.

“ Before I proceed to characterize these genera, it may be well to remark, that the construction of the head in these, as compared with the other *Geophili* and the *Scolopendræ*, seems to throw much light on the number of parts which are included in this division of the body in the higher *Articulata*, and on the manner in which these parts are united; and although I do not intend on the present occasion to enter on the consideration of these structures, which I propose to do hereafter, it is necessary to state that I regard the head of the *Chilopodu* as formed of two compound moveable portions, the anterior of which, bearing the antennæ, I shall designate the *frontal segment*; and the posterior, which gives attachment to the large forcipated foot-jaws, which I regard as the analogues of the mandibles of insects, I shall call the *basilar segment*. Posterior to these there is a third part, which, although perfectly distinct in all the *Geophilidæ*, is united to the basilar in the *Scolopendræ* and higher genera of this order, forming a kind of cephalo-thorax or cephalo-prothorax. This I shall consider the second or *sub-basilar segment*.

“ It is on characters derived from these parts that I now propose to establish the genera.”

Class MYRIAPODA.

Order 1. CHILOPODA.

Family GEOPHILIDÆ, Leach.

Section A. *Geophili maxillares*, Gervais.

Genus *Mecistocephalus**, Newport.

Characters.—*Frontal segment* very narrow, elongated, four-sided, more than twice as long as broad, antennæ inserted on the frontal

* From μήκιστος, longest, and κεφαλή, head.

margin, subapproximated, three times as long as the frontal segment; joints obconic, rather elongated, slightly hairy; *basilar segment* quadrate, very short, and much narrower than the frontal, almost atrophied on the dorsal surface; *labium* and inferior surface of the basilar segment very large, quadrate, extending backwards beneath the sub-basilar segment, with its anterior margin slightly excavated; *mandibles* enlarged, straightened, and projecting, but curved and pointed at their apex, with the internal margin acute and denticulated, and the basilar joint encroaching on the dorsal surface of the basilar segment. *Sub-basilar* segment large, transverse, with the anterior margin straight, and the posterior and angles rounded. Body gradually tapering; legs from forty-five to seventy pairs; posterior pair styliiform.

Species 1. *Mecistocephalus ferrugineus*, Koch.

2. *Mecistocephalus maxillaris*, Gervais.

3. *Mecistocephalus punctifrons*, Newport.

Frontal segment and mandibles deeply punctured, with the basilar segment and labium dark chestnut; body testaceous, mandibles each with two large acute teeth; legs forty-nine pairs.

Length two inches three-tenths. India: — Elliot, Esq.

In the collection at the British Museum.

Frontal segment polished, with small scattered punctures; mandibles very strong, polished, and deeply punctured on the superior surface, with the internal margin acute, with two large sharp teeth; labium flattened, polished, with a longitudinal depression, and a few minute, scattered punctures; body gradually tapering, but broad and strong anteriorly; legs forty-nine pairs, broad, strong.

“I am uncertain whether this specimen had arrived at its full growth, the number of legs being less than in the other species. It may nevertheless have acquired its proper number since the species described by M. Gervais has but forty-six pairs, and I have ascertained most satisfactorily that the whole of the *Chilopoda* acquire very nearly their full complement of legs before they have attained to one half of their adult size.”

4. *Mecistocephalus Guildingii*, Newport.

Frontal segment polished, with a few scattered punctures; sides and posterior angles rounded, ferruginous; mandibles quadridentated; basilar segment and labium polished, ferruginous, with a broad, longitudinal sulcus and deep punctures on the latter; body yellowish, testaceous; legs forty-nine pairs. Length one inch and a half.

Island of St. Vincent. Rev. Lansdowne Guilding.

In the cabinet of the Rev. F. W. Hope.

There are five specimens of this species, varying considerably in size, but agreeing most accurately in the number of their legs.

5. *Mecistocephalus punctilabium*, Newport.

Head, mandibles, labium and sub-basilar segment ferruginous; mandibles tridentated; body brownish-green, with the two posterior segments antennæ and legs ochraceous. Frontal segment and labium flattened, the latter deeply, and thickly punctured. Legs sixty-one pairs.

Length two inches. Country ?

In the collection of the British Museum.

The frontal segment of this species is flattened and punctured, with the posterior margin straight, and the anterior somewhat rounded; the mandibles are smooth, polished, rather straightened, and rounded, with the internal margin less acute, with two or three very small teeth; labium flattened, polished, with large, numerous and deeply impressed punctures, and a longitudinal median sulcus, with a slight emargination; dorsal surface of the body with three longitudinal sulci; anal styles five-jointed; second and third joint short, but the fourth and fifth longer.

The characters of this species are less strongly marked than in others of this genus, and they seem to form a transition to those of the next genus. The anal styles are still very distinctly organs of locomotion, in which respect they resemble those of *Scolopendra* and *Cryptops*.

Sub-Genus *Necrophlæophagus**, Newport.

*Geophilus*** , Leach.

Geophili longicornes, Gervais.

Characters.—*Frontal segment* quadrate, a little longer than broad, with the angles obtuse; antennæ inserted on the front, sub-approximated, more than three times as long as the frontal segment, with the joints twice as long as broad, conic; *basilar segment* short, with the posterior margin much wider than the frontal; *mandibles* short, strong, with the internal margin rounded, toothless; *labium* broad, almost quadrate, with the border emarginated; *body* somewhat tapering; legs more than fifty pairs; preanal segment narrow, styles short.

Species *Necrophæophagus longicornis*, Leach.

Yellow, with the segments of the head, mandibles and labium dark ferruginous; antennæ hairy, four times as long as the frontal segment, with the three or four terminal joints smaller than the others; labium smooth, with minute punctures, subconic; anteriorly wide and almost straight, posteriorly rounded; legs yellow, fifty-five pairs, anal styles small, slightly hairy.

Length two and a half to three inches. Europe: very common.

I have retained Dr. Leach's original name to this species, which has been supposed by M. Gervais to be the *Scolopendra electrica* of Linnæus. But Linnæus's species is described as "*pedibus utrinque 70*;" while Leach's species, of which there are four specimens in the cabinet at the British Museum, besides ten collected by other persons, has at most only fifty-five.

Genus *Gonibregmatus* †, Newport.

Characters.—*Frontal segment* short, transverse, anteriorly pointed;

* From νεκρός, *dead*; φλοιός, *bark*; and φάγω, *to eat*.

† From γωνία, *angle*, and βρέγμα, *the fore part of the head*.

basilar segment very short, wider than the frontal; *antennæ* moniliform, approximated at their base, joints very short, with the terminal one slightly elongated; eyes absent; *mandibles* very slender, long, pointed, arcuate, toothless, compressed and twisted near their base; *labium* very short, transverse, with the anterior border slightly produced and emarginated; *labium internum* projecting, thick, folded, and formed for sucking; palpi with the terminal joints slender and acute; *sub-basilar segment* short, but larger than the basilar; body elongated, segments more than 160; legs inserted into little foveolæ in the lateral ventral plates; the two or three posterior segments of the body enlarged and tuberosæ; anal styles small, not used in walking.

1. *Gonibregmatus Cumingii*, Newport.

Greyish ash-colour; frontal segment very convex, rounded posteriorly; mandibles blackish; labium smooth; all the segments of the body very short, convex; dorsal surface with numerous irregular longitudinal sulci; antepenultimate segment with the dorsal and ventral plates atrophied; anal styles slender, with their basilar internal margin carinated; anal scale convex, subcordate, posteriorly rounded with two thin marginal plates; legs 161 pairs, naked, claws black. Length $4\frac{3}{4}$ to 5 inches.

From the Philippine Islands. Mr. Cuming.

In the collection at the British Museum.

I have never seen the *Geophilus Walckenaeri* of Gervais, but from the description given of that species I strongly suspect that it ought to be included in this genus.

Mr. Gould then, at the request of the Chairman, exhibited some new species of the genus *Ortyx*, which he thus characterizes:—

ORTYX NIGROGULARIS. *Ort. vertice et corpore superiore splendide fuscis; strigâ nigra superciliari, a rostro usque ad occiput; et super hanc strigâ albd; sub oculos lined albd a rostro ad plumas auriculares, et per latera colli excurrente, gulamque nigram circumdante plumis pectoris et abdominis albis nigro marginatis angustè apud pectus, latè et distinctè apud abdomen, et sese squamatim ostendentibus; femoribus crissoque arenaceo-castaneis; plumis lateralibus in medio albis.*

Crown and all the upper surface rich brown; margins of the tertiaries and wing-coverts fawn-colour; these feathers are also crossed with indistinct zigzag lines, freckles, and blotches of black and blackish brown; primaries greyish brown; tail deep bluish grey, the centre feathers and the external margins of the remainder freckled with reddish brown and buff; a black stripe, commencing at the base of the bill, passes over the eye to the occiput; above this a stripe of white; below the eye a white line from the base of the bill to the ear-coverts, down the sides of the neck, and encircling the throat, which is jet black; feathers of the chest and abdomen white, margined with a zone of black; narrow on the chest, broad and distinct on the abdomen; giving the under surface a scaly appearance; flanks, thighs and under tail-coverts sandy chestnut, the centre of each of the flank-feathers white; bill black; feet flesh-white.

Total length, 8 inches; bill, $\frac{9}{16}$; wing, $4\frac{1}{4}$; tail, $2\frac{1}{4}$; tarsi, $1\frac{1}{4}$.

Hab. Mexico; locality unknown. In the collection of the Earl of Derby.

Remark.—This species is of the same form and nearly of the same size as *O. Virginiana*.

ORTYX PECTORALIS. *Ort. vertice et nucha nigrescenti-fuscis; lined angustâ albd frontali super oculos et per nucham ductâ; plumis auricularibus, colli lateribus, et pectore nigris; gula albâ; abdomine, lateribus et crisso, cervinis; plumis lateralibus inferioribus, ad apices nigro alboque guttatis dorso superiore, humeris scapulisque castaneis, tectricibus alarum, et caudæ, tertiariis, et dorso imo, cinereo-fuscis; plumis omnibus corporis superioris cervino pallide marginatis, et punctatis.*

Crown of the head and back of the neck blackish brown; a narrow stripe of white crosses the forehead, passes over the eye, and extends down the back of the neck below the occiput; ear-coverts, sides of the neck and chest, black; throat white; abdomen, flanks and under tail-coverts fawn-colour; the tips of the feathers on the lower part of the flanks spotted with black and white; the upper part of the back, scapularies and shoulders, chestnut brown; wing-coverts, tertiaries, back and upper tail-coverts greyish-brown; all the feathers of the upper surface margined and speckled with very light fawn-colour, which on the secondaries assumes the form of distinct bars; in addition to these marks the scapularies, secondaries, back and rump, are minutely freckled with brown; the strongly contrasted markings giving all the upper surface a bespangled appearance; primaries brownish-grey; tail-feathers bluish-grey; some of them freckled on the margin with buff; bill black; feet flesh-white.

Total length, 7 inches; bill, $\frac{1}{2}$; wing, 4; tail, $2\frac{1}{8}$; tarsi, $1\frac{1}{8}$.

Hab. Mexico; locality unknown. In the collection of the Earl of Derby.

Remark.—Of the same form, but smaller in size than *O. Virginiana*.

ORTYX CASTANEA. *Ort. fronte gulâque nigris; lined superciliari albâ obsoletâ usque ad occiput, et super hanc lined nigrâ vertice, nuchâ, dorso superiore, humeris, pectore, et lateribus saturatè castaneis; uropygio, tectricibusque caudæ castaneis nigro irroratis, fasciatis, et punctatis; plumis abdominalibus albis, nigro undatim fasciatis lateralibus, guttis albis suprâ nigro cinctis, ornatis; his notis omnibus lucidis.*

Forehead and throat black; an indistinct line of white runs over the eye to the occiput, above this another indistinct line of black; crown of the head, back of the neck, upper part of the back, shoulders, chest and flanks, deep rich chestnut; the feathers on the sides of the neck with a black stripe down the centre and an oblong patch of white down the outer web; the tertiaries and some of the scapularies margined with deep fawn-colour, bounded within by an indistinct line of black; these feathers are also crossed with indistinct bars and freckles of black; rump and upper tail-coverts rich chestnut, minutely freckled, barred and dotted with black; feathers on the

centre of the abdomen white, marked with strong zigzag bars of black, changing into spots of white, bounded above by black on the flanks, all these marks being very brilliant; eyelash dark olive; irides dark reddish hazel; bill black; legs yellowish white.

Total length, $8\frac{1}{2}$ inches; bill, $\frac{5}{16}$; wing, $4\frac{1}{2}$; tail, $2\frac{7}{8}$; tarsi, $1\frac{1}{4}$.

Weight $5\frac{1}{4}$ ounces and 20 grains avoirdupois.

Hab. South America; locality unknown. In my own collection.

Remark.—Rather larger in all its measurements than *O. Virginiana*. From the general appearance of this bird, Mr. Gould is led to believe that it may hereafter prove to be a variety of some other species, probably of *O. Virginiana*; at the same time its markings are so different and so decided in character that he has deemed it best to describe it provisionally, under a distinct appellation.

ORTYX (ODONTOPHORUS) STELLATA. *Ort. mas. gulá et collo cinereis, plumis rufo marginatis alis, plumisque scapularibus castaneo, cervino, et nigro pulchrè pictis; caudæ tectricibus, reetricibusque lineis undulatim alternatim rufo-fuscis et nigris, ornatis, punctis, et guttis parvulis interspersis; pectore, abdomine, et crisso splendide rufo-castaneis plumis pectoris guttá parvulá centrali albá angustè nigro ferè cinctá, perpulchrè pictis.*

Fœm. staturá minore, et notis albis pectoralibus magis productis, et minùs conspicuis distinguendá.

Male.—Naked skin before and behind the eye yellowish; bill black; crest rather lengthened and full; forehead and ear-coverts clouded chestnut, the former passing into reddish chestnut on the crown, and gradually brightening towards the occiput; throat and neck both before and behind grey, all the feathers margined with rufous; scapularies and wings (except the primaries) beautifully marked with rich chestnut, buff and black, the black predominating on the scapularies, which feathers are rendered very conspicuous by having a whitish buff line down the centre; the tertiaries also are marked with a bold edging of rich buff, bounded on the inner side by a well-defined band of black, which surrounds the feather, while the buff occupies the upper edge only; at the tip of all the wing-coverts is a triangular spot of buffy white; primaries blackish brown, marked on their outer edge with indistinct but regular bars of reddish brown; back and rump dull greyish buff, each feather minutely dotted and freckled with brown and black; tail-coverts and tail rufous brown and black, the markings and colour so disposed that neither predominate, being dispersed over each feather in alternate narrow zigzag lines, interspersed with minute dots and freckles; chest, abdomen and under tail-coverts rich rufous chestnut; the feathers of the chest with a small white mark in the centre, very nearly surrounded by a narrow irregular line of black, giving it a very sparkling appearance; feet and legs in the dried specimen horn-colour.

Female.—Differs in being smaller in size and in having the small white markings of the chest, being more lengthened in form and less

conspicuous than in the male; in all respects the colouring of the two sexes is generally similar.

	Male.	Female.
Total length	10 $\frac{1}{2}$ inches.	9 $\frac{1}{2}$ inches.
Bill	0 $\frac{3}{4}$ —	0 $\frac{5}{8}$ —
Wing	5 $\frac{3}{8}$ —	5 $\frac{1}{4}$ —
Tail	3 $\frac{1}{4}$ —	2 $\frac{1}{2}$ —
Tarsi	2 —	1 $\frac{3}{4}$ —

This species is about the size of the Common Partridge. The specimens from which the above descriptions were taken are in the British Museum, to which they were presented by Lord Stewart; they are said to be from Brazil.

Specimens of new species of the genera *Trochus* and *Turbo* were also exhibited, and were accompanied by the following descriptions by Lovell Reeve, Esq.

Genus TROCHUS.

TROCHUS ASTERICUS. *Troch. testâ obeso-conicâ, viridescente, anfractuum margine squamoso-stellatâ, squamis, grandibus cavis, infimâ facie eximie serratâ, serris linearibus, parallelis, circulatim dispositis; umbilico tecto, basi roseo-tinctâ.*

Reeve, Conch. Syst., vol. ii. pl. 217. f. 3.

Alt. 1 $\frac{1}{4}$; diam. 1 $\frac{1}{8}$ poll.

Hab. — ?

This shell has the base of the columella stained with rose-colour, like the *Trochus rhodostoma*, Lamarck; there is no danger, however, of confounding it with that species; the under surface of the *Trochus asteriscus* is most elegantly serrated, the serræ ranging round with peculiar regularity; and the periphery of each whorl extends into large hollow spouted scales. The shell figured in 'Conch. Syst.,' at fig. 5 of the same plate, under the name of *Trochus pileolum*, appears, by a figure subsequently published in Delessert's 'Recueil de Coquilles,' to be the *Trochus fimbriatus* of Lamarck.

TROCHUS GEMMOSUS. *Troch. testâ parvâ, conoidâ, luteo et violaceo vividè variegatâ; anfractibus leviter convexis, superficie ubique granulatâ, granulis obtusis, quasi gemmosis; infimâ facie similiter ornatâ.*

Reeve, Conch. Syst., vol. ii. pl. 218. f. 9.

Alt. $\frac{3}{4}$; diam. $\frac{3}{4}$ poll.

Hab. — ? Mus. Stainforth.

This is a most lovely shell to look upon; it is richly variegated with violet and yellow, and the surface being obtusely granulated, gives it the appearance of being studded with gems.

TROCHUS HANLEYANUS. *Troch. testâ acutè conicâ, viridi, levis-simè nodulosâ; anfractibus planiusculis, peripheriâ ultimi acutâ; infimâ facie roseo-tinctâ, minutissimè serratâ, serris regularibus, seriatim dispositis, umbilico parvo.*

Reeve, Conch. Syst., vol. ii. pl. 218. f. 11.

Alt. $1\frac{1}{2}$; diam. $1\frac{1}{4}$ poll.

Hab. —? Mus. Cuming.

By the above title I wish to keep in remembrance the name of my industrious friend Sylvanus Hanley, Esq.

TROCHUS MODESTUS. *Troch. testâ conoidea, roseo-aurantiâ, tuberculiferâ, subsquamosâ; anfractibus convexis, tuberculis squamæformibus, irregularibus, in medio biserialim cinctis; umbilico tecto; basi aurantiâ.*

Reeve, Conch. Syst., vol. ii. pl. 218. f. 14.

Alt. $1\frac{5}{8}$; diam. $1\frac{3}{4}$ poll.

Hab. —? Mus. Cuming.

This shell, which is of a peculiar rose-tinted orange-colour, has each whorl encircled with a double row of irregular scale-like tubercles.

TROCHUS EXIMIUS. *Troch. testâ conico-pyramidali, pallidè carneolâ, lineis transversis interruptis sparsim ornatâ; anfractibus supernè concavis, in medio depresso-planis, bifuniculatis, funiculis albonigroque tessellatis; umbilico tecto.*

Reeve, Conch. Syst., vol. ii. pl. 218. f. 12.

Alt. $\frac{7}{8}$; diam. $\frac{3}{4}$ poll.

Hab. ad Payanam. Mus. Cuming.

Dredged from sandy mud at the depth of ten fathoms.

TROCHUS MELANOSTOMA. *Troch. testâ depresso-conicâ, cinereo-violacè, fauce nigerrimâ, anfractibus concaviusculis, marginibus acutis, infimâ facie circulariter tæniatâ; umbilico tecto.*

Reeve, Conch. Syst., vol. ii. pl. 218. f. 16.

Alt. $\frac{5}{8}$; diam. $\frac{3}{4}$ poll.

Hab. ad oras Novæ Hollandiæ.

The mouth of this shell is lined with a peculiarly black shining enamel.

Genus TURBO.

TURBO PULCHER. *Turb. testâ ovatâ, ventricosâ, multicostatâ, luteo-viridescente costis lineolis nigricantibus hic et ubique pictâ; anfractibus tumidis, ultimo valdè maximâ, costis interstitiisque profusè et tenuissimè serratis.*

Reeve, Conch. Syst., vol. ii. pl. 219. f. 3.

Alt. $2\frac{1}{4}$; diam. $1\frac{7}{8}$ poll.

Hab. —? Mus. Cuming.

The leading feature of this beautiful shell is, that the entire surface, both ribs and interstices, are very thickly and finely serrated.

TURBO TICAONICUS. *Turb. testâ ovato-turbinatâ, multicostatâ, luteo-viridescente, strigis nigerrimis transversim ornatâ; anfractibus rotundatis, ultimo sublatius voluto; costis irregularibus, latis et angustis, interstitiis tenuissimè serratis; umbilico parvo.*

Reeve, Conch. Syst., vol. ii. pl. 219. f. 6.

Alt. $2\frac{1}{8}$; diam. 2 poll.

Hab. ad insulam Ticao, Philippinarum. Mus. Cuming.

This shell was found by Mr. Cuming at the above locality in mud, at the depth of ten fathoms.

TURBO SQUAMIGER. *Turb. testá ovato-turbinatá, multisquamosá, luteo et viridi variegatá, anfractibus subtumidis squamis grandibus, cavis, seriatim dispositis, ubique cinctis.*

Reeve, Conch. Syst., vol. ii. pl. 220. f. 7.

Alt. $1\frac{3}{8}$; diam. $1\frac{1}{4}$ poll.

Hab. —? Mus. Cuming.

The *Turbo squamiger* may be immediately recognised, as being entirely covered with large vaulted scales, arranged in regular parallel transverse rows.

TURBO VARIABILIS. *Turb. testá ovatá, lævi, luteo- aut rubido-brunnescente variabilè variegatá; umbilico tecto.*

Var. a. Testá luteo-rubellá, fusco alboque variè nebulosá et teniatá.

Reeve, Conch. Syst., vol. ii. pl. 219. f. 2.

Alt. 2; diam. $2\frac{1}{8}$ poll.

Hab. ad insulam Capul, Philippinarum.

Var. β. Testá rosaceo-rubrá, lineis tenuibus flexuosis albis, diagonaliter pictá.

Reeve, Conch. Syst., vol. ii. pl. 219. f. 1.

Alt. $1\frac{7}{8}$; diam. $1\frac{7}{8}$ poll.

Hab. ad insulam Capul, Philippinarum.

The general painting of these shells, which were found by Mr. Cuming at the above locality in deep water, varies considerably, some being richly clouded with brown and a warm yellow, whilst others are crossed with a number of fine white diagonal lines upon a deep crimson ground. They approach nearest to the *Turbo petholatus*, differing, however, in a very remarkable degree in the character of the painting above noted. The riband-like bands, which form a never-failing peculiarity in that species, are wanting, and so also is the green or yellow tinge of colour which runs round the columellar side of the mouth.

Descriptions, by Dr. L. Pfeiffer, of some new species of *Helicidæ*, collected by Mr. Bridges in the northern parts of Chile, were then read:—

BULIMUS BRIDGESII. *Bul. T. subperforatá, oblongo-ovatá, apice obtusá, tenui, pallidè luteo-fulvescente, confertissimè et leviter decussatá; suturá mediocri, marginatá; anfractibus 4 convexiusculis, ultimo spiram superante; aperturá ovali, intùs nitidè fulvidá; peristomate simplice, latè reflexo, intùs albo, marginibus callo junctis, columellari perforationem ferè occultante.*

Long. $11\frac{1}{2}$; diam. $5\frac{1}{2}$ lin.

From the town of Frierina (Huasco, Chile). Found under stones.

BULIMUS PACHYCHILUS. *Bul. T. subperforatá, ovatá, apice obtusá, crassá, albá, longitudinaliter striatá, lineis confertissimis transversis sub lente decussatá; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo $\frac{2}{3}$*

longitudinis subæquante; aperturâ integrâ, ovali, intûs albâ; peristomate latè incrassato, pallidè fulvescente, nitido, marginibus callo crasso junctis.

Long: $19\frac{1}{2}$; diam. 11 lin.

From La Questa de Arenas (Huasco, Chile). Found buried in sand.

BULIMUS RHODACME. *Bul. T. perforatâ, ovato-oblongâ, longitudinaliter striatâ, striis transversis obsoletis minutissimè decussato-subgranulatâ, albâ maculis et flammis pellucidis rubellis ornatâ, apice obtuso roseo; anfractibus 6 convexis, ultimo $\frac{1}{3}$ longitudinis subæquante; aperturâ oblongo-ovali; peristomate simplice, recto margine columellari reflexo.*

Long. $7\frac{1}{2}$; diam. $2\frac{3}{4}$ lin.

From the town of Frierina (Huasco, Chile). Found under small Cacti.

BULIMUS TEREBRALIS. *Bul. T. rimato-subperforatâ, subulatâ, longitudinaliter rugulosâ, albidd, supernè fusco-cærulescente; anfractibus $10\frac{1}{2}$ planis, ultimo $\frac{1}{4}$ longitudinis vix superante, basi subcarinato; columellâ obsoletè plicatâ; aperturâ ovali intûs albâ; peristomate simplice, margine dextro dilatato, columellari reflexiusculo, supernè carinæ affixo.*

Long. $10\frac{1}{2}$; diam. $2\frac{1}{4}$ lin.

From Coquimbo (Chile). Found on rocks and plants near the sea.

SUCCEINEA ELEGANS. *Suc. T. ovato-oblongâ, tenui pellucidâ, leviusculâ, rubello-corned, strigis longitudinalibus, opacis, albis, rufomarginatis ornatâ; anfractibus $5\frac{1}{2}$ planiusculis, ultimo spiram acutam vix superante; aperturâ ovali-oblongâ, intûs nitidâ, concolore; peristomate simplice, margine columellari vix calloso.*

Long. 18; diam. $8\frac{1}{2}$ lin.

From the Questa de Arenas (Huasco, Chile). Found on a species of *Juncus*.

SUCCEINEA REFLEXA. *Suc. T. ovato-oblongâ, tenui pellucidâ, nitidâ, minutissimè granulosâ, corneo-sulphured, strigis irregularibus interdum ramosis, rufis ornatâ; anfractibus 5 planiusculis, ultimo spiram vix superante; aperturâ ovali-oblongâ, intûs albidâ, obsoletè strigatâ; peristomate simplice, acuto, margine columellari tenuissimo, albo reflexo.*

Long. $19\frac{1}{2}$; diam. $8\frac{1}{2}$ lin.

From Pichidanque, near Coquimbo. Found on the leaves of *Pourretia coarctata*.

SUCCEINEA VARIEGATA. *Suc. T. ovato-acutâ, solidiusculâ, longitudinaliter rugosâ, regulariter granulatâ, luted, maculis longitudinalibus et punctis nigricanti-rufis serialim pictâ; apice acuto; anfractibus $5\frac{1}{2}$ planiusculis, ultimo $\frac{1}{4}$ longitudinis subæquante; aperturâ oblongo-ovali, intûs nitidè albâ, strigis pellucibus; peristomate simplice, acuto, margine columellari subcalloso.*

Long. 24; diam. $11\frac{1}{2}$ lin.

Valleys in the north of Coquimbo. Found in crevices of rocks.

“ These three species, described under the name of *Succineæ*, belong to that group of *Heliceæ* of which the well-known *Hel. gallinasultana*, Chemn., is the type. The shell having no columella is perfectly analogous to that of the genuine *Succineæ*, and we are informed by Mr. D’Orbigny’s observations, that the animal of *H. gallinasultana* is also very similar to *Succinea* in its form and habits. Accordingly this species must be related to *Succinea*, and I believe that the species above described should not be separated from it, although we do possess but imperfect notions of their habits. Of one species it is noticed that it was found on a species of *Juncus*, probably in the vicinity of water.

“ By the same reason (the analogy of shells) I have enumerated the *Bulimus Broderipii* and *Coquimbensis* among the *Succineæ* (in my ‘Symbolæ ad Historiam Heliceorum’).”

The exhibition was resumed of hitherto undescribed shells contained in the collection formed by Mr. Cuming in the Philippine Islands, and the following descriptions of them, by Dr. J. H. Jonas, were communicated to the Meeting.

HELIX ZEUS. *Hel. testâ perforatâ, orbiculatâ, subdepresso-convexâ, rugis obliquis striisque spiralibus elevatis sculptâ; anfractibus 4½ convexis; ultimo medio angulato, supra carinam depresso, infrâque inflato; colore brunneo, lineis flavis ziczacformibus obliquis supernè pictâ, infernè rubrâ, fasciâ latâ fuscâ infra carinam ornatâ; aperturâ subtrapeziformi, fauce albâ, peritremate acuto, recto, supra umbilicum reflexo.*

Hab. ad insulam Mindoro, Philippinarum.

Altitudo, 1½ poll; latit. 2½ poll.

This species bears a great resemblance to *Hel. Otahaitana*. The rugulosity on the upper part are more elevated, as on the under side, where the regular concentric lines are more distinctly visible.

BULIMUS CALOBAPTUS. *Bul. testâ umbilicatâ, ovato-pyramidali, tenui, subdiaphanâ, nitidâ, rubrâ vel pallidâ, fasciis flavis undulosis longitudinaliter pictâ, striis incrementi subtilissimis spiralibusque oculo nudo vix conspicuis decussatâ; anfractibus 5½ convexis, suturis appressis, ultimo dimidiam testæ partem ferè æquante; aperturâ ovali, intus albâ, marginibus reflexis, albis, sinistro umbilicum partim occultante.*

Longit. 1½ poll.; latitudo, 5⁄8 poll.

Hab. ad insulam Mindoro, Philippinarum.

In form this beautiful shell resembles *Bul. Myersii*, Müller.

Var. *a.* Ground-colour brownish red and shining; the longitudinal zigzagged stripes are of a golden yellow colour, and on the last volution they are interrupted by a brown transverse line.

Var. *b.* Ground-colour pale yellow; the longitudinal stripes as in Var. *a.* No transverse line on the last volution.

BULIMUS BALANOIDES. *Bul. testâ imperforatâ, ovatâ, albâ, epidermide flavâ, vittis spadiceo-rufis cinctâ; anfractibus senis convexius-*

culis, ultimo ceteros vix æquante, basi viridi; aperturâ ovatâ, intus albâ, peritremate incrassato, reflexo, albo, fusco-marginato; columellâ rectâ.

Longit. $1\frac{1}{2}$ poll.; latit. $\frac{7}{8}$ poll.

Hab. ad insulam Mindoro, Philippinarum.

This shell bears great resemblance to the *Bul. ovatus*. The body-whorl has three brownish bands, and the others have two, one in the middle and the second on the suture; this last band is interrupted by the epidermis, so that it seems as if this band was sprinkled with red and yellow spots. The base of the last whorl is of a green colour where the columella is reflected.

BULIMUS APLOMORPHUS. *Bul. testâ imperforatâ, ovato-conoideâ, tenuissimè striatâ, nitidâ albâ, epidermide luted; anfractibus senis convexis, ultimo spirâ paululim breviorè, fasciis tribus rufo-fuscis circumdato; unâ angustâ ad suturam, alterâ latiorè in medio, tertîa circa columellam; aperturâ ovatâ, albâ, peritremate reflexo albo, columellâ rectâ.*

Longit. $1\frac{5}{8}$ poll.; latit. $\frac{7}{8}$ poll.

Hab. ad insulam Mindoro, Philippinarum.

This shell is like *Bul. guimarcensis*, but more slender, and the revolutions of the volutions differ.

BULIMUS SIMPLEX. *Bul. testâ imperforatâ, ovato-conoideâ, tenui, diaphand, candidâ, epidermide tenuissimâ, viridi, supernè evanescente; anfractibus quinis convexis, subtiliter striatis, lineisque spirâlibus oculo armato solummodò conspicuis circumdati, suturis haud marginatis; ultimo anfractu dimidiam testæ partem ferè æquante, obtusè angulato; aperturâ ovatâ, peritremate acuto, sub-reflexo, intus limbo; columellâ filiformi rectâ.*

Longit. 1 poll.; latit. $\frac{3}{4}$ poll.

Hab. ad insulam Mindoro, Philippinarum.

Though this *Bulimus* on the first sight bears great resemblance to the *Bul. bullula*, it is still very distinct.

Mr. Fraser then characterized two new species of Birds from Western Africa. :—

STRIX POENSIS. *Strix rostro cærulescenti-corneo; facie albâ, disco plumarum confertissimarum, texturâ holosericâ, circumdatâ,—illis anticè positis albis, posticis flavis, ad basem pallentibus,—illis autem genarum apicibus nigris; corpore supernè, e cervino flavo, albo et purpureo crebrè adperso, plumarum omnium scapis bis terve albo guttatis cum spatîo nigro inter singulas guttas; colli lateribus flavis, et, ut apud dorsum, guttatis; primariis et secundariis ferè obsoletè fasciatis, et sordidè purpureo alboque, sparsè guttatis; caudâ vix furcatâ, rubescenti-flavâ, fusco-fasciatâ, et sparsè albo guttatâ; corpore subtus femoribusque flavescenti-albis guttis triangularibus nigrescentibus, sparsè notatis tarsis lanugine brevi, albâ, ferè ad digitos sparsè tectis,—his nigris, pilis albis obsitis.*

Hab. Fernando Po.

The specimen from which the above description was taken was procured at Clarence, Fernando Po, and was the only one that had been seen by the oldest colonist at that place.

PITTA PULIH. *Pitta notā nigra a mandibulā superioris basi, super verticem usque ad collum eductā, et utrinque notā latā cervicē marginatā; plumis auricularibus et colli lateribus nigris; dorso, tectricibusque alarum majoribus metallicè viridibus; tectricibus alarum minoribus, tectricibusque caudæ singulis, ad apices pallidè cæruleis, instar cyani; primariis, secundariis, rectricibusque caudæ nigris; primariis tertiā, quartā, quintā et sextā per medium albo fasciatis; guld ferè albā corpore subtūs fuscescente-aurantiaco, rubido apud abdomen inum leviter tincto; rostro, tarsis, digitis, unguibusque apparenter rubris.*

Hab. apud pagum, Port Lokkoh dictum, Sierra Leone.

Mr. Fraser observed that considerable interest was attached to this bird, for which he was indebted to Robert Clarke, Esq., Senior Assistant Colonial Surgeon at Sierra Leone—not only on account of its being a new species of a somewhat restricted group, but on account of its habitat, all the hitherto recorded species of *Pitta* being from continental India, the Indian islands, and Australia.

Mr. Thomson, who originally procured the bird, observes in a note, that the *Pulih*, or Mocking Bird, is only found in the Timneh country; that its note is exceedingly sweet, and when a Timneh would pay an orator or poet the greatest compliment, they say, “He is a perfect *Pulih*.”

It is most closely allied to *Pitta brachyura*, Auct.; but differs from that bird in having the bill and feet red, a band over the eye, which is tawny, instead of olive brown; in the uniform colouring of the primaries, secondaries and tail feathers, the two former not being tipped with white, nor the latter with green; and finally, in the absence of the red vent.

The following “Additional Measurements of the Blood-Corpuscles or Red Particles of Mammalia and Birds,” by George Gulliver, Esq., F.R.S., were read:—

“Many observations are yet required to complete our knowledge of the comparative anatomy of the blood-corpuscles. The present contribution contains an account of some observations which I have made since the publication, in the English version of Gerber’s Anatomy, of my Tables of Measurements of the Blood-corpuscles of Mammalia and Birds.

“In the present, as in the former tables, the measurements are all expressed in vulgar fractions of an English inch, and as the numerator is invariably 1, it is omitted throughout, the denominators only being printed. In each instance the measurements of the common-sized discs are first set down; a space is then left; the small and large-sized discs are next noted; and lastly the average, deduced from the preceding numbers, is placed beneath the line. The long diameter of the oval blood-discs is denoted by L.D. and the short diameter by S.D. Except when noted to the contrary, the blood

was obtained from living and adult animals. The measurements of the nuclei were taken after their exposure, by the aid of dilute acetic acid on the corpuscles, which it is necessary to state, since I have elsewhere* shown that the form and dimensions of the nucleus are materially affected by different treatment.

MAMMALIA.

FERÆ.	
Indian Badger (<i>Arctonyx collaris</i> , F. Cuv.).	Blood from the heart and from the navel-string immediately after death. The average size of the corpuscles is about twice that of the corpuscles of the mother. The corpuscles of the fœtus contained distinct nuclei, much resembling lymph globules. The size only of the nucleated corpuscles is above given; there were several much smaller which presented no nuclei. See fig. cxlviii. B, in Dr. Willis's Translation of Wägner's Physio- logy, page 240.
4000	
3555	
3200	
6000	
2666	
—	
3609	
Blood from the vena cava after death.	
Malay Sun Bear (<i>Helarctos Ma- layanus</i> , Horsf.).	Stoat (<i>Mustela Erminea</i> , Linn.)
3555	4000
3368	6000
5000	3200
2900	—
—	4155
3562	Blood from the heart soon after death.
Blood from a prick of the lip.	RUMINANTIA.
Red Puma (<i>Felis unicolor?</i> Traill).	Camel (<i>Camelus Bactrianus</i>).
4572	L.D. S.D.
5333	3555 6000
3800	3000
—	4000 8000
4481	2400 4572
Blood from a prick of the skin of the arm.	—
Fœtal Kitten, half an inch long (<i>Felis domestica</i> , Briss.).	3123 5876
2666	Thickness of the discs.
2000	15210
3000	Pale globules.
1714	3200
—	4000
2233	3000
	—
	3348

* See Contributions to Minute Anatomy, Lond. and Edinb. Phil. Mag. for August 1842; and Remarks on the Shape of the Blood-Corpuscles of Oviparous Vertebrata, Proceedings of the Zool. Soc. August 9, 1842.

Blood from a prick of the upper lip.

The measurements of the corpuscles of the other *Camelidæ* are given in the Appendix to Gerber's Anatomy.

Red Deer (*Cervus Elaphus*, Linn.).

4360
4615
6000
3200

4324

Fœtus of Fallow Deer (*Cervus Dama*, Linn.).

4000
3426
3200
6000
2400

3478

Blood from the heart, Jan. 2, 1842, a few hours after death. The fœtus measured $4\frac{1}{4}$ inches from the forehead to the buttocks. The corpuscles exhibited no distinct nuclei when treated with water or vegetable acids. The average size of the corpuscles from the uterine veins of the mother was $\frac{1}{4513}$ th of an inch. In another fœtus examined Jan. 12, and measuring six inches, the corpuscles did not differ appreciably from those of the first fœtus.

Ibex (*Capra Caucasica*).

Corpuscles slightly smaller than those of the Goat. The measurements are detailed in the Proceedings of the Zool. Soc., August 9, 1842.

Indian Buffalo (*Bos frontalis*, Lambert).

4570

6000

3200

4299

Blood from a vein of the ear.

RODENTIA.

Jerboa (*Dipus Ægyptius*, Hemp. and Ehren.).

4570
5333
3200

4172

Blood from a vein of the ear.

Common Porcupine (*Hystrix cristata*, Linn.).

3200
3555
4572
2666

3369

Blood from a prick of the skin of the nose.

Common Hare (*Lepus timidus*, Linn.).

4000
3368
3200
5000
2900

3560

Blood from the heart two hours after death.

MARSUPIATA.

Mauge's Dasyure (*Dasyurus Maugei*, Geoff.).

4365
4000
5000
3200

4034

Blood from a vein of the ear. The corpuscles scarcely differ in

size from those of the Viverrine Dasyure, and agree in form with the corpuscles of the other marsupial animals, originally described by me in the Dublin

Medical Press, Nov. 27, 1840; Annals of Natural History, Dec. 1, 1840; Lond. and Edinb. Phil. Mag. of the same date.

AVES.

RAPACES.
Angola Vulture (*Vultur Angolensis*, Lath.).

L.D.	S.D.
1777	3200
1600	3000
2133	3800
1391	2666
—	—
1684	3166

OMNIVORES.
Common Jay (*Garrulus glandarius*, Flem.).

L.D.	S.D.
2266	4000
2000	3555
2400	5333
1714	3200
—	—
2064	3878

Nuclei.

4000	10666
------	-------

Blood from the heart quickly after death.

Rook (*Corvus frugilegus*, Linn.).

L.D.	S.D.
1895	3200
1777	—
2286	3555
1714	2900
—	—
1894	3196

Nuclei.

5333	10666
4000	8000
—	—
4572	9140

Blood from the heart a few hours after death.

Magpie (*Corvus Pica*, Linn.).

L.D.	S.D.
2000	3555
1895	3200
2286	4000
1714	2900
—	—
1953	3365

Thickness of the discs.
11600

Nuclei.

4570	10666
4000	—
5333	14000
3500	9600
—	—
4245	11138

Blood from the heart an hour after death.

Red Winged Starling (*Sturnus predatorius*, Wilson).

L.D.	S.D.
2133	4572
2666	5333
1777	3200
—	—
2133	4175

Blood from the heart seven hours after death.

INSECTIVORÆ.

Pied Wagtail (*Motacilla alba*, Linn.).

L.D.	S.D.
2286	3555
2666	4570
1777	3000
—	—
2182	3600

Nuclei.
4000 10666
Blood from the heart soon after death.

Sedge Warbler (*Sylvia Phragmites*, Bechs.).

L.D.	S.D.
2600	3555
1895	
2666	4570
1684	2900
<hr/>	<hr/>
2003	3550

Blood from the heart nine hours after death. The corpuscles are notably larger than those of most of its congeners.

GRANIVORÆ.

Indigo Bird (*Fringilla cyanea*, Wilson).

L.D.	S.D.
2286	3555
2000	
2900	5333
1714	3000
<hr/>	<hr/>
2144	3741

Blood from a vein of the pinion.

Greenfinch (*Fringilla Chloris*, Temm.).

L.D.	S.D.
2286	3555
2460	4570
2000	3000
<hr/>	<hr/>
2232	3600

Nuclei.

4000	10666
------	-------

Blood from the heart a few minutes after death.

Blue Titmouse (*Parus cæruleus*, Linn.).

L.D.	S.D.
2400	4570
2286	4000

2666	5333
2000	3200
<hr/>	<hr/>
2313	4128

Nuclei.

5333	12000
4000	9600
<hr/>	<hr/>
4571	10666

Blood from the heart quickly after death.

Longtailed Titmouse (*Parus caudatus*, Linn.).

L.D.	S.D.
2286	4570
1895	
2900	
1777	
<hr/>	
2136	

Nuclei.

4800	10666
------	-------

Blood from the heart twenty-one hours after death. There were several circular discs, about $\frac{1}{3000}$ th of an inch in diameter. Many of these had an oval nucleus, and the circular shape of the discs was perhaps a post-mortem change.

Skylark (*Alauda arvensis*, Linn.).

L.D.	S.D.
2286	4570
2000	4000
2400	5333
1895	3200
<hr/>	<hr/>
2125	4128

Nuclei.

4000	12000
------	-------

Blood from the heart twelve hours after death.

Pine Grosbeak (*Loxia enucleator*, Linn.).

L.D.	S.D.
2286	4267

2900	5333
1777	3200
<hr/>	<hr/>
2247	4083
Blood from a vein of the pinion.	
Hawfinch (<i>Loxia coccothraustes</i> , Temm.).	
L.D.	S.D.
2000	4000
2460	4800
1777	3000
<hr/>	<hr/>
2042	3790
Thickness of the discs.	
9141	
Nuclei.	
4570	10666
Blood from a vein of the pinion.	

ZYGODACTYLI.

Cuckoo (<i>Cuculus canorus</i> , Linn.).	
L.D.	S.D.
2000	3555
2400	4570
1777	3000
<hr/>	<hr/>
2028	3600

Blood from the heart twenty-six hours after death. There were many circular discs, perhaps from the blood being rather stale. These were about $\frac{1}{2900}$ th of an inch in diameter.

CHELIDONES.

Common Swift (<i>Cypselus Apus</i> , Flem.).	
L.D.	S.D.
2000	3555
1895	
2460	4570
1714	2900
<hr/>	<hr/>
1982	3550
Nuclei.	
4000	10666

Blood from the heart a few minutes after death.

COLUMBÆ.

Partridge Pigeon (<i>Columba mon-</i> <i>tana</i> , Lath.).	
L.D.	S.D.
2286	3555
2666	4572
1895	3200
<hr/>	<hr/>
2239	3692
Nuclei.	
5333	12000
Pale globules.	
3200	
Blood from a vein of the pinion.	

GALLINÆ.

Lineated Pheasant (<i>Phasianus li-</i> <i>neatus</i> , Jard.).	
L.D.	S.D.
1777	3200
2000	
2133	4000
1600	3000
<hr/>	<hr/>
1855	3348
Nuclei.	
4570	9166
Blood from a vein of the pinion.	

Mountain Partridge (*Tetrao Cau-*
casicus, Pall.).

L.D.	S.D.
1895	3555
1777	3200
2666	4570
1600	2900
<hr/>	<hr/>
1923	3456
Nuclei.	
4570	9166

Blood from a vein of the pinion.

CURSORES.

Ostrich (*Struthio Camelus*, Linn.).
Corpuscles slightly larger than those of the Rhea. The measurements are detailed in the Proc. Zool. Society, October 11, 1842.

GRALLATORES.		2400	4000
Common Snipe (<i>Scolopax Gallinago</i> , Linn.).		1714	2900
L.D.	S.D.	1937	3424
2286	4000	Blood from the jugular vein	
2133	3200	about ten hours after death.	
2666	4800	Common Gull (<i>Larus canus</i> ,	
1777	3000	Linn.).	
2170	3622	L.D.	S.D.
Blood from the heart twenty-four hours after death.		2000	3555
PALMIPEDES.		1895	
Mandarin Duck (<i>Anas galericulata</i> , Gmel.).		2400	5333
L.D.	S.D.	1714	3200
2000	3555	1973	3839
1777		Nuclei.	
		3555	10666
		Blood from a vein of the pinion.	

A very valuable collection of specimens from South Africa, presented by the President of the Society, the Earl of Derby, was laid before the Meeting. It consisted of seventy-one Bird-skins and nineteen Quadrupeds, among which were skins of an adult Hippopotamus and two-horned Rhinoceros, together with the following rare Antelopes:—*Catoblepas Gorgon*, male and female; *Catoblepas Gnu*; *Antilope ellipsiprymnus*, Ogilby; *Ant. melampus*; *Ant. lunata*; *Ant. Caama*, adult and young; *Ant. equina*, male and female; *Ant. oreotragus*; and *Ant. pediotragus*.

December 27, 1842.

Richard Owen, Esq., Vice-President, in the Chair.

Various specimens preserved in spirit, presented by H. Pointer, Esq., were exhibited.

Numerous specimens, preserved in spirit, presented by E. D. Dickson, Esq. and H. J. Ross, Esq., were also exhibited. They were collected by these gentlemen, Corresponding Members of the Society, at Trebezond, Erzeroom, and Samsoun.

Descriptions by Mr. Lovell Reeve of new species of shells figured in the 'Conchologia Systematica,' were read.

Genus DENTALIUM.

DENTALIUM LONGITRORSUM. *Dent. testâ carneold, tenui, glaberrimâ, subpellucidâ, longissimâ, arcuatâ, margine acuto.*

Reeve, Conch. Syst., vol. ii. pl. 130. f. 6.

Long. $4\frac{3}{4}$; diam. $\frac{5}{16}$ poll.

Hab. ———? Mus. Cuming.

This beautiful pink horny-looking shell far exceeds any hitherto described species in length.

VERMETUS.

VERMETUS EBURNEUS. *Verm. testâ eburned, subobesd, laxè volutâ, longitudinaliter costatâ, costis distantibus, subobsoletis.*

Reeve, Conch. Syst., vol. ii. pl. 152. f. 2.

Long. $3\frac{1}{16}$; diam. $\frac{7}{16}$ poll.

Hab. ———? Mus. Cuming.

PARTULA.

PARTULA INFLATA. *Part. testâ obeso-conicâ, transversim tenuissimè striatâ, albidd, epidermide luteo-fuscâ indutâ; anfractu ultimo angulato-inflato, umbilicato; aperturâ subquadratâ, labro planissimè expanso.*

Reeve, Conch. Syst., vol. ii. pl. 175. f. 11 & 12.

Long. $\frac{7}{8}$; diam. $\frac{5}{8}$ poll.

Hab. ———?

Chiefly remarkable on account of the ventricose inflation of the last whorl.

TRUNCATELLA.

TRUNCATELLA SCALARIFORMIS. *Trunc. testâ elongato-cylindracedâ, luteold, anfractibus rotundatis, costellis minutis ubique cingulatis; aperturâ rotundâ, labro simplici, acuto.*

Reeve, Conch. Syst., vol. ii. pl. 182. f. 6.

Long. $\frac{1}{4}$; diam. $\frac{1}{12}$ poll.

Hab. ad insulam Annaa, in Oceano Pacifico.

A number of these little shells were found by Mr. Cuming at the roots of palms on the sea-shore.

PYRAMIDELLA.

PYRAMIDELLA CINCTA. *Pyram. testá conico-acuminatá, albá, anfractibus lævibus, zoná olivaceo-fuscá, conspicuá, in medio cinctis; aperturá oblongo-ovatá, labro simplici, acuto.*

Reeve, Conch. Syst., vol. ii. pl. 207. f. 2 & 4.

Long. $\frac{3}{4}$; diam. $\frac{5}{16}$ poll.

Hab. —? Mus. Cuming.

A white, sharply acuminated shell, surrounded with a single, clear, broad, olive-brown belt.

PYRAMIDELLA GLANS. *Pyram. testá cylindraceo-conicá, bicoloratá; anfractibus longitudinaliter striatis, infernè albis, supernè olivaceo-viridibus; aperturá rotundato-ovali.*

Reeve, Conch. Syst., vol. ii. pl. 207. f. 1.

Long. $\frac{9}{16}$; diam. $\frac{1}{4}$ poll.

Hab. —?

This is a small dumpy-looking shell, of which the whorls are just one half white and the other half dark olive-green.

TURBINELLUS.

TURBINELLUS IMPERIALIS. *Turb. ovato-turbinatá, subtrigond, epidermide crassá, fibrosá, indutá; transversim lirátá, liris angustis, subdistantibus, lirá minutá interveniente; anfractibus supernè angulatis, tuberculis flexuosis squamæformibus coronatis; anfractu ultimo prope basin aliis subsimplicioribus cingulato; columellá rubido-fuscá, politá, irregulariter plicatá; labro undulato, leviter expanso.*

Reeve, Conch. Syst., vol. ii. pl. 229. f. 4.

Long. $3\frac{1}{2}$; diam. $2\frac{1}{4}$ poll.

Hab. —? Mus. Cuming.

The noble diadem of flexuous scale-like tubercles with which this shell is crowned, renders it eminently distinct from its congener the *T. cornigerus*, in which they are of a solid stunted growth. The enamelling of the columella is also remarkable, being always of a very peculiar chocolate-brown colour.

TURBINELLUS VEXILLULUM. *Turb. testá trigono-turbinatá, albá, lineis cæruleis, et interdum roseis, vividè cingulatá, anfractibus subtrigonis, in medio valdè tuberculatis; columellá triplicatá, plicis parvis; canali brevissimo nigerrimo-tincto.*

Reeve, Conch. Syst., vol. ii. pl. 229. f. 1.

Long. $1\frac{3}{4}$; diam. 1 poll.

Hab. —?

This beautiful shell, which approximates to the *T. aplustre*, is vividly lined across with very deep blue, and between every two blue lines is a pink one, presenting an almost artificial contrast of colour.

PLEUROTOMA.

PLEUROTOMA SPECIOSA. *Pleur. testâ acutè turritâ, transversim subtilissimè funiculatâ; cæruleo-albâ, funiculis pallidè ochraceis; anfractibus in medio eximiè gemmatis, infernè convexis, supernè leviter concavis; canali gracili, vix elongato.*

Reeve, Conch. Syst., vol. ii. pl. 233. f. 5; Conch. Icon. *Pleurotoma*, pl. 2. f. 9.

Long. $2\frac{1}{2}$ poll.

Hab. — ?

This very chaste shell approaches somewhat in form to the *Pleurotoma carinata*, Gray, Griff. Cuv. An. King. (*Pl. Kieneri*, Doumet); it is of a pale bluish ground, delicately corded and beaded with bright ochraceous yellow. I only know of two specimens, one in the collection of the Rev. Mr. Stainforth, the other in that of the British Museum, purchased at the recent sale of Mr. Inwood's shells.

PLEUROTOMA BECKII. *Pleur. testâ oblongâ, cylindræo-attenuatâ, apice acuto; sexangulatâ, anfractibus ad angulos longitudinaliter tuberculatis; olivaceo-fuscâ, tuberculis tantum albis; columellâ et apertura fauce fuscâ; canali brevissimo.*

Reeve, Conch. Syst., vol. ii. pl. 234. f. 11; Conch. Icon. *Pleurotoma*, pl. 2. f. 10.

Long. $\frac{7}{8}$ poll.

Hab. ad insulam Luçon, Philippinarum.

I dedicate this shell with much pleasure to my friend Dr. Beck, curator of that noble patron of conchological science, the King of Denmark. It was found by Mr. Cuming in the locality above cited under stones at low water. The snowy-white tubercles which ornament this brown six-angled shell at the several angles are very characteristic.

COLUMBELLA.

COLUMBELLA PHILIPPINARUM. *Col. testâ conico-turbinatâ, acuminatâ, albâ, fusco profusè et minutissimè undulatâ; anfractibus supernè subangulatis, ultimo basin versus striato, striis profundis; apertura oblongâ, angustâ; labro subincrassato, fauce striatâ.*

Reeve, Conch. Syst., vol. ii. pl. 257. f. 9.

Long. $\frac{15}{16}$; diam. $\frac{9}{16}$ poll.

Hab. — ?

Mr. Cuming has selected two varieties of this shell, but they are not of sufficient importance to require especial notice.

BUCCINUM.

BUCCINUM ELEGANS. *Bucc. testâ ovato-conicâ, acuminatâ, ubique subtilissimè nodulosâ et lirâtâ, interdum longitudinaliter leviter costatâ; luteo-albâ, columellâ, labro, et canali vividè aurantiis; apertura subquadrato-ovali, fauce valdè striatâ; columellâ paululùm excavatâ, labro serrato.*

Reeve, Conch. Syst., vol. ii. pl. 268. f. 3.

Long. $1\frac{1}{2}$; diam. $\frac{3}{4}$ poll.

Hab. California.

This very beautiful and distinct species may be easily recognised

by its bright orange mouth. The entire surface of the shell is very finely nodulated.

BUCCINUM PYROSTOMA. *Bucc. testâ ovato-conicâ, lacted, ubique cancellatâ, anfractibus convexis, ultimo paululùm umbilicato; aperturâ ovatâ, fauce striatâ, vividè rubrâ.*

Reeve, Conch. Syst., vol. ii. pl. 268. f. 1.

Long. $\frac{3}{4}$; diam. $\frac{3}{8}$ poll.

Hab. ———?

A small species belonging to the genus *Phos* of De Montford, remarkable from having a deep cornelian red mouth, whilst every other part of the shell is milk-white.

EBURNA.

EBURNA JAPONICA. *Eburn. testâ ovato-conicâ, apice vix acuto, lævi; anfractibus convexis, maculis fulvis, grandibus, regularibus, biserialim cinctis, interstitiis maculis parvis regularibus, diagonaliter dispositis, ornatis; umbilico parvo, profundo.*

Reeve, Conch. Syst., vol. ii. pl. 271. f. 1.

Long. $2\frac{1}{4}$; diam. $1\frac{1}{4}$ poll.

Hab. ad oras Japoniæ; Siebald.

This shell is distinguished by the great regularity of the spots; the upper and middle portions of the whorls are encircled with a band of large rhomboidal spots, whilst the spaces below and between them are filled with small triangular-like spots, arranged across in regular diagonal rows.

TEREBRA.

TEREBRA PRETIOSA. *Ter. testâ longissimo-subulatâ, luteold, fusco partim tessellatâ; anfractibus tricenis, supernè lævibus, uniseriatim serratis, infrâ arcuato-striatis, striis numerosis, profundis; canali subflexuoso.*

Reeve, Conch. Syst., vol. ii. pl. 274. f. 2.

Long. $5\frac{9}{16}$; diam. $\frac{1}{2}$ poll.

Hab. ———?

This extraordinary shell, consisting of thirty whorls, exceeds five inches and a half in length, whilst it barely exceeds half an inch in breadth at the broadest part. It is I believe unique, in the collection of the Rev. Mr. Stainforth.

Mr. Fraser exhibited a specimen of the *Galago Senegalensis*, procured at Cape Coast, Western Africa, and a new species of Shrew from Fernando Po, which he characterized as follows:—

SOREX (CROCIDURA) POENSIS. *Sor. obscurè fuscus, corpore subtùs cinereo, pedibus nigrescentibus; auribus parvulis, distinctis; caudâ corpore breviori pilis obscuris adpressis, et setis longioribus adpersis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	3	3
———— caudæ	1	10
———— tarsi digitorumque	0	6
———— ab apice rostri ad basin auris	0	10

Hab. Clarence, Fernando Po.

This species somewhat resembles the *Sorex varius* of Smuts, but is of a deeper hue. The upper parts of the body are of a deep brown colour, rather indistinctly variegated with greyish; the body beneath is grey, but slightly washed, as it were, with dirty yellow. The ears are distinct, that is, not hidden by the fur, as in *S. tetragonurus* and its allies, and the tail has long bristly hairs interspersed with the short adpressed fur, as in the subgenus *Crocidura*, Wägler.

The specimen was taken in a trap baited with flesh, on the elevated land of Point William.

Mr. Fraser observed that the specimen exhibited of *Galago Senegalensis* was shot at Cape Coast, Western Africa, in a tamarind tree, near the top of which he found its nest: this was composed of loose leaves arranged in the fork of a branch. The eyes were large and prominent, and the movements of the animal were slow, and consequently very unlike the true Lemurs.

Specimens of the *Galago Alleni* and *G. Maholi* were placed on the table for comparison.

A paper was then read, from M. Petit de la Saussaye, containing descriptions of new species of Shells, belonging to the genus *Auricula*, collected by H. Cuming, Esq.

AURICULA TORNATELLIFORMIS. *Aur. testâ oblongo-acutâ, sub epidermide flavescente albâ, transversim tenuissimè striatâ, et rugis longitudinalibus levissimis obsolete granulosa; spirâ conico-acutâ, lucidâ; anfractibus octonis subconvexis, ultimo magno supra medium ventricosâ; columellâ infernè buplicatâ; labro supernè arcuatim emarginato.*

Long. 24 millim.; larg. $10\frac{1}{2}$ millim.

Hab. Tanhay, isle of Negros, Philippines. Found at the roots of mangrove-trees.

AURICULA DOLIOLUM. *Aur. testâ ovatâ, transversim tenuè et regulariter sulcatâ, striis longitudinalibus et irregularibus subpunctatâ, sordidè rufo-fuscâ, ultimo anfractu pallidiorè albido-cinerascente, angustè plùs minùsve fasciatâ; anfractibus 6-7; aperturâ ovatâ intùs fusco-purpurascente; columellâ buplicatâ, supernè obsolete dentatâ; umbilico rumali; labro albo, intùs incrassato, tridentato, dente mediano majori, inferiori obsolete.*

Long. 10 millim.; larg. $5\frac{1}{2}$ millim.

Hab. Sinai, province of North Ilocos, island of Luzon. Found on decayed wood, salt water.

AURICULA RECLUSIANA. *Aur. testâ ovato-oblongâ, griseo virescente, spirâ conicâ, apice obtusâ, erosâ; anfractibus senis, planiusculis, unoquoque in superiorem imbricante, sub suturâ depressiusculo; umbilico nullo; aperturâ subovatâ intùs fusco-purpurascente; columellâ triplicatâ, plicâ superiori, latiori, lamelliformi, mediâ mediocri, inferiori minori; labro levigato, intùs zonâ albâ, subcalloso.*

Long. 16 millim.; larg. 8 millim. vix.

Hab. Island of Tumaco, West Colombia.

AURICULA PIRIFORMIS. *Aur. testâ subpiriformi, lævigatâ, fuscâ, sub epidermide viridi-cinerascente; anfractibus 7-8; spirâ breviconicâ, rotundatâ, apice acuto, nigro; aperturâ oblongâ, intûs fusco-violaceo; columellâ 5-plicatâ, plicis superioribus obsoletis, medianâ robustiori, lamelliformi, inferiori robustâ, subascendente, posticè circulari; labro acuto, pallidè emarginato, intûs 2-6 tenuiter striato.*

Long. 20 millim.; larg. 9 millim.

Hab. Tumaco island, West Colombia.

The number of striæ or folds on this shell varies, but most frequently there are five.

AURICULA CEYLONICA. *Aur. testâ ovatâ, supernè obtusè angulatâ, glabrâ fusco-viridescente, fasciis albis vel cinereis angustis cinctâ, anfractibus 8-9, planulatis; spirâ conico-depressiusculâ, apice nigrescente; columellâ triplicatâ, plicâ superiori albâ, crassiusculâ, lamelliformi, subtûs parvulâ, inferiori circulari; labro acuto, longè et profundè intûs sulcato, ad marginem fusco, lævi.*

Long. 15 millim.; larg. 10 millim.

Mr. Cuming possesses specimens which are of large size.

Hab. Ceylon.

Very fine striæ are sometimes perceptible upon half of the last whorl of this shell; the base of the columella is of a livid fawn-colour.

AURICULA PULCHELLA. *Aur. testâ parvulâ, ovato-acutâ, nitidâ, pellucidâ albicante, transversim fusco-zonatâ, lineis longitudinalibus rectis seu undulatis, æquidistantibus, zonas transversas secantibus, eleganter pictâ; anfractibus 6-7; spirâ conico-acutâ, fuscâ, apice mammillari; columellâ triplicatâ, plicis superioribus parvulis, approximatis, inferiori majori, subhorizontali; labro acuto, intûs tenuiter striato.*

Long. 6 millim.; larg. 3 millim.

Hab. St. Nicolas, isle of Zebu (Philippines).

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OF THE

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OF LONDON.



PART XI.

1843.

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PROCEEDINGS
OF THE
ZOOLOGICAL SOCIETY OF LONDON.

January 10, 1843.

Richard Owen, Esq., Vice-President, in the Chair.

A portion of a letter from the Rev. W. C. Cotton, addressed to Professor Owen, was read. This letter is dated Waimate, near the Bay of Islands, New Zealand, July 11, 1842, and the portion read refers to the remains of a gigantic bird in New Zealand. The Rev. Mr. Cotton observes, that upon meeting with the Rev. Mr. Wm. Williams, whose missionary station is at the East Cape, Bay of Islands, "I spoke to him about the gigantic New Zealand Bird, of which you described a single bone. Oddly enough, he had a basket full of the bones in the next room, which he immediately showed to me. He has sent two cases of them to Dr. Buckland, together with a long letter, fully detailing the circumstances under which they were found. I have no doubt but that he will ere this have communicated the letter to you, that is, should it have safely arrived. The bones are very perfect, not at all fossilized; and have been buried in the mud of freshwater streams communicating with high mountains. Mr. Williams had bones of thirty different birds brought to him in a short time after he set the natives about searching for them. One of the largest leg-bones, which measures two feet ten inches, and which has been sent to Dr. Buckland, leads him to think that the bird must have been sixteen feet high! A clergyman who came out in the Tomatia with us is going to be located in the Wairoa, a river about seventy miles south of Poverty Bay, a locality in which these bones have been found in the greatest plenty, and I will commission him to save for me all he can in case you should not have any in the distribution which Dr. Buckland is authorized by Mr. Williams to make. No bones of the wings have been found. The natives have some odd traditions about it, which you will see in the letter. Strangely enough, after Mr. Williams had obtained the bones, he heard of the bird as having been seen by two Englishmen in the Middle Island. They were taken out by a native *at night* to watch for the bird, which he had described to them; they saw it, but were so frightened that they did not dare to shoot at it, though they

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had gone out expressly to do so. After this I should not be surprised if the Zoological Society were to send out an army to take the monster alive, for alive he most certainly is in my opinion."

A paper was then read from M. Petit de la Saussaye, in which the author describes the following new species of Shells, placed in his hands for that purpose by Hugh Cuming, Esq. Among these, M. Petit observes, are several which in his opinion form a new little group, possessing well-marked characters, and which might be regarded as a subgenus, for which he proposes the name *Elasmatina**.

These shells, which are all terrestrial, form a portion of the great family *Helicidæ*, and appear to be confined to certain islands in the Pacific Ocean. They are of small size, transparent and fragile, and their columella is always furnished at least with one tooth, and sometimes with several teeth. The chief characters are thus expressed by the author:—

ELASMATINA.

Testa ovata, seu turrata, fragilis, pellucida; columella uni-vel pluridentata, dentibus lamelliformibus; labrum tenue, acutum.

ELASMATINA SUBULATA. *Elasm. testá conico-elongatá, cylindraced, pellucidá, dilutè corned; anfractibus decennis, convexis, suturá lineari, impressá; apicé obtuso; aperturá obliquè obovatá; columellá dente lamelliformi intùsque decurrente instructá; labro tenui, acuto.* Long. 6 mill.; larg. 2 mill.

Hab. Island of Opára, Society Islands.

Found by Mr. Cuming in decayed grass.

ELASMATINA CUMINGIANA. *Elasm. testá ovato-conicá, pyramidatá, pellucidá, dilutè corneo-fuscescente; anfractibus 10-11, subplanulatis, ultimo subangulato; aperturá semilunari, angustatá; columellá biplicatá; plicá superiori obsoletè lamelliformi; inferiori arcuatá, lamellosá; labro tenui, acuto.* Long. 6 mill.; larg. $3\frac{1}{4}$ mill.

Hab. Island of Juan Fernandez.

Found by Mr. Cuming on dried herbage.

ELASMATINA RECLUSIANA. *Elasm. testá oblongo-conicá, pellucidá, corneo-fuscescente; anfractibus 9-10, planiusculis; aperturá semilunari; columellá basi contorto-plicatá, plicá lamellosá; labro tenui, acuto.* Long. 5 mill.; larg. 2 mill.

Hab. Island of Mas afuera, coast of Chili.

Found by Mr. Cuming under moss in damp situations.

ELASMATINA GLOBOSA. *Elasm. testá ventricosó-conicá, pellucidá, luteo-virescente; anfractibus 6-7, planiusculis, ultimo maximo, ventricosó, pallidiore; spirá conico-acutá; aperturá semilunari, ringente; columellá suprà medium dente lamelliformi instructá,*

* From *ἐλασμα*, lamella.

dente subtùs marginato, interdum duplicato, ad basim plicato, plicá anticè emarginatá robustè bilobato, lobo superiori ascendente, inferiori subhorizontali; labro acuto. Long. 4 mill.; larg. 3 mill.

Hab. Island of Opara.

Found by Mr. Cuming under stones.

M. Petit also describes a new shell belonging to the genus *Scarabus*:—

SCARABUS CUMINGIANUS. *Scar. testá ovato-acutá, utroque latere compressiusculá, sordidè fuscéscente, longitudinaliter rugoso-striatá, umbilicatá; anfractibus novenis, planis; spirá conicá, lateraliter interdum castaneo-maculatá; aperturá longitudinali, margaritacéa, nitente; columellá tridentatá, dente superiori longitudinali, anticè truncato, dente mediano crasso, basi obsoletè trilobato, inferiori transverso, lamelliformi; labro crasso, supernè intùs valdè sinuato, quinis dentibus instructo; umbilico intùs clauso. Long. 29 mill.; larg. 20 mill.*

Found by Mr. Cuming at Boljoon (island of Zebu), and at Tanhay, island of Negros.

Mr. Fraser laid before the Meeting some new species of Birds from Fernando Po, which he characterized as follows:—

SYLVICOLA SUPERCILIARIS. *Sylv. ♂ corpore superiore, et lateribus nitidè olivaceis; mento, gulá, et abdomine medio sordidè albis; lineá a naribus super oculos, lineá suboculari, plumis auricularibus, humerorum margine, femoribus, crissoque splendidè flavis; spatio inter oculos rictumque fusco; rostro nigro, pedibus carneis.*

Long. tot. 4 poll.; rostri, $\frac{5}{8}$; alæ, 2; caudæ, $1\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. Clarence, Fernando Po.

The whole of the upper surface and sides of the body, in this bird, are of a bright olive colour; the chin, throat and centre of abdomen are dirty white; a yellow line runs from the nostril over the eye, and there is a mark under the eye of the same colour; the ears, edge of shoulders, thighs and under tail-coverts are also bright yellow; the space between the eye and the gape is brown; the bill is black and the legs are flesh-colour.

BUCCO SUBSULPHUREUS. *Buc. ♂ corpore superiore nigro, strigá superciliari, necnon lineá frontali sub oculos, et per genas tendente, sulphureis; spatio strigis incluso nigro; corpore inferiore, alarum caudæque tectricibus, secundariis, sic et caudá flavo-marginatis; alarum tectricibus inferioribus flavido-albis; iridibus corylaceis; rostro nigro, pedibus saturatè plumbeis.*

Long. tot. $3\frac{5}{8}$ poll.; rostri, $\frac{7}{8}$; alæ, 2; caudæ, $1\frac{1}{4}$; tarsi, $\frac{1}{2}$.

Hab. Clarence, Fernando Po.

The upper surface of the head and body is black; superciliary stripe and one across the forehead, which passes under the eye and along the cheek, and the whole of the under surface, sulphureous; space between the superciliary and cheek stripes black; upper wing

and tail-coverts, secondaries and tail, margined with yellow; under wing-coverts yellowish white; irides hazel; bill black; legs deep lead-colour.

This bird is like a *Nuthatch* in its habits, being capable of not only running up the trunk of a tree with great agility, but of descending also, head downwards, with equal or even more facility, an act which the *Woodpecker* is, I believe, unable to perform. The tail is short and very soft, and is not used in climbing. Like our European *Sitta*, the downward position seems the most easy and natural. Of the difference of sexes, if any, I am unable to speak, but I have reason to believe the young of this genus differ considerably from the adult*. The *Buccos* are stupid and inactive; I have shot three or four from the same tree, one after the other, without disturbing the rest.

MUSCIPETA (TCHITREA, LESS.) TRICOLOR. *Musc.* ♀ *crístá, et mento nitidè nigris; corpore superiore cinereo; inferiore rufo, rostro pedibusque pallidè cæruleis; caudâ — ?*

Long. tot. — ? poll. ; rostri, $1\frac{3}{8}$; alæ, $3\frac{1}{4}$; caudæ, — ?; tarsi, $\frac{5}{8}$.

Hab. Clarence, Fernando Po (June); in deep moult.

HALCYON LEUCOGASTER. *Halc.* ♂ *vertice nigro, et cæruleo alternatim fasciato, notâ grandi rufo ab utraq̃ue nari oriente et mandibulâ inferioris basim circumdante, necnon aures, et capitis latera, exinde super oculos tendente, et per latera colli corporisque sic et alarum tectrices ductâ; dorso splendidè cæruleo, quo colore tectrices alarum marginatæ, alæ, caudaque lavatæ sunt, gulâ, pectore et abdomine in medio albis; rostro pedibusque rubris.*

Long. tot. $5\frac{1}{2}$ poll. ; rostri, $1\frac{1}{2}$; alæ, $2\frac{1}{4}$; caudæ, $1\frac{1}{4}$; tarsi, $\frac{4}{12}$.

Hab. Clarence, Fernando Po.

Crown of the head alternately banded with blue and black; from each nostril commences a large patch of rufous, which envelopes the base of the lower mandible, ears, and sides of the head, forms a broad stripe over the eye, and extends along the sides of the neck and body, and also over the under wing-coverts; the back is ultramarine blue; the upper wing-coverts are tipped, and the wings and tail glossed with the same hue; the throat and the centre of the chest and abdomen are white; bill and feet red.

* I have in my collection young specimens of a species of *Bucco*, nearly allied to the above, and in which the body is much spotted and barred, as we so frequently find it in young birds, and wants the decided colouring characteristic of the adults of the present genus. These young birds I feel no doubt constitute a new species, but with such imperfect materials I do not think it desirable to impose a name. The plumage is very soft and loose; the upper parts of the body are of a blackish colour; the crown of the head is adorned with numerous small yellow spots, and the feathers of the back and rump are margined with yellow, giving a barred appearance to these parts; the wing-coverts are narrowly edged with dirty yellow; the under parts of the body are pale inclining to white, but as it were irregularly washed with yellow; the beak is horn-coloured, and the feet are black. These young birds were shot on naked isolated trees.

This beautiful species is very closely allied to the *Halcyon cyanotis*, Sw., but may at once be distinguished by the centre of the abdomen being white, which circumstance suggested the name. It is a shy bird.

Mr. Lovell Reeve then communicated a paper by Sylvanus Hanley, Esq., in which the author describes, subjoined, five new species of shells belonging to the genus *Donax*, a group of Acephalous Mollusks.

DONAX SEMISULCATA. *Don. testá abbreviato-cuneiformi, totá albido-lutescente, nitidá, posticè attenuatá, lævigatá, margine dorsali valdè declivi; anticè brevissimá, truncatá, transversim sulcatá et longitudinaliter striatá; margine anteriore subrecto; vulvá decussatá, lateribus subangulatá; intùs margine crenulato.*

Long. $\frac{2}{5}$ poll.; lat. $\frac{1}{2}$ poll.

Hab. —? Mus. Stainforth, Metcalfe, Hanley, &c.

A very distinctly characterized shell, which bears little resemblance to any other species of this genus, with the exception of the *straminea* of Schrøtter. That rare and almost forgotten shell differs from ours in the following particulars. The shape is altogether more rounded, the ventral edge less arcuated, the edges of the anterior slope rounded, and its transverse striæ obsolete. Moreover the posterior margin is entire.

DONAX PUNCTATO-STRIATA. *Don. testá subtriangulari, valdè convexá, pallidè livido-fusca, radiatim punctato-striatá, margine dorsali utrinque valdè declivi, ventrali medio arcuato; vulvá longitudinaliter argutè striatá, lateribus obtusis; intùs purpureá, marginibus dentatis; dentibus lateralibus in utráque valvulá duabus.*

Long. $\frac{4}{5}$ poll.; lat. $1\frac{1}{2}$ poll.

Hab. —? Mus. Stainforth, Metcalfe, Hanley, &c.

Combining the outline of the *striata* of Linnæus (not Chemnitz) with the dotted striæ of *denticulata*, this shell may nevertheless be easily distinguished from either by the obtuse edge of its anterior slope. The inner margin is strongly dentated, excepting at the anterior slope, where it is finely crenulated. I believe that it is found on the shores of China, but will not venture to assign it *that* or any other locality.

DONAX CARINATA. *Don. testá elongato-cuneiformi, anticè acuminatá, convexá, purpureo-fusca, striis longitudinalibus magis minusve distinctis ornatá (sæpè politá, radiisque saturatoribus obsoletè depictá); vulvá obliquè truncatá, lateribus carinatá, ferè planulatá, striisque subgranulatis radiatá; intùs purpureá, dentibus lateralibus in utráque valvulá duobus, marginibus crenatis.*

Long. $\frac{4}{5}$ poll.; lat. $1\frac{2}{3}$ poll.

Hab. —? Mus. Stainforth, Metcalfe.

A species peculiarly characterized by the very sharp and subrostrated angle formed by the ventral edge with the nearly straight edge of the depressed and sharply carinated anterior slope. In the majority of specimens the striæ have become obsolete and the shell

brilliantly polished. The general outline bears some little resemblance to that of the true *trunculus* of Linnæus, a very different shell from that erroneously but universally so designated by those who have written on British conchology.

DONAX DENTIFERA. *Don. testâ abbreviato-subtriangulâri, posticè rotundatâ, anticè obtusâ et tumidâ, rugis tenuissimis strias longitudinales anticè decussantibus; vulvâ subbiangulatâ, striis tenuibus subgranulatis radiatâ, sulcoque dentifero notatâ; margine ventrali vix arcuato; dentibus cardinalibus et lateralibus in utraqve valvulâ duobus; intùs marginibus crenatis.*

Long. $1\frac{1}{5}$ poll.; lat. $1\frac{3}{8}$ poll.

Hab. — ?

The abbreviated shape of this remarkable shell would alone separate it from most of the *Donaces* possessing a crenulated margin. The extraordinary tooth at the extremity of the radiating groove in one valve, which fits into a corresponding notch at the extremity of that of the other, is however its more prominent characteristic. A few teeth show themselves likewise at the extremity of the longitudinal elevated striæ which margin the anterior slope.

The colouring is extremely variable, being uniform flesh-colour, olive-yellow, with the umbones violet, or even white. The interior rivals the exterior in the diversity of its tints.

DONAX PULCHELLA. *Don. testâ transversim elongatâ, convexâ, pellucidâ, politâ, posticè attenuatâ, productâ, anticè brevi; obtusâ, margine ligamentali valdè convexâ; albidd, striis longitudinalibus obsoletis anticèque radiis purpureis angustis tribus ornatâ; vulvâ lateribus rotundatâ, striisque tenuibus radiatâ; margine ventrali subrectâ, intùs crenulatâ; dentibus lateralibus valdè approximatis.*

Long. $\frac{1}{5}$ poll.; lat. $\frac{1}{2}$ poll.

Hab. West Indies.

An exceedingly common species from the West Indies, which, from its apparent similarity with the *scalpellum* of Gray, has hitherto remained uncharacterized. Its peculiarly transverse shape, its breadth being considerably more than twice its length, sufficiently distinguishes it from any of the named species of this genus, with the exception of the *Owenii* and *scalpellum*, from which it is separated by its greater convexity and its distinctive colouring.

Mr. Hanley also describes a new species of *MYA* of Linnæus and Lamarck:—

MYA SEMISTRIATA. *Mya testâ ovato-oblongâ, subæquilaterali, ventricosâ, posticè rotundatâ, anticè subtruncatâ et attenuatâ, candidâ, tenui, pellucidâ, longitudinaliter striatâ; striis tenuibus, confertis, anticè elevatis; areâ posticâ striarum experte, transversim rugosâ; dente cardinali obliquo.*

Long. $\frac{5}{8}$ poll.; lat. 1 poll.

Hab. — ? Mus. Metcalfe.

A single valve, in the cabinet of W. Metcalfe, Esq., is the sole specimen of this elegant and distinct shell I have ever beheld, and

forms a welcome addition to a genus possessing so few species as that of *Mya*. Its distinct radiating striæ occupying all but the posterior surface (which is roughened by concentric sublamellar wrinkles), prevent the possibility of its being confounded with any other species, except the *cancellata* of Conrad. But the coarse transverse wrinkles which cover the entire surface of that shell are totally wanting in ours, whilst its radiating striæ are few, indistinct, and by no means its prominent characteristic.

The anterior attenuation is caused by the sloping upwards of the ventral edge. The tooth closely resembles that of *arenaria*, but is more oblique.

January 24, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

Professor Owen exhibited various bones, being the remains of a gigantic Struthious Bird (*Dinornis Nova-Zelandiæ*, Owen) which has become extinct in the North Island of New Zealand, and proceeded to read his notes relating to them.

“ Since the communication to the Zoological Society, Jan. 10th, 1843, of the letter of the Rev. Mr. Cotton, relative to the remains of the gigantic bird of New Zealand which had been collected in the North Island by the Rev. Wm. Williams, one of the boxes of these remains, transmitted by that gentleman to Prof. Buckland, has been received, and the specimens have been kindly placed in my hands for description.

“ An entire femur, somewhat larger than that of which the shaft is described and figured in the Society’s Transactions, proves the specific identity of the present remains with the fragment, upon which I ventured to affirm, three years ago*, that a large Struthious Bird ‘of a heavier and more sluggish species than the Ostrich’ had recently become extinct, if it were not still living, in New Zealand.

“ The femur has very nearly the same proportions of thickness to length as in the Ostrich, but the shaft is less compressed; it consequently differs from that of the Apteryx in being shorter in proportion to its thickness; but it resembles the femur of the Apteryx, and differs from that of the Ostrich and Emeu in the important character of the absence of the air-hole at the back part of the neck, and the consequent substitution of marrow for air in the interior of the bone. It differs from the femur of the Ostrich, and agrees with that of the Apteryx, in the greater width of the anterior interspace of the condyles; but it differs from that of the Apteryx, not only in size and general proportions, but also in the form of the distal extremity, which has a deeper posterior intercondyloid depression, and a sharper and more produced posterior part of the outer condyle.

“ The length of the above femur of the great bird of New Zealand is eleven inches; the circumference of the middle of the shaft five and a half inches: but the present collection includes the shaft of a femur of another individual, with a circumference of seven and a half inches.

“ The most perfect tibia in the present collection measures two feet four and a half inches in length, and apparently corresponds in proportion with the fragment of the larger femur. Now allowing that femur fourteen inches of entire length, the tibia is then twice the

* The memoir was communicated to the Zoological Society November 12th, 1839, vol. iii. p. 32. pl. 3.

length of the femur, while in the Apteryx the tibia is only one-third longer than the femur. The larger *Struthionidæ*, as the Ostrich and Emeu, more nearly resemble the great New Zealand Bird in the proportion of their tibia, but it is not quite twice the length of the femur in those species. The tibia of the great New Zealand Bird differs from that of the Apteryx and all the large *Struthionidæ* in the complete osseous canal for the passage of an extensor tendon in the anterior concavity above the distal condyles. This osseous canal is commonly found in the tibia of the *Grallæ*, *Gallinæ*, *Anseres*, and many smaller birds. The proportion of length to thickness of the tibia is nearly the same in the Ostrich and the great New Zealand Bird; the circumference of the tibia at its proximal end, in the latter, is fifteen inches; at its middle, five inches.

“The most instructive bone in the present collection is a tarso-metatarsal bone, with the distal extremity entire, showing that the gigantic bird was tridactyle, like the Emeu, Rhea, and Cassowary. The remains of the proximal end of the bone prove it to have been articulated with a tibia about an eighth part shorter than the one above described, or to a tibia about two feet in length; the length of the tarso-metatarsal bone is one foot, or half the length of the tibia, which is exactly the proportion which the tarso-metatarsal bone of the Apteryx bears to the tibia. In the Emeu the tarso-metatarsal bone is as large as the tibia; in the Ostrich it is a little shorter than the tibia. The difference in the proportions of the tarso-metatarsal bone of the gigantic bird of New Zealand and of the Emeu will be obvious from the following dimensions:—

Tarso-metatarsal bone.	<i>Dinornis.</i>		<i>Dromaius.</i>	
	in.	lin.	in.	lin.
Length	12	0	14	6
Circumference of middle	4	5	2	8
Breadth of distal end	3	10	2	10

“The comparative shortness and strength of the trifold metatarsal of the gigantic New Zealand Bird form its most striking resemblance to the Apteryx, to which it thus approximates more closely than to any of the large existing *Struthionidæ*.

“The proportions of the leg-bones, their denser texture, especially that of the femur, which, as in the Apteryx, contains no air, sufficiently indicate the generic distinction of the great New Zealand Bird from the tridactyle Emeu, Rhea, or Cassowary. The questions then arise,—is it likewise generically distinct from the *Apteryx*? or is it a gigantic species of that genus? These questions are determined by the tarso-metatarsal bone. The Apteryx is distinguished from the other *Struthionidæ* not more by its elongated bill than by the presence of a fourth small toe on the inner and back part of the foot, articulated to a slightly elevated rough surface of the tarso-metatarsal about a fourth of the length of that bone from its trifold distal end. There is no trace of this articular surface on the tarso-metatarsal of the Gigantic Bird, which was consequently tridactyle, as in the Emeu, Rhea, and Cassowary. The Dodo was tetradactyle, like the Apteryx;

the shorter proportions of the legs of the Dodo also distinguish it from the Gigantic Bird, whose career in the North Island of New Zealand was probably closed about the same period as that of the Dodo's existence in the Isle of Rodriguez.

"The fragments of the pelvis prove this to have been relatively broader, behind the acetabula, than in the Ostrich, Emeu, or Apteryx, its proportions being more like those of the Bustard.

"The results of the foregoing comparisons justify the reference of the Great Bird of New Zealand to a distinct genus in the Struthious order, for which I propose the name *Dinornis*, with the specific appellation *Novæ Zealandiæ*.

"The extraordinary size of the tibia above described—still more that of the tibia said to measure two feet ten inches in length, obtained by Mr. W. Williams, and mentioned in his letter to Dr. Buckland—prove the *Dinornis* of *New Zealand* to be the most gigantic of known birds. There is little probability that it will ever be found, whether living or extinct, in any other part of the world than the islands of New Zealand, or parts adjacent. At all events, the *Dinornis Novæ Zealandiæ* will always remain one of the most extraordinary of the zoological facts in the history of those islands; and it may not be saying too much to characterize it as one of the most remarkable acquisitions to Zoology in general which the present century has produced."

Mr. Ogilby then communicated his descriptions of two new species of Baboon:—

"When at Frankfort in the year 1837 I saw in the museum of that city two Baboons of the genus *Cynocephalus*, which my friend Dr. Rüppell had brought from Abyssinia. They were however confounded with the 'Babouin' of the French authors (*C. sphinx*), under which name they are noticed in the 'Neue Wirbelthiere'; and though I was too well acquainted with that species, from having frequently seen an individual then living in the Surrey Zoological Gardens, to fall into the same error, I yet committed the similar mistake of confounding the Frankfort animals with *C. anubis*, of which there was no specimen at hand to compare them with. Since that time I have had frequent opportunities of observing the latter species, which is an inhabitant of the coast of Guinea, and not uncommon in our museums and menageries; but it is only within the last few days that the acquisition of a fine adult male specimen of Dr. Rüppell's animal by the Zoological Society has enabled me to compare them together, and to ascertain their specific distinction. Both species are now living in the Society's Gardens, and offer a rare and valuable opportunity for studying their characters.

"The Abyssinian species, which was reported to have been brought from Bombay, but which had no doubt been carried thither on board some vessel trading to the Red Sea, possesses a higher degree of interest than attaches to any other *Cynocephal*. With the exception of *C. hamadryas*, it is the only known species in that part of Africa, and must consequently have been the animal which we find

so frequently figured among the hieroglyphics, and which was worshiped by the Egyptians under the name of *Thoth*. I have shown elsewhere (*Nat. Hist. of Monkeys, &c.*, i. 431) that the Sacred Baboon of the Egyptians was not the *C. hamadryas*, as supposed by Ehrenberg; and though, from the mistake above alluded to, I was at that time inclined to identify it with *C. anubis*, there can now be no reasonable doubt that the animal which played so important a part in the mythology of that remarkable people, and of whose worship the city of Hermopolis was the principal seat, must have been the species at present under consideration. If this conjecture be well-founded, it follows also that the names *cynocephalus*, *sphinx*, &c., so often employed by Greek and Roman writers, must have referred to the same animal, at least originally; but as modern zoologists have applied all these names in a definite sense, I propose to distinguish the new species by the equally appropriate designation which it bore among the ancient Egyptians.

“*Cynocephalus Thoth*.—The individual from which this description was taken is an old male of large size, and, like the rest of his congeners, of a morose intractable disposition. The face is broad and of a dirty livid flesh-colour, lighter along the centre and ridge of the nose, and somewhat browner on the cheeks and muzzle; the cheek-bones are protuberant, the rostrum truncated, and the extremity of the nose reaching, but not surpassing, the plane of the upper lip and teeth. The hair of the fore-quarters is longer and thicker than on the rest of the body, though it does not form so dense or copious a mane as in *C. hamadryas*. The colour of the upper and outer parts of the body may be described as dark olive-green, and that of the lower and interior as light yellowish green; the breast, throat and under part of the chin are silvery grey; the lower parts of the whiskers are of the same colour, but they acquire a yellowish green shade as they approach and become intermixed with the hair of the head; the ears and palms of the hands are naked, and of a dark brown colour; the callosities very large and flesh-coloured, and the naked parts of the hips on each side of the callosities of a deep purple or violet-brown; the scrotum is brown, and the sheath of the penis flesh-coloured. The tail is of medium length, without a terminal tuft, and carried in the arched manner common to the rest of the genus. The hind surfaces of the legs and thighs are furnished with long hair of a yellowish brown shade; the hands are of the same colour as the body, but the hind fingers are covered with longish grey hairs, and this character, together with the dark purple colour of the naked hips and brown scrotum, will always be sufficient to distinguish the present species from *C. anubis* and *C. sphinx*, in both of which the naked parts of the buttocks are of a brilliant blood-red, and the scrotum pale flesh-colour. In colour indeed *C. Thoth* approaches more nearly to *C. sphinx* than to *C. anubis*; it has the same light silvery grey colour on the whiskers and under part of the body, but the upper colours are more obscure; the bright yellowish green is replaced by sordid dunnish brown, and the proportions of the two animals are entirely different, the long slender limbs and body of the

sphinx contrasting strongly with the massive thick-set form of the present species.

“There is likewise in the Society’s Gardens a second undescribed species of *Cynocephal*, of which I remember to have formerly seen a specimen in Wombwell’s collection, but unfortunately neglected to take a note of it at the time. The individual which I am now about to describe was brought from the Niger Expedition, and presented to the Society by Lieutenant Webb, R.N. It is a semiadult male, of medium size, covered on every part of the body, both above and below, with long shaggy hair of a deep russet-brown colour, each hair being annulated with rusty-brown and black rings; and I may remark, that this and *C. anubis* are the only species in which I have observed that the hair of the breast and belly are similarly annulated, and almost as thickly furnished as that on the back and sides; the whiskers are likewise bushy, of the same colour as the hair of the back, and similarly annulated; but it should be observed, that from the very dark shade of the colours the annuli are but little conspicuous anywhere. The face is more slender and tapering than in any other male *Cynocephal* that I have ever seen; the cheek-bones are but little prominent, but the nose sensibly surpasses the extremity of the muzzle. The face and space surrounding the eyes are black or dark brown, the upper eyelids alone flesh-coloured; the ears and palms of the hands, as are likewise the upper sides of the fingers, the scrotum, callosities, and naked parts of the buttocks, are of the same colour. The hair of the head, whiskers and fore-parts generally is erect and bushy, and completely conceals the ears. This species is allied to *C. anubis*, but differs from it in the colour of the hair, in the absence of the light flesh-coloured circle about the eyes, and in the dark brown instead of blood-red colour of the callosities and naked parts of the buttocks. I propose to distinguish it by the name of *C. choras*, a name which is applied to this or some other species of Baboon on the west coast of Africa, and which has a sufficiently classical form to escape the censure of barbarism, notwithstanding its origin.”

Descriptions of four new species of *Conus*, a genus of Pectinibranchiate Mollusks, by Mr. Lovell Reeve, were then read.

1. *CONUS STAINFORTHII*. *Con. testá conico-turbinatá, leviter flexuosa, albidd, rubro purpureoque tinctá, ad basin rosacá; granosá, granis minutis, rubido carneove-albis, in seriebus equidistantibus parallelis transversaliter dispositis; spirá mediocriter convexá, tuberculis aspersis regulariter coronatá; apice mucronato, symmetricè acuto; aperturá subinflatá, labro solidiusculo, intùs extúsque albo.*
Conch. Icon. pl. 1. f. 1.

The richly variegated purple painting of this new and very beautiful shell (which I dedicate to its fortunate possessor), and the rows of light small granular pimples standing out in relief, render it eminently characteristic. There is another specimen in Mr. Cumming’s collection.

Hab. Unknown.

2. *CONUS LIGNARIUS*. *Con. testá oblongo-turbinatá, luteo-fuscá, fusco indistinctè bifasciatá, longitudinaliter subtilissimè striatá, filis tenuissimis rubellis densissimè cingulatá; basi striatá; spirá planiusculá, apice elato, acuto.*

Conch. Icon. pl. 15.

This shell, which is of an uniform brown colour, profusely corded and lined, both transversely and longitudinally, was found by Mr. Cuming on mud-banks just below low-water mark at Port Sacloban, Island of Leyte, Philippines.

3. *CONUS MAGNIFICUS*. *Con. testá cylindraceo-turbinatá, obesá, anfractibus supernè rotundatis, spirá levi, subacuminatá, apice valdè obtuso; rosacéa, lineis ovato-trigonis, lacco aut purpureo-rubris, usquequaque reticulatá, maculis perpauca grandissimis bifasciatim cinctá.*

Conch. Icon. pl. 6. f. 32.

This beautiful shell, which always exhibits a warm rosaceous tint, was collected by Mr. Cuming at Matnog, Island of Luçon, Philippines.

4. *CONUS NEPTUNUS*. *Con. testá elongato-conicá, spirá acuminatá, striatá, apice acuto; pallidè carneolá, lineis maculisque rubidis ubique nebulosá et venosá; versus basin leviter sulcatá, sulcis subdistantibus; columellá et aperturæ fauce subrosacéa.*

Conch. Icon. pl. 6. f. 30.

Hab. Jacna, Island of Bohol.

The delicate marking of this gem approaches so nearly to that of the *Conus gloria-maris*, that we honour it with as noble a title.

February 14, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

A Letter from James Brooke, Esq., Corresponding Member, was read, in which that gentleman begs to present to the Society the whole of the zoological specimens he has from time to time forwarded to England. A portion of this extensive collection, which was formed by Mr. Brooke chiefly at Borneo and Sincapore, was laid before the Meeting.

Mr. Gould exhibited and characterized the following two new species of Birds, from the collection formed by Capt. Sir Edward Belcher, R.N., during the voyage of Her Majesty's Ship 'Sulphur.'

PTEROGLOSSUS ERYTHROPYGIUS. *Pt. vertice, facie, mento, et dorso superiore nitidè virescenti-nigris; alis caudæque sordidè fuscescenti-viridibus; dorso inferiore, uropygio, et caudæ tectricibus splendidè sanguineis; corpore inferiore flavo, pectore superiore sanguineo tincto, inferiore vittâ coloribus nigro et sanguineo commixtis, fasciato.*

Crown of the head, sides of the face, chin, and upper part of the back shining greenish black; wings and tail dull brownish green; lower part of the back, rump, and upper tail-coverts shining blood-red; under surface yellow, stained on the chest with blood-red, and crossed on the breast by a band of mingled black and blood-red; bill bordered at the base by a narrow line of dull white; the remainder of the bill yellowish horn colour, with a broad stripe of black along the upper mandible near the cutting edge, and the tip of the under mandible black; feet greenish black.

Total length, 18 inches; bill, 5; wing, $6\frac{1}{4}$; tail, $7\frac{1}{2}$; tarsi, $1\frac{1}{4}$.

PTEROCLES PERSONATUS. *Pt. plumis a basi rostri, usque ad oculos, intensè nigris; capitis reliquis partibus, collo, et pectore arenaceo-cervinis, non sine tincturâ vinosâ ad basim colli; dorso vinoso-fusco; caudæ tectricibus pallidè fuscis, notis irregularibus cervinis per plumas in lincis obliquis ordinatis, crebrè guttatis.*

Fœmina facie nigrâ caret.

Male.—Feathers surrounding the base of the bill, as far as the eyes, deep velvety black; remainder of the head, as well as the neck and chest, sandy buff, tinged with vinous at the base of the neck, both above and below; back vinous brown; wings sandy buff, the coverts tipped with dark brown, which colour forms three semicircular fasciæ across the wing; primaries and secondaries dark brown, the latter marked irregularly with sandy buff on the basal half of their outer margins; rump and upper tail-coverts light brown, with

numerous irregular marks of buff, arranged in oblique lines down the length of the feathers; tail-feathers deep brown, crossed on their outer webs with decided, and on the inner with irregular, bars of buff, all the feathers largely tipped with buffy white, all the under surface crossed with small bars of dark brown, light brown, and buff; under tail-coverts sandy buff.

The female differs in not having the black face, in having all the upper as well as the under surface of the body barred, like the latter part in the male; the wings numerous barred with brown, and the under tail-coverts sandy red.

Total length, 13 inches; bill, $\frac{7}{8}$; wing, $8\frac{5}{8}$; tail, 4; tarsi, 1.

Mr. Fraser laid before the Meeting eight new species of Birds from Western Africa, which he thus characterizes:—

COLLURIO SMITHII. *Coll. supernè niger, plumis scapularibus, guttà apud primarias, secundariorum nonnullarum apicibus sic et corpore subtùs, reetricumque caudæ quatuor externarum apicibus, albis; rostro pedibusque nigris.*

Long. tot. 8 poll.; rostri, $\frac{3}{4}$; alæ, $3\frac{1}{4}$; caudæ, $4\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. Cape Coast.

This species is named in honour of Dr. Smith, the author of the ‘Illustrations of the Zoology of South Africa.’

DRYMOICA MENTALIS. *Drym. suprà fusca, primariis ad marginem pallidioribus, subtùs rufescens, fronte genisque rufo-castaneis, gulà et lined angustà superciliari albis; lined angustà nigrà inter gulam albam, genasque castaneas; caudà?; rostri mandibulà superiore nigrà, inferiore corned; tarsis flavis.*

Long. tot. ? poll.; rostri, $\frac{3}{4}$; alæ, $2\frac{3}{4}$; caudæ, ?; tarsi, 1.

Hab. Accra.

DRYMOICA STRANGEI. *Drym. suprà fusca, strigà superciliari et corpore subtùs albis; reetricibus caudæ subtùs saturatè cinereis, guttà nigrà propè apices, apicibus albis.*

Long. tot. $5\frac{1}{4}$ poll.; rostri, $\frac{3}{4}$; alæ, $4\frac{1}{2}$; caudæ, 2; tarsi, 1.

Hab. Accra.

“I have ventured to name this species after Lieut. J. N. (now Commander) Strange, R.N., to whom I was indebted for kindness and assistance throughout the whole term of the expedition.”

DRYMOICA LATERALIS. *Drym. suprà fusca, lateribus cinerascens, subtùs alba, femoribus rufis, reetricibus caudæ subtùs saturatè cinereis, guttà nigrà propè apices, apicibus albis.*

Long. tot. $5\frac{1}{2}$ poll.; rostri, $\frac{3}{4}$; alæ, $2\frac{1}{2}$; caudæ, 2; tarsi, $\frac{3}{4}$.

Hab. Cape Palmas.

Differt a *Drym. Strangei* corpore suprà saturatiore, lateribus cinereis, caudà magis gradatà, cum colore albo apicali magis circumscripto, et obscuriore.

DRYMOICA RUFICAPILLA. *Drym. ♂ vertice rufo, corpore suprà saturatè fusco, corpore toto inferiore et gulà albis, dimidio femorum*

inferiore rufo; caudâ ut in D. laterali, at magis gradatâ; rostro nigro.

Long. tot. $6\frac{3}{4}$ poll.; rostri, $\frac{5}{8}$; alæ, $2\frac{1}{2}$; caudæ, $2\frac{1}{2}$; tarsi, $\frac{7}{8}$.

Hab. River Nûn, Western Africa.

This species differs from others of the genus here described in having the white of the under parts extending to the nostrils, a rufous crown to the head, and a black beak. It was shot near the mouth of the above-mentioned river in the month of August.

DRYMOICA RUFA. *Drym. suprâ rufo, subtùs sordidè flava, rostro tarsisque flavis.*

Hab. River Quorra, opposite Iddah.

DRYMOICA RUFOGULARIS. *Drym. ♀ suprâ fuliginosè fusca, levitèr viridi tincta; guld pectoreque rufescentibus; abdomine, tectricibus alarum inferioribus et caudâ utrinque rectricibus tribus externis albis; rostro suprâ nigro, subtùs flavo; tarsis carneis, iridibus pallidè rufescenti-fuscis.*

Long. tot. $3\frac{3}{4}$ poll.; rostri, $\frac{1}{2}$; alæ, $1\frac{3}{4}$; caudæ, $1\frac{5}{8}$; tarsi, $\frac{5}{4}$.

Hab. Clarence, Fernando Po.

DRYMOICA UROPYGIALIS. *Drym. suprâ fusca, singulis plumis pallidiore marginatis, strigd superciliari et corpore subtùs albis, lateribus et femoribus levitèr rufo-lavatis, uropygio subrufo; caudâ saturatè fuscâ, fasciâ perpallidè rufâ, alterâ nigrâ, et apice albo, rostro fusco, tarsis flavis.*

Long. tot. 4 poll.; rostri, $\frac{1}{2}$; alæ, 2; caudæ, $1\frac{1}{2}$; tarsi, $\frac{5}{4}$.

Hab. Accra.

A series of Shells were laid before the Meeting, upon which Mr. Hinds observed that they constituted the first portion of a collection which it is proposed, from time to time, to bring under the notice of the Society. The collection was made by Captain Sir Edward Belcher, R.N., C.B., during the late voyage of Her Majesty's Ship 'Sulphur,' aided by the cooperation of Mr. Hinds, the surgeon of the vessel; and it is the intention to publish them in a collected form in the forthcoming 'Zoology of the Sulphur,' with copious illustrations of everything of novelty or interest. The following descriptions are by Mr. Hinds:—

TRICHOTROPIS, *Brod. et Sow.*

TRICHOTROPIS CANCELLATA. *Tri. testâ oblongâ; anfractibus senis, rotundatis, costatis, valdè cancellatis; costis setosis; anfractu ultimo infrâ subplanulato; suturâ profundâ; aperturâ rotundatâ, ad basin truncatâ; umbilico parvo lineari, labio inferno ferè occulto. Axis 8 lin.*

Hab. Sitka, North-west America. Dredged in the harbour from a sandy bottom, in from five to seven fathoms, together with *T. inermis*.

Shell oblong, the spire more produced than in *T. bicarinata*; the whorls separated by a deep suture, profoundly cancellated; many

keeled, and furnished on the lines of the striæ of increase with numerous short bristles at regular intervals. The aperture is rounded, and truncated at the base; the canal so short as scarcely to exist. Umbilicus small, and somewhat concealed by the inner lip, which is slightly developed.

Three specimens are in the collection, and one, being a dead shell and deprived of its epidermis, shows very distinctly the deep cancellation of the whorls. A single specimen, and larger by two lines, is in the possession of Mr. Cuming, who obtained it with some shells from the north-west coast of America, the measurement of which I have adopted.

TRICHOTROPIS INERMIS. *Tri. testá ovatá, solidulá; anfractibus quaternis rotundatis, multicosatis, longitudinaliter levissimè striatis; costulis subæqualibus, planulatis, inermibus; aperturá oblongá, canali brevi desinente; umbilico mediocri; labio interno producto.*
Axis $7\frac{1}{2}$ lin.

Hab. Sitka, North-west America. Obtained in company with the preceding.

In shape and outline this shell approaches *T. borealis*. It will be readily distinguished from any hitherto known species by the absence of armature on the epidermis, in which we lose sight in the instance before us of one of the characters of the genus. The whorls are rounded and separated, as in the other species, by a deep suture. The last whorl is remarkable for the strong ridges which it bears at rather distant intervals, marking the termination or commencement of the periodical stages of growth.

In the method of formation of the canal there is a close affinity in this shell to some *Cancellariæ*, particularly in the angular-mouthed species, and the affinity is extended to the character of the whorls and their connexion by the suture.

TRICHOTROPIS FLAVIDA. *Tri. testá oblongá, tenui; spirá elatá; anfractibus septenis tricostatis, ultimo infernè quadricostato; epidermide pallidè corneá indutá; aperturá angulatá, ad basin obliquè truncatá; canali brevissimo; umbilico parvo, lineari.* Axis 8 lin.

Hab. — ?

Allied to *T. cancellata*, but is a more delicate and elongated shell; and the epidermis, though having some shreds attached to it, is destitute of the bristled armature. A single specimen is in the collection of Mr. Cuming, without any history.

TYPHIS, Montfort.

TYPHIS QUADRATUS. *Typ. testá subquadratá, fuscá vel albidá, lineis pallidis transversis; quadrifariam varicosá; varicibus crassis, acutis, ad spiram commixtis, supernè nodulosis, in spinis appressis desinentibus; tubulis subrectis vel deorsùm inclinatis; canali mediocri laterali.* Axis 11 lin.

Hab. Gulf of Nicoya and the Bay of Guayaquil. Dredged from a muddy bottom in from seven to eighteen fathoms.

Allied to *Typhis Sowerbii*, but distinguished from it by its squarish

shape, thick and nodulous varices, closely appressed spines, and the decided lateral direction of the canal.

TYPHIS ARCUATUS. *Typ. testá corneá, fusiformi; quadrifariam varicosá; varicibus arcuatis, inermibus, ad spiram benè distinctis, supernè in tubulis desinentibus; tubulis complanatis, ascendentibus; canali mediocri recurvo.* Axis $5\frac{1}{2}$ lin.

Hab. Cape of Good Hope. Dredged on the L'Agulhas Bank in from forty to fifty-four fathoms.

Shell fusiform, of a horn-colour; the varices arcuate, terminating in the tube, and ascending the spire even to the apex, giving it a pyramidal shape. The character of the bowed spineless varices is peculiar, and altogether it is a very distinct species.

TYPHIS NITENS. *Typ. testá ovali, albidd, lævigatá, nitidá; quadrifariam varicosá; varicibus acutis in spinis excentricis desinentibus; tubulis rectis; canali brevi recurvo.* Axis 4 lin.

Hab. Straits of Macassar, Indian Archipelago. Dredged from among gravel and coral in eighteen fathoms.

Looking from the apex, the spines and tubes will be seen to be disposed in an elegant spiral manner about the spire. It is the first species, as far as I am acquainted, that has hitherto been found in the Indian seas, and is at the same time the smallest yet recorded.

A communication from Prof. Owen was read, proposing to substitute the name *Dinornis** for that of *Megalornis*, applied to the Great Bird of New Zealand in his paper read at the previous Meeting. The change is rendered desirable, to prevent confusion in nomenclature, Mr. G. Gray having previously used the term *Megalornis* for a genus of Birds in his 'List of the Genera,' &c.

* From δεινός, *prodigious*, and ὄρνις, *bird*. This change in the name has been made in the paper referred to whilst passing through the press.

February 28, 1843.

William Horton Lloyd, Esq., in the Chair.

A letter from J. E. Gray, Esq., addressed to Mr. Waterhouse, was read, containing an account of two new species of Bats, a species of the family *Hystricidæ*, and a new Manis.

The two specimens of Bats to which Mr. Gray's observations refer, are from Hayti, and were presented to the Society by J. N. Tweedy, Esq., Corresponding Member.

One, Mr. Gray observes, constitutes a second species of the genus *Chilonycteris*, which he had founded upon some specimens brought from Cuba by W. S. MacLeay, Esq.*, and agrees in almost every particular with *Chilonycteris MacLeayi*, but differs from the three specimens of that species contained in the collection of the British Museum in being of a much darker colour, and in having the ears larger and rather narrower. The principal characters are as follows:—

CHILONYCTERIS FULIGINOSUS. *Chi. suprâ fuliginosus, fusco-tinctus, subtus fuscescens, gula femoribusque ad basin rufescentibus; auribus elongatis, attenuatis, acutis.*

	unc. lin.
Longitudo ab apice rostri ad caudæ basin ..	1 8
———— caudæ	0 10
———— auris	0 5 $\frac{3}{4}$
———— antibrachii	1 7
Alarum amplitudo	8 10

Hab. Hayti.

The second species, Mr. Gray remarks, is more interesting, since it proves to be a new genus, readily characterized by the size and structure of the ears, and the length of the tail. It agrees most nearly with the genus *Macrophyllum*, but differs from it in having the last joint of the tail produced beyond the edge of the large truncated interfemoral membrane; the tail in the species of the genus last mentioned only extending to the edge of the membrane. Another important difference consists in the large size of the ears and their union on the upper surface of the head—a character which is the more remarkable, since it affords an exception to the rule which has hitherto been general, viz. that the Bats with a simple nose-leaf (*Phyllostomina*), which are inhabitants of the New World, have the ears separate and confined to the sides of the head, whilst those found in the Old World have them united as in this genus from Hayti, which thus unites the Glossophagine genera of this tribe with the *Rhinopomæ* of India and Africa. The large size of the ears suggests for this genus the name

* See Annals and Magazine of Natural History, vol. iv. p. 4.

MACROTUS.

Ears large, lateral, slightly plaited, united over the head by a rather high transverse membrane. Tragus elongate, acute; lobule broad and divided from the conch by a slight nick. Nose-leaf lanceolate, erect; the front margin distinct. Lower lip with a narrow, triangular, smooth-edged wart, grooved in front. Wings broad; thumb rather elongated; the first joint webbed. Interfemoral membrane large, truncated; the heel-bones long; feet free to the ankles; largest toes subequal. Tail elongate, tapering, enclosed in the membrane with the exception of the last joint, which is produced beyond the edge.

MACROTUS WATERHOUSII. *Macr. colore murino, abdomine pallidior*; *prosthemate lanceolato*.

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . .	2	6
———— caudæ	1	2
———— auris	1	2
———— pollicis	0	6½
———— prosthematis	0	5
———— antibrachii	2	2
———— tibiæ	0	11
———— calcaris	0	6

Hab. Hayti.

The interfemoral membrane, in this Bat, has a muscular band on each side, situated about one-third of the distance between the base of the tail and the heel-bone. The ears are rounded at the apex, and slightly hairy. The tragus is of an ovate-lanceolate form, has an acute tip, and a very indistinct notch near the base on the outer side.

Mr. Gray has since received specimens of this species from Jamaica, where it was discovered by Dr. Parnell; this and the two following species are indicated under the name here used in the recently published list of the Mammalia in the British Museum.

Mr. Gray next proceeds to make some observations upon a species of Porcupine in the collection of the British Museum. This animal is the *Hystrix subspinosus* of Lichtenstein, and has been described under that name by Kuhl. It however presents various important modifications in the structure of the skull and teeth, upon which Mr. Gray thinks it desirable to establish a new genus under the name of

CHÆTOMYS.

The body and limbs are covered with subequal, short, and rather flexible spines. The tail is of an elongate conical form, and provided with rings of square scales and scattered bristles.

The skull is short, and has broad, convex, swollen zygomatic arches, and the palate is contracted. The cutting teeth are rounded in front; the grinders are $\frac{4-4}{4-4}$; each grinder of the upper jaw has

two principal folded plates of enamel and a smaller transverse fold between them. The lower grinders are oblong, and the foremost of these teeth presents two roundish rings of enamel, each of which has an internal fold, and the hinder ring has moreover a small fold on the fore part of the outer side. Each of the other molars in this jaw is furnished with two sinuous folds on the inner side and one on the middle of the outer edge. Of this animal (which is from Brazil) a figure will be found in the 'Abbildungen' &c. of the Prince de Neuwied.

The new species of *Manis* referred to in the letter is from Western Africa, and is at once distinguished, Mr. Gray observes, from the *Manis tetradactyla* (which it most nearly approaches) by its having the tail rather shorter—that is, about half as long again as the body—and double the number of series of scales on the body, and also by the scales being more acute, and furnished each with three sharp points. Two specimens of this species, of different sizes, are contained in the British Museum collection. It is named by Mr. Gray

MANIS MULTISCUTATA. *Manis caudâ corpore multum longiore; squamarum dorsalium elongatarum, tricuspidum, ad basin striatarum, seriebus 23.*

Hab. Western Africa.

Mr. Gould exhibited a new species of Australian Heron:—

ARDEA RECTIROSTRIS. *Ardea supernè fuscescenti-cinerea, capite et cristâ nigris; rostro magis recto atque robusto quàm in Ardeâ cinereâ.*

Crown of the head and crest dull black; back of the neck and all the upper surface brownish grey, passing into greyish white on the tips of the wing-coverts; secondaries, scapularies and tail-feathers dark grey; spurious wing and primaries greyish black; sides of the face and chin white; down the front of the neck an interrupted line of black, formed by each feather having an oblong stripe of black on the inner side of the stem near the tip, the marks becoming larger and paler in colour as they approach the chest, the same kind of marking continuing over the under surface, but the stripes very pale brown; under tail-coverts white; bill dark horn-colour, becoming nearly black on the culmen; feet greenish black.

Total length, 37 inches; bill, 7; wing, $16\frac{1}{2}$; tail, 7; tarsi, $6\frac{1}{2}$.

Hab. New South Wales.

The above description is taken from a bird which appears to be immature; it has much the appearance of, and is nearly allied to, the Common Heron of Europe.

A communication from Mr. Hinds, containing descriptions of two new species of Shells, from the collection of Hugh Cuming, Esq., was then read.

Genus *TRIPHORIS*, Deshayes, Hinds, Ann. Nat. Hist. vol. xi. p. 16.

TRIPHORIS PAGODUS. *Tri. (Ino) testâ cylindraced, elongatâ, acumi-*

nata, anfractibus 18-20, tricarinatis; carinis inæqualibus, inferiore multo maximâ, duobus superioribus parvis æqualibus; aperturâ quadratâ. Axis $8\frac{1}{2}$ lin.

The only specimen of this shell is dead and imperfect. It is, however, slightly mottled with brown, being most probably the remains of an uniform colour. It is rendered very distinct from any species hitherto described by the manner of its keeling. A faint elevated line would also appear to traverse the course of the suture.

Hab. Baclayon, island of Bohol, Philippines. Found under stones at low water.

TRIPHORIS COLLARIS. *Tri. (Mastonia) testâ ovatâ, acuminatâ; anfractibus duodecim biserialim granulosis, serie inferiore paululùm maximâ, margaritaceâ, superiore pallidè fuscâ; anfractu ultimo quadriseriatim subæqualiter catenato. Axis 4 lin.*

Hab. Island of Corregidor, Philippine Islands.

Found among coarse sand at a depth of six fathoms.

Many of these small shells have received an injury which has destroyed the mouth, and the present specimen has not escaped.

Descriptions of some new species of the Genus *Lima*, in the collection of H. Cuming, Esq., by G. B. Sowerby, Jun., were read.

LIMA CUMINGII, Nob. Thes. Conch. pl. xxii. f. 25. *Lim. testâ tenui, parvâ, ventricosâ, obliquè ovato-subelongatâ utrinque ferè clausâ, ad marginem posticum subangulatâ, ad marginem ventralem subquadratâ; cardine brevi; auriculis obtusis; umbonibus inflatis; striis in medio duodecim elevatis, distantibus, ad marginem ventralem dentatis: colore albo.*

Long. 0.25; lat. 0.12; alt. 0.35.

Hab. Bolinao, Ins. Luzon Philippinarum. H. Cuming legit.

I have seen only one specimen of this very distinct small shell, which differs from *L. fragilis* (Chemn. t. 68. f. 650.) in being more ventricose, and having the margin nearly closed all round. In the latter respect it resembles *L. Loscombii*, Leach (*Bullata*, Turton).

Found in sandy mud: ten fathoms.

LIMA ANGULATA, Nob. Thes. Conch. pl. xxii. f. 39, 40. *Lim. testâ obliquè ovatâ, ventricosâ, radiatim striatâ, utrinque paululùm hiante, ad marginem posticum angulatâ, ad marginem ventralem obliquè rotundatâ, propè umbones angustatâ; cardine brevi; auriculis parvis, posticâ acutâ: colore albo.*

Long. 0.90; lat. 0.60; alt. 1.10.

Hab. Panama. H. Cuming legit.

In form resembling *L. Loscombii*, from which it differs in having an hiatus on both sides, and a rather strong angle at the base of the posterior lateral margin. Collected at Panama, in sandy mud, at twelve to twenty fathoms.

The following descriptions of new species of *Cypræa* were communicated by J. S. Gaskoin, Esq.

CYPRÆA SAULE. *Cyp. testâ oblongo-ovatâ, anticè subattenuatâ, ful-*

vescente fusco punctulatá, maculá magná medianá dorsali, maculisque parvis lateribus castaneis; basi subrotundatá, pallescente; aperturá angustá, subflexuosá, anticè latiusculá; columellá posticè subgibbosá; dentibus prominulis albidis interstitiis aurantiacis; extremitatibus prominentibus subreflexis; marginibus prominentibus subangulatis; spirá profundè umbilicatá.

Shell oblong-ovate, gradually attenuating towards the anterior end, quite smooth; of a very light fawn or light flesh-colour, dotted distinctly and irregularly with small chestnut-brown spots, with much larger ones on both margins, and a remarkably large spot of the same colour about the centre of the *dorsum*: base rather round, of a very light reddish yellow colour: aperture rather narrow, slightly flexuous, somewhat wider towards the anterior extremity: *columella* rather gibbous at the posterior half of the shell; no columellar groove: teeth rather bold, whiter than the base, even, excepting those at the anterior end of the *columella*, where they are larger: *all* terminate externally on the *columella* in an even line at the edge of the aperture, and within, also in an even line, on the *columella*, except two or three at the anterior end, which advance a little more inwards; those on the lip are even, and extend a little over it, outwards; in number they are from sixteen to eighteen on the columellar side, fourteen to sixteen on the lip; interstices between the teeth and between the extremities more or less of an orange colour: extremities produced, the posterior curving towards the *columella*; the posterior outer beak longer than the inner, the anterior very slightly so: margins, the outer prominent, angular, more so towards the anterior extremity; the inner exists but on the anterior third of the shell, and is also prominent and angular; a groove across the anterior end, from the depression formed on either side by the projecting margins, and termination of the channel reflecting outwards: spire umbilicated, with a notch or groove on the columellar side, from a partial reflection of the posterior channel: internal colour light reddish brown. I have seen but four examples of this shell, two perfect and two decorticated. Axis, $\frac{7}{8}$ ths; diameter, $\frac{4}{8}$ ths of an inch.

Hab. Island of Corregidor, Bay of Manilla. Found in coarse sand and gravel at seven fathoms.

In the collection of H. Cuming, Esq.

Decorticata light brown colour; large darker spot in the centre of the *dorsum* well-marked; a brown spot on the outside of each anterior extremity; aperture much paler than in the perfect shell.

I know no species with which this elegant shell could be confounded; the remarkable, large, well-defined spot on the *dorsum*, the orange (more or less) coloration between the teeth and beaks, and its gradually attenuating graceful form, distinguish it from all others.

Mr. Cuming, whose valuable labours in the service of natural history were rewarded, *inter alia*, by the discovery of this shell, during their four years' continuance in the Philippine Islands, has requested me to name it after an amiable and liberal collector, Miss Saul, and it has afforded me much pleasure to comply with his wish.

CYPRÆA LEUCOSTOMA. *Cyp. testá ovatá, ventricosá, fusco-cinerea; lateribus maculatis, maculá magná irregulari dorsali castanea, lineá dorsali pallidá percurrente; marginibus rotundatis crassis; extremitatibus posterioribus crassis prominentibus dextro præcipuè, anticis convergentibus; basi rotundatá, albicante margine interno labii nonnunquam obtusè dentato, columellá edentulá.*

Shell ovate, gibbous, smooth; of a brownish ash-colour, spotted on each side with darker spots, the general ash-brown colour on the sides declining in intensity ultimately to whiteness; a large chestnut-brown, irregular, splashed, or dotted spot on the dorsum; in some instances more confined and small; where the spot is deepest coloured and largest, the ground on which it is formed is nearly white; posterior part of the *dorsum* irregular, slightly tuberculated, dorsal line marked, nearly white (and in some instances appears both anteriorly and posteriorly to bifurcate), diverging anteriorly towards the columellar side: base white, roundish: aperture rather wide, flexuous, columellar groove on the anterior half of the shell; the porcelain covering on the gibbous portion of the *columella* extremely thin; *columella* smooth: teeth generally but slight denticulations; sometimes more perceptible on the lip: extremities, posterior, much produced, very obtuse, wide apart, columellar beak divergent; anterior, rather thick, converge at their points towards each other: margins round, light-coloured or white, spotted to the base; outer margin sometimes uneven, or somewhat nodulated: spire, in all the specimens I have seen, quite covered and obliterated: colour, internally, light grayish blue. Axis $1\frac{7}{8}$ inch; diameter $1\frac{2}{3}$ inch.

Hab. Mocha. In the collection of Mr. Gaskoin, Cuming, &c.

This shell approximates in general appearance to *Cyp. Mus*. Some years ago one of this species (*leucostoma*) came accidentally into my possession, which on comparison I found incompatible with *Mus*; and shortly afterwards another, which warranted the distinctive nomenclature. Mr. Sowerby has lately obtained five other specimens, and with them fortunately a knowledge of their locality, which I have quoted. These are now dispersed in the cabinets of Messrs. Harford, Cuming, Stainforth, Norris, and Miss Saul; two others are known to be in the cabinet of Mr. Owen at Manchester.

This species differs from *Mus* in being more gibbous; in the prominent and very blunted posterior extremities, the base and aperture being white; denticulations but very slightly indicated, or absent, and always white.

I have named this *leucostoma*, in contradistinction to that which it most nearly resembles, the *Cyp. Mus*, with its dark-coloured aperture.

Mr. Fraser exhibited and described a new species of Bat, belonging to the genus *Rhinolophus*, and four new species of Birds from Western Africa.

RHINOLOPHUS MARTINI. *Rhin. auribus magnis apud frontem inter se spatio angusto sejunctis; rostro fossá oblongá supernè, anticè quatuor appendiculis carnis, vix elevatis (duobus utrinque), tectá:*

prosthemate nasali longitudinaliter diviso; fossâ frontali posticè culmine semicirculari dense vellere induto, collimetatâ; caudâ longâ et cartilagine bifurcâ terminatâ; patagio ad pedes basim solummodò ducto: colore cinereo-fusco, subtùs canescente.

	unc. lin.
Long. tot.	3 5
<i>Volatùs</i> amplitudo	10 0
—— latitudo maxima	2 4
<i>Antebrachium</i>	1 6
<i>Auris</i>	0 9
<i>Cauda</i>	1 7

Hab. Fernando Po.

This species of *Rhinolophus* is remarkable for having the complicated fleshy appendages of the muzzle divided in the longitudinal direction. Each half of this apparatus is composed of two leaflets, the margins of which are free, though but little elevated; the foremost of these is shaped somewhat like the human ear, and terminates in front in a small prominent lobe, which is situated over the opening of the nostril; the second or hindermost leaflet on each side approaches to a circular form. Upon separating these four leaflets a large pit is observable on the upper surface of the muzzle, and the hinder margin of this pit terminates in a nearly semicircular and slightly elevated fleshy ridge, which is densely clothed with fur. The ears are large, rounded at the extremity, but inclining to a pointed form, and separated from each other on the top of the head by a space of about two and a half lines in width; on the inner side, and towards the base, is a narrow oblique ridge: the tragus is about two and a half lines in length, narrow, rounded at the extremity, and somewhat dilated near the base on the outer margin. The wing and interfemoral membranes join the foot at the base; the latter extends to the extremity of the tail, which terminates in a bifurcated cartilage; numerous minute papillæ are observable on the margin of the interfemoral membrane. The general colour of the animal, in spirit, is gray-brown, but with an ashy tint on the under parts of the body, and is darker than that of the *Rhinolophus Hipposideros* of authors.

GLAREOLA CINEREA. *Glar. supernè cinerea, collo rufo, corpore subtùs albo rubro tincto, lined nigrâ pone nares oriente sub oculos et per plumas auriculares albas ductâ, caudæ tectricibus albis; reetricibus caudæ singulis notâ nigrâ versus apicem; remigum primarum pogoniis internis albis; secundariis albis apicibus nigris; rostri ad basim flavo, apice nigro.*

Long. tot. $6\frac{1}{4}$ poll.; rostri, $\frac{3}{4}$; alæ, $5\frac{1}{2}$; caudæ, $2\frac{1}{2}$; tarsi, $\frac{7}{8}$.

Hab. The mouth of the River Nùn.

In some specimens (probably the young) the black stripe on the side of the head, the rufous neck, and the red tinge on the under surface is wanting.

This species is nearly allied to *Glareola lactea* (Temm. Pl. Col. 399), but in that bird the black mark on the side of the head only

extends from the nostril to the eye, whilst in the present species the black line passes under the eye and extends backwards and downwards over the ear. The *G. cinerea* differs moreover from the *G. lactea* in having a rufous neck; the rufous tint of the chest is more distinct, the back is of a deeper gray colour, and the legs, as well as the base of the bill, are yellow.

ANTHUS GOULDII. *Ant. supernè fuscus, subtùs pallidior tincturá ferrugineá, gulá albá, remigibus et tectricibus alarum ferrugineo-marginatis, caudá corpore intensiore; rectrice externá ferrugineá; rostro pedibusque flavis.*

Long. tot. 7 poll.; rostri, $\frac{5}{8}$; alæ, $3\frac{3}{4}$; caudæ, 3; tarsi, 1.

Hab. Cape Palmas.

ESTRILDA RUFOPICTA. *Estr. supernè fusca, fronte, facie, gulá, et pectore cum tectricibus caudæ vinaceis; hoc colore corpore reliquo inferiore, et caudæ supernè tinctis; alarum tectricibus inferioribus flavido-albis; guttis minutissimis perpaucis albis apud pectus; rostro rubro, culmine nigro.*

Long. tot. $3\frac{3}{4}$ poll.; rostri, $\frac{3}{4}$; alæ, $1\frac{7}{8}$; caudæ, $1\frac{5}{8}$; tarsi, $\frac{1}{2}$.

Hab. Cape Coast.

IXOS INORNATUS. *Ix. fuscus, capitis et caudæ colore intensiore; corpore subtùs sordidè albescenti-fusco.*

Long. tot. 8 poll.; rostri, $\frac{3}{4}$; alæ, $3\frac{3}{4}$; caudæ, $3\frac{1}{2}$; tarsi, $\frac{5}{4}$.

Hab. Cape Coast.

Various specimens selected from the collection presented by James Brooke, Esq., Corresponding Member, were exhibited.

March 14, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

A paper by Mr. G. B. Sowerby was read, containing the following descriptions of new species of Shells belonging to the genus *Cyclostoma*. The species described are chiefly from the collection of H. Cuming, Esq.

CYCLOSTOMA SUTURALE. *Cycl. testá orbiculato-depressá, tenui; epidermide olivaceá indutá; anfractibus 3-4 rotundatis, transversim tenuissimè striatis; aperturá circulari, supernè emarginatione obsoletá; peritremate tenui, margine acutiusculo; umbilico patulo; operculo concinnè spirali.*

Hab. in umbrosis Demeraræ.

A few specimens of this species were received many years ago by G. C. Bainbridge, Esq., of Liverpool.

CYCLOSTOMA RUGULOSUM. *Cycl. testá orbiculato-subdepressá, tenui, translucidá; anfractibus 4-5 rotundatis, rugulosis; suturá distinctá; aperturá rotundatá, supernè acuminatusculá; peritremate tenui, margine acutiusculo; umbilico magno.*

Hab. in Jamaicâ.

Found among the shells in the collection of the late G. Humphrey.

CYCLOSTOMA SEMISTRIATUM. *Cycl. testá orbiculato-subdepressá, tenui, albidá, fasciis pallidè fuscis interruptis; spirá subprominulá, apice obtusiusculo; anfractibus 4-5 rotundatis, supernè longitudinaliter striatis, infrâ levibus; suturá distinctá; aperturá circulari, supernè subacuminatá; peritremate obsoletissimè subreflexo, tenui, margine acutiusculo; umbilico magno; operculo sulco externo spirali, anfractibus 4-5.*

Hab. in Indiâ Orientali, in regione Poonah dictâ.

CYCLOSTOMA TRANSLUCIDUM. *Cycl. testá subglobosá, subpellucidá, albd; epidermide corneo-indutá; spirá breviusculá, obtusá; anfractibus quatuor rotundatis, propè suturam elevatusculis, striatis, supernè rugulosis; aperturá subcirculari, supernè subacuminatá; peritremate acuto; umbilico mediocri; operculo testaceo, tenuiusculo, anfractibus septem, striatis.*

CYCLOSTOMA BRASILIENSE. *Cycl. testá orbiculato-subdepressá, tenui, albd, opacá; anfractibus 4-5 rotundatis, transversim striatis; suturá profundiusculá; aperturá circulari; peritremate tenui, acuto; umbilico magno; operculo testaceo, duplicato, extùs tenuissimè spirali.*

Hab. in umbrosis propè Rio Janeiro, Brasiliæ.

CYCLOSTOMA GIGANTEUM. *Cycl. testá orbiculato-subdepressá, crassiusculá, albicante; epidermide corned, fulvá, indutá, apice rufescente; anfractibus 5-6 rotundatis, transversim striatis, striis superne validioribus; suturá distinctá; striá longitudinaliter impressá propè suturam; aperturá subeffusá, supernè angulatá et in canalem inconspicuam subdecurrente; peritremate subincrassato; umbilico magno; operculo lineá elevatá spirali, interstitiis obliquè striatis.*

Hab. in sylvis propè Panamam.

CYCLOSTOMA CORRUGATUM. *Cycl. testá orbiculato-subdepressá, crassiusculá, albidd, apice rufescente; epidermide tenui, fuscá, indutá; spirá subprominulá, acuminatusculá; anfractibus quinque rotundatis, transversim striatis et corrugatis; suturá distinctá; aperturá circulari, subeffusá, supernè angulatá et in canalem inconspicuam desinente; peritremate tenuiusculo, margine acutiusculo, latere umbilicali incrassato; umbilico magno, margine crenulato, intus transversim striato; operculo testaceo, extus lamina elevatá, convolutá, intus corneo, polito.*

Hab. Jamaica.

CYCLOSTOMA CLATHRATULUM. *Cycl. testá subglobosá, crassiusculá, obscurá; spirá subconoidali, apice obtusiusculo; anfractibus quatuor ad quinque rotundatis, supernè longitudinaliter tenuiter striatis, infrá lævibus; aperturá subovali, supernè angulatá; peritremate incrassato, suprâ umbilicum mediocre paululum extenso.*

Hab. apud Yemen, Arabiæ.

CYCLOSTOMA TIGRINUM. *Cycl. testá suborbiculari, conicá, crassiusculá, læviusculá, pallescente, strigis irregularibus, transversis, saturatè brunneis pictá; spirá subacuminatá, submamillari; anfractibus quinque, raptim crescentibus, rotundatis, plerumque carinis tribus vel quatuor subobsoletis; aperturá magná, orbiculari, posticè submarginatá; peritremate reflexo, albo, incrassato, propè ultimum anfractum subinterrupto; labio columellari subextenso umbilicum mediocre partim tegente; suturá distinctá; operculo tenui, corneo, multispirali, anfractuum marginibus lamellosis. Long. 1.0; lat. 1.25 poll.*

Mr. Cuming has collected the following varieties, viz:—

Var. *a.* Shell with three rather indistinct spiral ridges; peritreme nearly white.

Var. *b.* Shell with three rather indistinct spiral ridges; peritreme dull brown. Found under decayed leaves in the island of Guimaras.

Var. *c.* Shell with a more elevated spire and with three prominent spiral ridges, together with some small interstitial ridges. Found under decayed leaves in the island of Masbate.

Var. *d.* Shell dark brown, with less conspicuous streaks; aperture orange-brown. Found under decayed leaves in the island of Leyte.

Var. *e.* Shell like var. *d.*, but larger and paler. Found under decayed leaves at Capalonga, in the isle of Samar.

Var. *f.* Shell prettily variegated with dark brown. Found on leaves of bushes in the island of Siquijod.

Var. *g.* Shell small and thicker, with rather elevated spire and prominent ridges. Found under decayed leaves at Baclayan.

CYCLOSTOMA PILEUS. *Cycl. testá conicá, tenui, albidá, fusco pallidissimè nubeculatá; spirá subacuminatá; anfractibus quinque, planulatis, anticè carinatis; aperturá rotundato-subtrigond, extùs angulatá; peritremate albo, reflexo, labiis posticè disjunctis; umbilico parvo.* Long. 0·7; lat. 0·6 poll.

Hab. infra foliis putridis apud Sinait, provinciæ Ilocos meridionali, insulæ Luçon. H. Cuming.

Var. *a.* Shell pale brown, mottled; peritreme white. Found at Sinait.

Var. *b.* Shell white. Found in the same situation and locality.

Var. *c.* Shell white, larger than var. *a* and *b*, with a sharper keel. Found on leaves of trees at St. Juan, in the province of Cagayan.

CYCLOSTOMA LINGUIFERUM. *Cycl. testá suborbiculari, subconicá, crassá, pallescente, maculis saturatè brunneis angulatim variegatá; spirá subacuminatá, submamillari; anfractibus quatuor, rotundatis, levibus, spiraliter obsolete striatis; aperturá magná, orbiculari; peritremate incrassato, subreflexo; labio internè linguam latam efformante; umbilicum partim tegente.* Long. 1·1; lat. 1·25 poll.

Hab. infra foliis putridis, in sylvis, apud Loboek, insulæ Bohol.

Var. *a.* Light brown, variously mottled with dark brown.

Var. *b.* Much paler in colour, and having the spiral striæ much more distinct.

Var. *c.* Yellowish brown, with an orange mouth.

CYCLOSTOMA LISTERI, Gray. *Cycl. testá subglobosá, crassiusculá; spirá conoidè, subacuminatá; anfractibus 4-5 rotundatis, lævibus, nonnunquam supernè longitudinaliter obsolete striatis; suturá distinctá; aperturá circulari; peritremate subincrassato, supernè angulato, latere umbilicali calloso, callo umbilico partim obtegente; umbilico parvo, spiraliter striato.*

Var. *a.* *Testá omnino albicante.*

Var. *b.* *Testá pallidè fulvá, fasciá inferiore fuscá.*

Hab. in insulá S^u Mauritii.

Mr. Lovell Reeve's descriptions of various new Shells, about to be figured in the 'Conchologia Iconica,' were then read.

GENUS PLEUROTOMA.

PLEUROTOMA GARNONSII. *Pleur. testá elongato-turritá, gracillimè fusiformi, albidá, transversim multicarinatá, carinis maculis parvis rubido-fuscis vividè pictis; anfractibus convexis, macularum grandium serie supernè ornatis; anfractu ultimo infrá fusco-fasciato; canali plus minusve elongato.*

Pleurotoma Babylonia var., Kiener.

Long. $2\frac{1}{2}$; lat. $\frac{1}{2}$ poll.

Hab. Island of Zebu, Philippines.

We have much pleasure in dedicating this species to our excellent friend the Rev. W. L. T. Garnons, F.L.S. &c. The labour which this worthy gentleman has bestowed on the arrangement of the Woodwardian collection of shells at Cambridge bears ample testimony of his zeal for the science. Several specimens have lately made their appearance in London, but we are not aware from whence they have arrived. The above locality is obtained from a single specimen found by Mr. Cuming at that place, lying dead upon the shore at low water.

PLEUROTOMA SPECTABILIS. *Pleur. testá subelongato-turritá, multi-cingulatá; albá, cingulis nigro-maculatis, maculis grandibus et parvis, numerosissimis, anfractibus convexis, suprâ et infrâ fusco-fasciatis; canali brevi, leviter flexuosâ.* Long. $2\frac{1}{2}$; lat. $\frac{5}{8}$ poll.

Hab. Island of Ticao, Philippines (on the reefs).

The spotting is of a more numerous and miscellaneous character in this species than in any of the genus, though it presents in certain respects a modification of that in the preceding species. The dusky band which girds the lower portion of the whorls in that species is exhibited both round the lower and upper portions in this, and the number of spots is apparently doubled in like manner; the canal is short, and presents a great peculiarity of character.

PLEUROTOMA EXASPERATA. *Pleur. testá turritá, anfractibus in medio tuberculato-muricatis, tuberculis solidis acutis; albá, anfractu ultimo zonâ fuscâ cingulato; canali brevissimo; columellâ albâ, supernè callosâ; aperturâ fauce albo.* Long. $\frac{7}{8}$; lat. $\frac{3}{8}$ poll.

Hab. — ?

This interesting little shell resembles the *Pleurotoma unizonalis* in being surrounded with a single clear dark band; but it differs, first, in being of a more turritid form; secondly, in having the whorls encircled with a sharp row of tubercles instead of longitudinal ribs; and thirdly, in the columella and interior being white, whereas in that species it is always brown.

PLEUROTOMA ARCUATA. *Pleur. testá arcuato-fusiformi, tenui, inflatâ, subpellucidâ, anfractibus lineatis, in medio acutè carinatis, carinâ maculis fuscis regularibus ornatâ; labro externo rotundato ab anfractu ultimo sinu lato separato; canali gracili, arcuato, spiræ longitudinem æquante.* Long. $1\frac{5}{8}$; lat. $\frac{3}{8}$ poll.

Hab. Coast of Veragua, Central America.

A few specimens only of this inflated transparent-looking shell were collected at the above-mentioned place by R. Hinds, Esq., of Her Majesty's ship 'Sulphur,' a zealous and intelligent conchologist.

PLEUROTOMA PICTA (Beck, MSS.). *Pleur. testá acutissimè turritâ, solidâ transversim carinatâ, albâ, carinis perspicuis, subdistantibus, maculis fuscis perparce pictis, carinâ superâ valdè maximâ, labro fissurâ parvâ, subcentrali; canali recto, spiræ longitudinem æquante.* Long. 2; lat. $\frac{1}{2}$ poll.

Hab. Panama, St. Blas, Gulf of Nicoya, &c.

This shell is of a straight solid growth, and cannot well be confounded with any species hitherto described.

PLEUROTOMA PAPALIS. *Pleur. testá fusiformi, acutè turritá, pallidè luteo-brunnescente, anfractibus supernè concavis, longitudinaliter leviter liratis, liris numerosis, anfractu ultimo pallidè albo-fasciato; canali brevi.* Long. $1\frac{7}{8}$; lat. $\frac{1}{2}$ poll.

Pleurotoma mitræformis var., Kiener.

Hab. — ?

After carefully examining one or two specimens of this shell, which Kiener describes as a variety of the *Pleurotoma mitræformis*, I am forced to the conclusion that it is specifically distinct.

PLEUROTOMA OBESA. *Pleur. testá obeso-fusiformi; spirá turritá, anfractibus luteolis, supernè albis, lineis fulvis, obliquis, longitudinaliter venosis; labro acuto, sinu subcentrali; canali mediocri, brevi subitò reflexo.* Long. $1\frac{3}{8}$; lat. $\frac{1}{2}$ poll.

Hab. — ?

The solid obesity of this shell has suggested the above title.

PLEUROTOMA VIRGINEA (Beck, MSS.). *Pleur. testá fusiformi-turritá, pallidè luteolá; anfractibus in medio angulatis, tuberculis minutis albis seriatim cinctis; anfractu ultimo multiseriatim granuloso; canali mediocri, leviter recurvo.* Long. $1\frac{5}{8}$; lat. $\frac{1}{2}$ poll.

Hab. Mouth of the Gambia.

This shell, though comparatively common in our collections, does not appear to have been hitherto described.

PLEUROTOMA ANNULATA. *Pleur. testá solidá, subulatá, brunnea; anfractibus leviter convexis, liris lævibus, pallidioribus, numerosis, annulatim cinctis; canali subelongato.* Long. $1\frac{7}{8}$; lat. $\frac{1}{2}$ poll.

This shell is not very much unlike the *Pleurotoma Deshayesii*; it may however be readily distinguished from that species by the number of well-marked ring-like ridges by which the entire surface is encircled.

PLEUROTOMA CATENA. *Pleur. testá elongato-fusiformi, turritá, acuminatá, flavido-griseá; anfractibus medio valdè convexis, quasi subitò tumidis, tuberculis eximiis, albis, obliquis, seriatim coronatis; labro tenui, sinu lato; canali elongato, recto.* Long. $2\frac{1}{4}$; lat. $\frac{1}{2}$ poll.

Hab. — ?

The leading feature of this new and very distinct shell is the bright perlaceous series of link-shaped tubercles which run round the periphery of the whorls.

Genus PECTUNCULUS.

PECTUNCULUS GIGANTEUS. *Pect. testá valdè convexá (juniore depressá), solidá, gigantèd, longitudinaliter striatá, striis contiguous, regularibus, et sulcatá sulcis ferè obsoletis; albá, infernè castaneo-*

tinctá, supernè maculis rubido-fuscis numerosis, undatis, contingentibus, profusè et vividè pictá; intùs albá, marginibus (in adultá) castaneo-nitidis, crenatis; epidermide crassá, pilosá. Alt. 4; long. $3\frac{3}{4}$; lat. 2.

Hab. Guaymas, Gulf of California.

This magnificent shell, which was brought from the above port by Mr. Babb, R.N., accords in some measure with Lamarek's description of his *Pectunculus undulatus*. The figure in Delessert's 'Recueil de Coquilles,' however, of that shell, fully exhibits its specific difference.

PECTUNCULUS RARIPICTUS. *Pect. testá subobliquè cordatá, radiatim costatá, costis planis in medio sæpè sulcatis; costarum interstitiis profundis; albá luteo-castaned, parcè variegatá, intùs albá, anticè purpureo-tinctá.*

Hab. — ?

The ribs in this shell are peculiarly firm and squarely grooved out, as it were, and they are often slightly rutted about half-way up the middle.

PECTUNCULUS AURIFLUUS. *Pect. testá orbiculari-cordatá, inæquilaterali, radiatim costatá, costis obsoletè sulcatis; albá, transversim auriflud, anticè maculis aureis nigerrimo-fuscis marginatis.*

Hab. — ?

This new and beautiful shell may be easily recognised by its very bright orange painting.

PECTUNCULUS HOLOSERICUS. *Pect. testá suborbiculari, lævi, albidd, multiradiatá, epidermide sericá indutá.*

Hab. — ?

The peculiar, close, velvety epidermis of this shell is alone sufficient to distinguish it.

Mr. Fraser characterized two new species of Birds from Western Africa:—

MUSCIPETA SMITHII. *Musc. corpore pallidè rufo; caudá, alisque nigrescentibus, cinereo-lavatis; capite, collo, rostro, pedibusque nigris.*

Long. tot. $7\frac{3}{4}$ unc.; *alæ*, 3 unc. 4 lin.; *rostri*, a rictu ad apicem, 10 lin.; *caudæ*, 3 unc. 10 lin.

Hab. Western Africa.

The dimension above given of the tail of this bird includes the two central feathers, which are about half an inch longer than either of the others; these latter, when spread out, form a segment of a circle, the outermost feathers being the shortest. The head and neck are glossy black, but in certain lights exhibit a slight bluish tint: the whole body and wing-coverts are of a rust-colour, for the most part pale, but assuming a decided and rich hue on the abdomen; the tail and feathers of flight in the wings are of a deep brownish gray, but inclining to black. The bill is stout.

TRERON CRASSIROSTRIS. *Trer. viridis*; capite, collo pectoreque cinerascanti-viridibus; ventre citrino; alarum tectricibus regione carpali vinaceo-purpureis; remigibus fusco-nigrescentibus; caudâ nigra ad apicem latè cinereo-fasciatâ; rostro magno, pedibusque pallidis.

Long. tot. 12 unc.; alæ, $6\frac{3}{4}$; caudæ, $4\frac{1}{4}$; rostri, 11 lin.

Hab. — ?

This species is remarkable for its stout bill, which is of a very pale grayish colour, tinted with yellow on the upper surface at the base. The vinaceous patch at the angle of the wing is but of small extent; the primaries, secondaries, and some of the greater wing-coverts are narrowly margined externally with bright yellow, and the vent and some of the under tail-coverts, as well as the greater portion of the feathers covering the thighs, are of the same colour; the larger under tail-coverts are of a reddish brown colour, and the feet are yellow.

Various specimens presented to the Society since the preceding Meeting were exhibited, and attention was particularly called to an extensive collection, consisting of 126 Bird-skins, presented by Walter Ewer, Esq., and some specimens of Sponges, &c., and twelve Bird-skins presented by the Society's Corresponding Member, E. L. Moore, Esq., of Newfoundland.

The exhibition of specimens from Sincapore and Borneo, presented by James Brooke, Esq., Corresponding Member, was resumed.

March 28, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

A very perfect specimen of the Brain Coral was exhibited by Capt. Fayrer, and various specimens from the collection presented by James Brooke, Esq., Corresponding Member, were also laid before the Meeting.

The following descriptions of new Shells, from the collection of Captain Sir Edward Belcher, R.N., C.B., &c., by Richard Brinsley Hinds, Esq., Surgeon R.N., were read :—

The great accession of species to the genus *Pleurotoma*, as left by Lamarck, renders it necessary that our views respecting it should receive some modification. A very prominent circumstance is, that the frequent repetition of previously trivial characters has elevated them to a situation of importance, and they are thus liable to become the distinctive grounds of new and characteristic groups. I commenced my examination with the species collected in the Sulphur, being about 120 in number; and subsequently I have had the opportunity of extending my researches among the extensive collection assembled together by Mr. Lovell Reeve, from the cabinets of various conchologists, but particularly from that of Mr. Hugh Cuming, the whole amounting in all probability to more than three hundred species. It is not my intention to attempt anything like a monograph of the group, but as it was necessary to make an extensive revision of the subject, to place the species in my hands in their proper position, I trust I shall be doing a service by recording the views which became developed in the prosecution of the work. I shall, however, confine my remarks to those genera, the mention of which is necessary to the elucidation of my species.

PLEUROTOMA, Lamarck.

A beautiful genus, presenting the typical characters of the group in their intensity, and capable of being satisfactorily defined. It consists of shells which are elongated and fusiform, having the spire and canal most frequently nearly equal in length; the sinus a slit, usually anterior to the most prominent part of the whorl, with a sharp margin; aperture oval; canal straight, and almost constantly lengthened; outer lip thin, smooth within, usually crenulated on the margin, from the termination of the lesser keels; inner lip rarely produced; sculpture generally transverse. The species are rarely found beyond the tropics, and do not abound in individuals, being found few in number: they are nearly equally abundant in the American and Asiatic Seas, but are remarkably absent from the Pacific Ocean. They never occur on the shores, being always obtained

from deep water, and usually on a muddy bottom; to this latter circumstance is probably attributable their singular absence from the Pacific, where coral prevails.

PLEUROTOMA NOBILIS. *Pleur. testá fusiformi, solidá, rugosá; anfractibus supernè concavis, leviter striatis, propè mediam cariná maximá, infernè, præcipuè ultimo, carinis parvis alternantibus; suturá simplici; labio externo subintegro, interno infernè paululùm producto; epidermide pallidè fuscá indutá.* Axis 44 lin.

Hab. San Blas, Mexico. From seven fathoms; mud.

This is a very considerably larger shell than *P. oxytropis*, but in the character of the sculpture they closely approach each other. It is chiefly distinguishable from it in the absence of any keel between the principal keel and the suture, and in some minor characters.

PLEUROTOMA GEMMATA. *Pleur. testá fusiformi, elongatá, gracillimá, fuscá; anfractibus numerosis, medio uniseriatim tuberculato-carinatis; tuberculis rectis, subquadratis, albidis; carinis duabus, parvis, suturam comitantibus, anfractu ultimo multicarinatis; sinu laterali ponè carinam; aperturá ovali; canali elongatá.* Axis 9 lin.

Hab. Gulf of Magdalena, California. Obtained from seven fathoms, among sandy mud.

PLEUROTOMA JUBATA. *Pleur. testá fusiformi, acuminatá, levigatá, fulvá; anfractibus medio carinatis, supernè granulis uniseriatim cinctis, infernè cariná parvâ unicâ, sed ultimo pluribus; suturá carinatá; canali breviusculo.* Axis 12 lin.

Hab. The China Sea and north coast of Sumatra: dredged from a muddy bottom in eighteen fathoms.

PLEUROTOMA STOLIDA. *Pleur. testá fusiformi, levigatá, corneá; anfractibus supernè planulatis, infernè costatis; costulis albidis, brevibus, obliquis, in anfractu ultimo evanidis; apice papillari; suturá simplici; canali brevi; labio externo tenui.* Axis 14 lin.

Hab. Lagulhas Bank, Cape of Good Hope: dredged from a depth of forty-three fathoms.

PLEUROTOMA GRAVIS. *Pleur. testá fusiformi, levigatá, corned; anfractibus propè suturam angulatis, uniseriatim tuberculis parvis albidis cinctis, supernè latè planulatis; anfractu ultimo coarctato; apice papillari; suturá simplici, ferè occultá, canali brevi; aperturá fuscá.* Axis 11 lin.

Hab. Lagulhas Bank, Cape of Good Hope; in company with the preceding.

PLEUROTOMA INERMIS. *Pleur. testá ovatá, acuminatá, inermi; anfractibus subrotundatis, flammeis undosis fuscis longitudinaliter ornatis, transversim striatis; suturá simplici; aperturá ovali; canali brevi.* Axis 15 lin.

Hab. Bay of Magdalena, California. From seven fathoms; sandy mud.

PLEUROTOMA VIOLACEA. *Pleur. testá elongatá, acuminatá, violacé; anfractibus decenis multicarinatis, longitudinaliter minutissimè et creberrimè striatis; carinis duabus eminentioribus; labro tenui, acuto, crenulato; sinu laterali inter carinas; aperturá ovali; columellá buplicatá; canali brevi.* Axis 8 lin.

Hab. North coast of New Guinea and Straits of Macassar. From seven to twenty-two fathoms; sandy mud. Also collected by Mr. Cuming at the Philippines.

The folds on the columella, for which this species is remarkable, are not to be met with in all the specimens.

PLEUROTOMA RADULA. *Pleur. testá pyramidalí, acuminatá, corné; anfractibus nonis, lineis decussatis, uniseriatim tuberculatis; tuberculis sublunatis; labro tenui, acuto; sinu laterali ponè seriem tubercolorum; suturá lineá elevatá instructá; aperturá ovali; canali brevi.* Axis 7 lin.

Hab. Straits of Malacca. In seventeen fathoms; mud.

CLAVATULA, Lamarck.

The shells of this genus are subfusiform or clavate; the canal sometimes so short as to be almost wanting, at others somewhat produced and recurved; sinus superior to the most prominent part of the whorl, with a callous everted margin; inner lip often produced; suture frequently embellished; sculpture nearly always longitudinal; outer lip with a slight inferior sinus. This genus is rather less tropical in its geographical relations than *Pleurotoma*. In attempting to trace the *limits of variation*, it may be observed that the canal is liable to fluctuate in length, as may be seen in *C. duplicata*, Sow. (sp.); also in the length of the spire. Varieties in colour are not infrequent, and have been remarked in the above species, in *C. flavidula*, Lamarck (sp.), and in *C. crenularis*, Lamarck, each of which has light and dark varieties. Lastly, the series of tubercles which some display are usually connected by a keel, and the particular sculpture fluctuates between each, as occurs in a remarkable manner in *C. cincta*, Sow. (sp.)

CLAVATULA MILITARIS. *Clav. testá turrítá, elongatá, acuminatá, albidá; anfractibus supernè concavis et angulatis, plicis numerosis longitudinalibus, granosis lineis decussatis; propè suturam cariná subnodosá instructá; labro intùs lævi; aperturá lineari, in canali brevi recurvo desinente.* Axis 20 lin.

Hab. Veragua, Central America; in eighteen fathoms. Panama; in from eight to thirty fathoms; mud.

CLAVATULA SINENSIS. *Clav. testá fusiformi, acuminatá, corneá; anfractibus undenis, subplanulatis, medio costulatis, lineis fuscis decussatis; suturá granoso-carinatá; labro intùs lævi; aperturá ovali; canali mediocri.* Axis 9 lin.

Hab. New Guinea; Straits of Macassar; China Sea. In from five to twenty-one fathoms; mud.

CLAVATULA SPICATA. *Clav. testá fusiformi, albidá; anfractibus octonis, costulatis, transversim striatis; costulis subacutis; suturá granulósá; labro intùs lævi, aperturá lineari; canali brevi; anfractús ultimi dorso fusco picto.* Axis 6 lin.

Hab. Bow Island. Among the fine coral sand.

CLAVATULA ROBUSTA. *Clav. testá fusiformi, acuminatá, albidá; anfractibus undenis, lævigatis, angulatè costulatis, lineis elevatis decussatis; costulis propè mediam angulatis; suturá simplici; labro crenato, intùs lævi; aperturá ovali; canali mediocri.* Axis 8 lin.

Hab. Hong-Kong, China. In from four to seven fathoms; sandy mud.

CLAVATULA SPURCA. *Clav. testá ovatá, acuminatá; anfractibus octonis, rotundatis, costulatis, lineis duabus vel tribus elevatis fuscis decussatis, minutissimè transversim striatis; suturá simplici, labro juxtá incrassato, intùs crenulato; aperturá ovali; canali mediocri.* Axis 5 lin.

Hab. New Guinea; Straits of Malacca. In from five to eighteen fathoms; mud.

CLAVATULA RAVA. *Clav. testá ovatá, acuminatá; anfractibus octonis, rotundatis, costulatis, transversim striatis; costulis rotundatis, suturam incurrentibus; infrà suturam purpureo spiraliter fasciatá, anfractu ultimo iteratá; labro intùs crenulato; aperturá ovali; canali brevi.* Axis 5 lin.

Hab. Gulf of Nicoya, Central America. In eighteen fathoms; mud.

CLAVATULA ERICEA. *Clav. testá fusiformi, acuminatá, pallidá, nitidá; anfractibus octonis, rotundatis, costulatis; costulis granulosis lineis elevatis decussatis, suturam incurrentibus; interstitiis lævigatis; suturá simplici; labro juxtá incrassato, intùs lævi; aperturá subovali; canali brevi.* Axis 5 lin.

Hab. Magnetic Island, Coast of Veragua. From twenty-six fathoms; mud.

CLAVATULA DEBILIS. *Clav. testá fusiformi, elongatá, acuminatá, gracili; anfractibus octonis, rotundatis, costulatis, transversim striatis; costulis parvis, rotundatis, approximatis, suturam incurrentibus; suturá simplici; labro intùs crenulato; aperturá obliquá; sinu laterali propè suturam; canali mediocri.* Axis $4\frac{1}{2}$ lin.

Hab. New Guinea; Straits of Macassar.

CLAVATULA SCALARIS. *Clav. testá fusiformi, acuminatá; anfractibus septenis, rotundatis, scalariformibus, transversim striatis; costulis rotundatis, distantibus, suturam incurrentibus; suturá simplici; labro arcuato, intùs lævi; sinu laterali propè suturam; aperturá ovali; canali brevi.* Axis 7 lin.

Hab. Straits of Macassar. In twelve fathoms; coarse sand.

CLAVATULA SCULPTA. *Clav. testá fusiformi, elongatá, acuminatá;*

anfractibus decenis, rotundatis, costulatis, transversim striatis, fusco fasciatis; costulis rotundatis, propè suturam desinentibus, suturá striis arcuatis instructá; sinu laterali propè suturam, marginibus acutis; aperturá ovali; canali mediocri. Axis 7 lin.

Hab. Panama. From seven fathoms; mud.

CLAVATULA AMABILIS. Clav. testá ovatá, turritá, pallidè aurantiacá; anfractibus septenis, subrotundatis, costulatis, transversim striatis; costulis rotundatis, subdistantibus; suturá maculis albis ornatá; anfractu ultimo fasciá albá angustá cincto; sinu laterali pone suturam; aperturá ovali; canali mediocri. Axis 3½ lin.

Hab. Straits of Malacca. From seventeen fathoms; mud.

CLAVATULA CINEREA. Clav. testá ovatá, acuminatá, anfractibus septenis, longitudinaliter tuberculato-costatis, transversim striatis; costulis anfractús ultimi furcatis; suturá lineis arcuatis instructá; labro incrassato intùs et cum columellá crenulato; aperturá ovali, obliquá; canali breviusculá. Axis 8 lin.

Hab. — ?

CLAVATULA ARGILLACEA. Clav. testá ovatá, acuminatá, lævigatá, cornéa; anfractibus septenis, tuberculato-costatis; costulis supernè angulatis, anfractús ultimi evanidis; sinu laterali magno; labro incrassato intùs et cum columellá crenulato; aperturá ovali, elongatá; canali breviusculo. Axis 6 lin.

Hab. Straits of Malacca. From 17 fathoms; mud.

CLAVATULA RUBIDA. Clav. testá ovatá, acuminatá, rufá, anfractibus septenis, rotundatis, costatis, transversim striatis; costis rotundatis, latis, suturam simplicem incurrentibus, labro subincurvo, intùs dentato; aperturá ovali, oblongá, sinu laterali propè suturam; canali brevi. Axis 7 lin.

Var. Nigro et albo fasciatá.

Hab. New Guinea. From seven fathoms; mud. The variety is from New Ireland: among coarse sand at low water. Also collected by Mr. Cuming at the Philippines.

CLAVATULA LUCTUOSA. Clav. testá ovatá, acuminatá, nigricante, crassá; anfractibus nonis, lævigatis, supernè subplanulatis, propè mediam uniseriatim tuberculatis; suturá simplici; sinu laterali posticali; labro paululùm incrassato, intùs lævi; aperturá fuscá, ovali; canali brevi. Axis 7½ lin.

Hab. Bay of Guayaquil; Gulf of Magdalena, California. In from five to twenty-two fathoms.

CLAVATULA ASPERA. Clav. testá subclavatá, acuminatá, fuscá vel nigricante; anfractibus septenis, rotundatis, costulatis, lineis elevatis decussatis; suturá lined elevatá instructá; labro paululùm incrassato, intùs lævi; aperturá fuscá, ovali; canali brevi. Axis 4 lin.

Hab. Guayaquil. In five fathoms; mud. North coast of New Guinea.

CLAVATULA CREBRICOSTATA. *Clav. testá ovatá, acuminatá; anfractibus senis, pliciferis, albidis, supernè fusco fasciatis; plicis parvis, numerosissimis, obliquis, confertis; suturá simplici; sinu laterali amplo; labro tenui, acuto, intùs lævi; aperturá latè ovali; canali subnullo. Axis 3 lin.*

Hab. Cape Blanco, Africa. In seventeen fathoms.

CLAVATULA PLUMBEA. *Clav. testá ovatá, attenuatá, lævigatá, pallidá, fusco fasciatá; anfractibus septenis, subrotundatis, costulatis; costulis rotundatis, numerosis, suturam simplicem incurrentibus; anfractu ultimo fasciis duabus cinctis, labro intùs lævi, aperturá ovali. Axis 5 lin.*

Hab. Bay of Magdalena, California. From five fathoms.

CLAVATULA OCCATA. *Clav. testá fusiformi, attenuatá, gracili, cornéa, angulatè costatá; anfractibus septenis, transversim exaratis; suturá simplici; aperturá brevi, lineari; canali mediocri. Axis $4\frac{1}{2}$ lin.*

Hab. Magnetic Island, west coast of Veragua.

CLAVATULA BELLA. *Clav. testá fusiformi, attenuatá, gracili, lævigatá, pallidè fuscá; anfractibus octonis, rotundatis, costulatis, lineis albidis elevatis decussatis, supernè fusco fasciatis, ultimo attenuato; costulis gracilibus, granulis parvis sparsis instructis, suturam simplicem incurrentibus; labro intùs lævi; aperturá ovali, in canali brevi attenuato. Axis $5\frac{1}{2}$ lin.*

Hab. West coast of Veragua: from thirty fathoms; mud. Gulf of Papagayo, Central America: from eight to fourteen fathoms; mud.

CLAVATULA PUDICA. *Clav. testá fusiformi, acuminatá, nitidissimá; anfractibus nonis, albidis, propè suturam paululùm lævigatis, infernè tuberculato-costulatis; costulis obliquis, acutis; suturá simplici; anfractu ultimo anticè costulis acutis obliquis instructo, posticè lævigato maculo amplo fusco picto; sinu laterali profundo; labro acuto, intùs lævi; aperturá ovali; canali mediocri effusá. Axis 6 lin.*

Hab. Gulf of Papagayo, Central America. From eight to fourteen fathoms; mud.

CLAVATULA LETA. *Clav. testá subclavatá, acuminatá, nitidissimá; anfractibus nonis, supernè planulatis, medio uniseriatim tuberculatis, ultimá serie secundá parvá; tuberculis distinctis, erectis, subacutis; suturá simplici; labro acuto, intùs lævi; aperturá ovali; canali brevi, effuso. Axis 6 lin.*

Hab. New Guinea; Straits of Macassar. From seven to ten fathoms.

CLAVATULA NITENS. *Clav. testá clavatá, excentricá, fuscá, nitidissimá; anfractibus octonis, subangulatè costulatis, propè mediam prominentibus; costulis obliquis, acutis, suturam simplicem incurrentibus; labro acuto, intùs lævi; aperturá latè ovali; canali brevi. Axis $5\frac{1}{2}$ lin.*

Hab. New Guinea; Straits of Macassar and Malacca. From seven to twenty-two fathoms.

CLAVATULA CANDIDA. *Clav. testá fusiformi, acuminatá, candidá; anfractibus septenis, costulatis, supernè subangulatis; suturá simplici; aperturá ovali, sinu laterali supernè valdè calloso, faucibus crenulatis; anfractús ultimi basi transversim striato.* Axis $5\frac{1}{2}$ lin.

Hab. Magnetic Island, coast of Veragua.

CLAVATULA PYRAMIS. *Clav. testá clavatá, angulatè costatá, hexagond, transversim creberrimè striatá; sinu laterali superficiali; aperturá brevi, sublineari; canali brevi.* Axis 4 lin.

Hab. Straits of Macassar.

CLAVATULA MERITA. *Clav. testá ovatá, turrítá, acuminatá, lævigatá, pallidá; anfractibus senis, plico-costulatis, supernè angulatis et lined fuscá spiraliter cinctis; suturá simplici; anfractús ultimi dorso fusco nebuloso, transversim striato; labro acuto, intüs lævi; aperturá oblongá; canali subnullo.* Axis 4 lin.

Hab. Gulf of Nicoya, Central America. Under stones at low water.

CLAVATULA FLAMMEA. *Clav. testá clavatá, albidá; anfractibus octonis, rotundatis, transversim striatis, flammulis fuscis, supernè angulatis, infernè subrectis, ornatis; spirá ecostulatá; suturá simplici; sinu laterali modo emarginaturá; labro obtuso, lævissimè crenulato, intüs lævi; aperturá ad basin dilatatá; canali brevi, lato, recurvo.* Axis 7 lin.

Hab. New Ireland. Among coarse sand at low water.

CLAVATULA FELINA. *Clav. testá ovatá, acuminatá; anfractibus senis, subrotundatis, granulosis lineis transversis et longitudinalibus decussatis, maculis rufis quadratis et oblongis eleganter ornatis; suturá simplici; labro crenulato, subrecto; aperturá oblongá; canali brevi.*

Hab. New Ireland. Among coarse sand at low water.

CLAVATULA PARDALIS. *Clav. testá ovatá, lævigatá, nigricante; costulis fulvis apice ad basin decurrentibus; interstitiis striatá; aperturá oblongá, labro intüs crenulato; canali brevi.* Axis 2 lin.

Hab. Gulf of Nicoya. Under stones at low water.

CLAVATULA CÆLATA. *Clav. testá ovatá, elongatá, atro-fuscá; anfractibus octonis, rotundatis, costulatis; costulis obliquis, acutis; suturá lined elevatá instructá; aperturá atrá, ovali; labro intüs lævi; canali brevi.* Axis 3 lin.

Hab. Gulf of Fonseca. From twenty fathoms; mud.

CLAVATULA PAPILLARIS. *Clav. testá oblongá, lævigatá, pallidá; anfractibus quinis, rotundatis, obsoletè tuberculato-costulatis; apice papillosá; suturá simplici; aperturá brevi, ovatá; labro intüs lævi; canali subnullo.* Axis $2\frac{1}{2}$ lin.

Hab. Straits of Malacca. From seventeen fathoms; mud.

CLAVATULA RUBIGINOSA. *Clav. testá oblongá, corneá; anfractibus senis, subrotundatis, transversim striatis; suturá simplici; aperturá brevi, ovatá, corneá; labro intùs lævi; canali subnullo.* Axis 3 lin.
Hab. Straits of Malacca. From seventeen fathoms; mud.

CLAVATULA POLITA. *Clav. testá valdè fusiformi, politá, albidá; septangulatè costulata; costulis confluentibus; suturá simplici; aperturá ovali, oblongá; labro acuto, intùs lævi; canali longo, subrecurvo.* Axis 5 lin.

Hab. Straits of Macassar. Found among coarse sand in seven fathoms.

CLAVATULA TEXTILIS. *Clav. testá ellipticá, acuminatá, albidá, anfractibus senis, costulatis, supernè angulatis; costulis rotundatis lineis elevatis decussatis, tribus propè mediam anfractús ultimi fuscis; sinu laterali postico; aperturá sublineari; labro intùs crenulato; canali brevi.* Axis $3\frac{1}{2}$ lin.

Hab. Straits of Macassar. From seven fathoms; sand.

CLAVATULA FIMBRIATA. *Clav. testá ovatá, pallidè rufá, albo fasciatá; anfractibus quinis, rotundatis, laminis brevibus, numerosis, dentatis, reflexis indutis; suturá simplici; aperturá ovali; sinu laterali minimo; labro crenulato, reflexo; canali brevi.* Axis $3\frac{1}{2}$ lin.

Hab. North coast of New Guinea. From twenty-two fathoms; mud.

CLAVATULA DONATA. *Clav. testá ovatá, elongatá, roséá; anfractibus octonis, costulatis, transversim striatis; costulis brevibus, rotundatis; suturá lined nodosá instructá; aperturá parvá, ovali, roséá; labro intùs lævi; canali brevi.* Axis $3\frac{1}{2}$ lin.

Hab. North coast of New Guinea. From twenty-two fathoms; mud.

CLAVATULA MICANS. *Clav. testá ovatá, elongatá, corneá, nitidá; anfractibus octonis, costulatis; costulis subacutis, albidis, obliquis, supernè propè suturam evanidis; anfractús ultimi dorso ecostulato; aperturá parvá, ovali; labro tenui, acuto, intùs lævi; canali brevi.* Axis $3\frac{1}{2}$ lin.

Hab. Gulf of Papagayo. From fourteen fathoms; mud.

CLAVATULA ALBICANS. *Clav. testá ovatá, elongatá, albidá, nitidá; anfractibus octonis, costulatis; costulis supernè subnodulosis; suturá nodulosá; sinu laterali pone suturam; aperturá parvá, ovali; labro acuto, intùs lævi; canali brevi.* Axis $2\frac{1}{2}$ lin.

Hab. Straits of Malacca. From seventeen fathoms; mud.

CLAVATULA MUTICA. *Clav. testá subfusiformi, pallidè fulvá; anfractibus senis, rotundatis, transversim striatis, maculis fuscis longitudinalibus ornatis; suturá simplici; anfractu ultimo medio angulato et albo fasciato, ad basin fusco; sinu laterali juxtá suturam; aperturá ovali; labro acuto, intùs lævi; canali brevi.* Axis $3\frac{1}{2}$ lin.

Hab. Straits of Malacca. From seventeen fathoms; mud.

CLAVATULA METULA. *Clav. testá ovatá, acuminatá; anfractibus quinis planulatis, obsolete costulatis, transversim striatis, pallidè rufo fasciatis; suturá lineá elevatá instructá; aperturá lineari; labro subinflexo; canali subnullo. Axis 2 lin.*

Hab. — ?

CLAVATULA TESSELLATA. *Clav. testá elongatá, acuminatá; anfractibus senis, subplanulatis, granulosis lineis longitudinalibus et transversis decussatis, maculis subquadratis fuscis pictis; suturá simplici; aperturá oblongá; labro intùs crenulato; canali brevi. Axis 3 lin.*

Hab. Straits of Macassar. From ten fathoms; coarse sand.

CLAVATULA FULVA. *Clav. testá ovatá, acuminatá, fulvâ; anfractibus senis, granulosis, tuberculato-costulatis, supernè angulatis; suturá lineá granulosa instructá; aperturá parvâ, oblongá; labro intùs lævi; canali brevi effuso. Axis 2½ lin.*

Hab. Straits of Macassar. From ten fathoms; coarse sand.

CLAVATULA DENTIFERA. *Clav. testá elongatá, acuminatá; anfractibus quinis, costulatis, lineis transversis decussatis; costulis numerosis, parvis, angustis, suturam incurrentibus; aperturá oblongá; labro crenulato, infernè dilatato et dentifero; columellá infernè dente parvo; canali breviusculo. Axis 3 lin.*

Hab. North coast of New Guinea; Straits of Malacca. From five to seventeen fathoms; mud.

CLAVATULA GLUMACEA. *Clav. testá elongatá, pallidá, nitidá; anfractibus senis costulatis, transversim striatis; costulis brevibus, rotundatis, suturam simplicem incurrentibus; aperturá oblongá, fuscá; labro intùs lævi; canali breviusculo. Axis 3 lin.*

Hab. North coast of New Guinea. From twenty-two fathoms; mud.

CLAVATULA QUISQUALIS. *Clav. testá fusiformi, acuminatá, nitidissimá; anfractibus octonis, supernè levigatis, infernè costulatis; costulis brevibus, obliquis, acutis; lineis albis sinuosis longitudinaliter instructis; aperturá ovatá; sinu laterali rotundo; labro tenui, acuto, intùs lævi; columellá marginatá; canali brevi, effuso, recurvo. Axis 4½ lin.*

Hab. Gulf of Papagayo, Central America. From eight to fourteen fathoms; mud.

CLAVATULA RETUSA. *Clav. testá parvâ, obesâ, aurantiacâ; anfractibus septenis, costulatis, transversim striatis; costulis rotundatis, confertis; spirâ conicâ; suturá simplici; apice purpureâ; aperturá oblongá; columellá contortá; canali breviusculo. Axis 2½ lin.*

Hab. Straits of Macassar. From ten fathoms; coarse sand.

CLAVATULA IMPRESSA. *Clav. testá fusiformi, acuminatá, roseâ; anfractibus nonis, tuberculato-costatis, transversim striatis; costulis acutis, obliquis, albidis; anfractûs ultimi dorso picto, ecostu-*

lato; aperturá ovali; labro tenui, acuto, intùs lævi; canali mediocri.
Axis $4\frac{1}{2}$ lin.

Hab. Gulf of Papagayo, Central America. From eight to fourteen fathoms; mud.

CLAVATULA NEGLECTA. *Clav. testá fusiformi, gracili, fuscá; anfractibus nonis, costulatis, lineis elevatis decussatis; costulis brevibus, rotundatis; suturá lined elevatá instructá, infrà propè lævigatá; aperturá ovatá, obliquá; sinu laterali pone suturam; labro incrassato, inflexo; canali mediocri.* Axis 5 lin.

Hab. Gulf of Nicoya, Central America. Under stones at low water.

CLAVATULA RIGIDA. *Clav. testá ovatá, retusá; anfractibus quinis, costulatis, supernè angulatis, transversim striatis; suturá simplici; aperturá oblongá, labro crenulato; columellá rugosá; canali brevi.* Axis $2\frac{1}{2}$ lin.

Hab. Panama.

MANGELIA, Leach.

The shells of this group are distinguished by their small size, oval and attenuated shape, long linear mouth, terminated in a short canal, very slightly recurved; outer lip nearly straight, the immediate margin acute, but strengthened by the last-formed rib; above shouldered, with a slight emargination, which does not admit of being called a sinus, and with the margin not callous; apparently not formed before the full development of the shell; inner lip slightly produced; suture always simple; last whorl not at all inflated, and occupying one-half or more of the entire length; sculpture consisting of longitudinal fold-like ribs, terminating at the suture; very probably without an operculum, as Philippi observes that the animal of *Pleurotoma Bertrandi*, which belongs to this genus, is not provided with one. Restricted in this manner, a number of shells may be separated with advantage from the now bulky and somewhat incongruous genus *Pleurotoma*; and in this discrimination I have kept in view the *Mangelia Goodalii* of Leach, but have been by no means guided by the genus, as adopted by Risso.

MANGELIA CINNAMOMEA. *Mang. testá attenuatá, nitidá, cinnamomeá, albo fasciatá; anfractibus senis, plico-costulatis, transversim lævissimè striatis; faucibus crenulatis.* Axis $4\frac{1}{2}$ lin.

Hab. North coast of New Guinea; Straits of Macassar; Straits of Malacca. From five to twenty-two fathoms; mud.

MANGELIA CORONATA. *Mang. testá attenuatá, acuminatá; anfractibus senis, plico-costulatis, transversim striatis; costulis supernè subacuminatis; faucibus lævibus.* Axis 4 lin.

Hab. Straits of Macassar.

MANGELIA VITTATA. *Mang. testá attenuatá, pallidá, fusco fasciatá; anfractibus senis, plico-costulatis, transversim striatis; costulis numerosis; faucibus crenulatis.* Axis $3\frac{1}{2}$ lin.

Hab. Straits of Macassar. From ten fathoms; coarse sand.

MANGELIA ORIZA. *Mang. testá attenuatá, acuminatá, lævigatá, nitidá, hexagonè plico-costulatá; anfractibus septenis; faucibus lævibus.* Axis $4\frac{1}{2}$ lin.

Hab. North coast of New Guinea. From twenty-two fathoms; mud.

MANGELIA CELEBENSIS. *Mang. testá attenuatá, lævigatá, pallidá, fusco latè fasciatá; anfractibus senis, plico-costulatis; costulis subdistantibus; faucibus crenulatis.* Axis $3\frac{1}{2}$ lin.

Hab. Straits of Macassar. From ten fathoms; mud.

Mr. Reeve then communicated his description of a new species of *Cyclostoma*, from the Cordilleras Mountains.

CYCLOSTOMA STRAMINEUM. *Cycl. testá orbiculari, subdepressá, stramineo-luteá, spirá versus apicem rosaceá; usquequaque elegantissimè striatá, striis, ab umbilico exorientibus, diagonaliter collocatis; aperturá ferè circulari, supernè subsinuatá, peritremate simplici; operculo testaceo, albo, multi-spirali.*

Icon. Sowerby, Thesaurus Conch., pl. xxix. f. 211, 212.

Hab. Ad Meridam, Columbiae Occidentalis. From the collection of H. Cuming, Esq.

This very peculiarly striated shell was lately found by a gentleman whilst searching for Orchidaceous plants at the base of the Cordilleras Mountains.

April 11, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

Descriptions of ten new species of *Cancellaria*, from the collection of Sir Edward Belcher, by Mr. Hinds, were read.

CANCELLARIA VENTRICOSA. *Canc. testá ovatá, acuminatá, albescente; anfractibus septenis, ventricosis, subturbinatis, cancellatis, interstitiis quadratis; aperturá oblongá, prope mediam dilatátá; labio interno expanso; columellá triplicatá; umbilico mediocri.*
Axis 15 lin.

Hab. The west coast of America, between $12^{\circ} 28'$ and $24^{\circ} 38'$, north latitude; viz. Realejo, in from sixty to seventy fathoms; San Blas; Gulf of Magdalena, California, in seven fathoms, sandy mud.

Very similar in its characters to *C. candida*, but distinguished from it in the absence of the secondary impressed lines which cross and interfere with the cancellation. *C. candida* is described with only two columellar folds, which might be regarded as another source of difference, our shell having three very distinct. But I think it will be found on close examination that the former has a third incipient fold, which, though very small, truly exists.

CANCELLARIA URCEOLATA. *Canc. testá ovatá, acuminatá, lævigatá, epidermide fuscá indutá; anfractibus septenis, costatis, supernè subangulatis, ultimo subquadrato; costis parviusculis, rotundatis, lineis elevatis decussatis; aperturá oblongá in canalem recurvum effusum desinente; labro subrecto, intùs sulcato; labio interno expanso; columellá biplicatá, sed plicá tertiá inferiore obsoletá; plicá superiore in dente acuto desinente, sinu inferiore magno; umbilico parvo.* Axis 16 lin.

Hab. The west coast of America, between $12^{\circ} 2'$ and $21^{\circ} 32'$ north latitude; viz. Gulf of Papagayo, in from eight to fourteen fathoms; San Blas, in seven fathoms.

The elevations which cross this shell are remarkably disposed. If the finger-nail is driven over the shell, from the base towards the apex, it meets with no resistance, but if in the contrary direction it is obstructed at every elevation. The squareness of the last whorl and the straight outer lip have a mutual relation, since they are dependent on each other; and these characters, taken collectively, will be of value in making a diagnosis between nearly allied species.

CANCELLARIA ALBIDA. *Canc. testá oblongá, subattenuatá, cancellatá, albescente; anfractibus septenis, interstitiis transversis vel subquadratis; aperturá oblongá; labro acuto, intùs sulcato; columellá biplicatá, plicá tertiá inferiore obsoletá; umbilico minimo, suboculto; canali mediocri, contorto.* Axis 13 lin.

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Hab. The west coast of America, between 2° 47' south, and 9° 55' north latitude; viz. Bay of Guayaquil, Panama, and Veragua, in from seven to twenty-three fathoms.

CANCELLARIA CREMATA. *Canc. testá oblongá, subattenuatá, fuscá, lucidá; anfractibus quinis, cancellatis, interstitiis magnis, transversis vel subquadratis; aperturá oblongá, supernè plicá unicá; labro intùs sulcis subdistantibus, labio interno expanso; columellá triplicatá; umbilico mediocri; canali breviusculo.* Axis 10 lin.

Hab. Bay of Panama; from a muddy bed in from four to ten fathoms.

The figures in the 'Conchological Illustrations,' *Cancellaria* 9 and 10, appear to me to represent two distinct species, both of which were collected in the Sulphur. Fig. 10 corresponds more closely with the description of *C. indentata*, and to this I would limit the species. The opinion which I had formed from the specimens in my own possession, became fully confirmed in the examination of those in Mr. Cuming's collection, and a fine shell belonging to him enables me to enrich the description. It may be desirable to remark that M. Kiener has copied both figures, and assigns them to one species.

CANCELLARIA CORRUGATA. *Canc. testá bucciniformi, fuscá; anfractibus quaternis, subventricosis, rugis parvis longitudinalibus confertis indutis, lineis impressis decussatis; aperturá oblongá, fuscá; labro intùs sulcato; columellá plicis duabus albidis instructá; umbilico nullo; canali mediocri.* Axis 8 lin.

Hab. Bay of Guayaquil. From seven fathoms; mud.

CANCELLARIA ELATA. *Canc. testá ovatá, elongatá, acuminatá; anfractibus septenis costatis, supernè angulatis, lineis elevatis decussatis; suturá profundá; aperturá ovali; peritremate supernè disjuncto; labro intùs sulcato; columellá triplicatá, plicá inferiore maximá; umbilico parvo, suboculto; canali inflexo.* Axis 9 lin.

Hab. A single specimen was obtained at Panama, from thirty fathoms.

This shell will always be readily distinguished by its elongated form, shouldered ribs, and by the remarkable circumstance of the plaits on the columella being reversed in size, the inferior being the largest.

CANCELLARIA FUNICULATA. *Canc. testá ovatá, elongatá; anfractibus senis, costatis, supernè subangulatis; costis subdistantibus elevatis, rotundatis, nodulosis, lineis elevatis decussatis; suturá profundá; labro intùs sulcato; columellá plicis tribus parvis; umbilico marginato; canali subnullo.* Axis 8 lin.

Hab. A single specimen only was obtained by the dredge from seven fathoms, sandy mud, in the Gulf of Magdalena, California.

CANCELLARIA BICOLOR. *Canc. testá retusá, contabulatá, fusconigricante; anfractibus septenis, angulatis, procul costatis; costis acutis, lineis elevatis distantibus decussatis; aperturá trigoná,*

supernè callositate alba; labro reflexo, intùs sulcato; columellá triplicatá; umbilico magno. Axis 11 lin.

Hab. Straits of Macassar; from ten fathoms, coarse sand. Mr. Cuming obtained specimens at the Island of Corregidor, Bay of Manila, from seven fathoms, also in coarse sand. A banded variety was obtained in the same locality.

A nearly allied species is the American shell, *C. rigida* of Sowerby; but the present is a larger shell, with sharper distant ribs, crossed at regular distances by slightly elevated lines, and the peritreme is not crenulate. The ribs of *C. rigida* are nodulous from the crossing lines, which are also disposed to rugosity throughout. In *C. bicolor* the lines are particularly regular and uniform in their characters. This is one of several species which were obtained both in the Sulphur and by Mr. Cuming in the Asiatic seas. It is worthy of remark, that the specimens from the seas about the Philippines are uncommonly fine, and the use of them permits me to complete my descriptions more fully, and to note with more accuracy their geographical diffusion.

CANCELLARIA LAMELLOSA. *Canc. testá ovatá, acuminatá, pallidá, contabulatá; anfractibus senis, ventricosis, lamellis numerosis confertis, crenatis, in loco costarum instructis; aperturá trigoná; labro incrassato, reflexo; columellá plicis tribus parvis; umbilico magno; canali subnullo. Axis 7½ lin.*

Hab. This species has an extensive habitat, being found in several places in the Indian Archipelago and at the Cape of Good Hope. At the latter a single specimen was obtained on the Lagulhas Bank in seventy fathoms; also at Ceylon and in the Straits of Macassar. Mr. Cuming also procured specimens in seven fathoms, coarse sand, at the Island of Corregidor, in the Bay of Manila.

Corresponding to the customary situation of the ribs, this species throws off series of lamellæ, two or more in number, which present a sharp, reflected, crenated margin. These are clustered together in very irregular numbers, sometimes there being only two, or perhaps even one; but as the shell advances in age they are usually crowded together in some numbers, and this remarkable and elegant character will readily distinguish it from any other species.

CANCELLARIA ANTIQUATA. *Canc. testá ovatá, acuminatá, contabulatá, albidd; anfractibus septenis, planulatis, costatis, transversè striatis; costis acutis, supernè spinis cavis desinentibus; aperturá trigoná; labro reflexo; columellá plicis tribus minimis; umbilico maximo. Axis 7 lin.*

Hab. New Guinea; in twenty-two fathoms, coarse sand. Also obtained by Mr. Cuming at the island of Corregidor, Bay of Manila, in seven fathoms, coarse sand.

A species nearly allied to the singular *C. trigonostoma*, having a similar relative situation of the whorls to each other, and a very large umbilicus. This is a smaller shell, with a shorter spire, and sutures less profound.

A letter from Mr. J. E. Gray, addressed to the Curator, was read. This letter refers to some species of Bats from Jamaica, which Dr. Richard Parnell had sent to Mr. Gray. Among these, Mr. Gray observes, are some specimens of the genus *Macrotis*, a genus which he had recently established upon a Bat from Hayti, showing that this form is likewise extended to Jamaica.

“The collection also contains a specimen of *Arctibeus Jamaicensis*, Leach, and some specimens of a new genus, which is very interesting, as being a Noctilionine Bat, with an apparent nose-leaf, bearing a much greater resemblance to the Leaf-nosed Bats (*Phyllostomina*) than even *Mormoops*, which, when he first described it, Dr. Leach referred to that group. Indeed at first sight I was inclined to regard the new bat as belonging to the Leaf-nosed Bats; but on examination I found that the nostrils, instead of being placed on the leaf-like process, which is the character of that group, were on the under side of the nose-keel, and quite separate from it.

“This genus may for this reason be called *Phyllodia*, and it is thus characterized:—

“Head moderate; nose rather produced, with a sharp-edged transverse keel, with the nostrils on the lower side of the keel, and an ovate, lanceolate, fleshy process on the middle of the upper surface; chin with a single, transverse, membranaceous fold, surrounding a triangular group of many small warts; ears lateral; tragus distinct; wings long, rather narrow; thumb moderate, lower joint rather shortest; wing from the upper part of the ankle; interfemoral membrane large, truncated; heel-bone long, strong; tail enclosed, half as long as the membrane, with the tip above it, and with a vessel from each side of its tip to the hinder margin of the membrane.

“These characters show that this genus has much resemblance with *Mormoops*, and especially *Chilonycteris*, but it differs from the former in having no transverse membranaceous fold on the face, and from the latter, with which it agrees in having a membranaceous fold across the chin, in having a fleshy, erect, leaf-like expansion on the upper surface of the nose, which is wanting in that genus.”

Mr. Gray proposes to name this species after Dr. R. Parnell, so well known for his works on the fishes and grasses of Scotland.

PHYLLODIA PARNELLII. *Phyll. auribus magnis, subacutis; vellere cinerascanti-fusco, pilis ad apicem obscurioribus.*

The following note on the Spermatozoa of the Camel (*Camelus Bactrianus*, Linn.), by Mr. Gulliver, was then read:—

“In my observations on the Semen and Seminal Tubes of Mammalia and Birds, published in the Proceedings of the Society, July 26, 1842, I have noticed the form of the spermatozoa of the Dromedary. As I am not aware that the seminal animalcules of the Camel and Dromedary have yet been described, I now exhibit drawings of them to the Society.

“Although the blood-corpuscles of the *Camelidæ* have the same form as the blood-corpuscles of oviparous vertebrate animals, it will be observed that the Camel, like the Dromedary, has spermatozoa of the

same type as the spermatozoa of other Mammalia, several of which are figured in Professor Wagner's excellent 'Elements of Physiology,' translated by Dr. Willis, part i. page 11."

Various specimens presented to the Society since the previous Meeting were laid on the table; they consisted of a very valuable collection of insects from the interior of South Africa, presented by the President, the Earl of Derby; a specimen of a Manis from China, presented by the Honourable Sir Alexander Johnstone; and a series of Insects, Birds' Eggs, &c., collected at Samsoon and Erzeroom by the Society's Corresponding Members, E. D. Dickson, Esq., and H. J. Ross, Esq. This last-mentioned collection also contained a specimen of the European Green Woodpecker (*Picus viridis* of authors), and of the Common Pheasant (*Phasianus colchicus*, Linn.).

Mr. Fraser exhibited a specimen of a Pouched Rat (*Cricetomys Gambianus*) and various species of Birds which he had procured on the western coast of Africa during the Niger expedition, and read the following notes relating to them:—

Cricetomys Gambianus, Wat. Lives in holes in the ground, more abundantly under the storehouses, where of a night they may be heard squeaking and fighting, similar to our common Rat (*Mus decumanus*, Linn.); they climb the paw-paw trees and feed on the fruit as it hangs: the cheek-pouches contained paw-paw seeds. Caught in iron gins baited with boiled yam. The natives set great store on this animal, its flesh being considered the greatest delicacy that can be offered at a wedding-feast.

Hab. Clarence, Fernando Po. Common.

Neophron niger, Less., *Cathartes monachus*, Temm. Pl. Col. 222.

Common in the neighbourhood of Cape Coast Castle, living in the smaller trees near the houses.

Hirundo leucosoma, Swains. Jard. Nat. Lib. vol. (Orn.) viii.; B. of W. Africa, page 74, 1837.

Hab. Accra. Very common.

Ispida bicincta, Swains. Jard. Nat. Lib. vol. (Orn.) viii.; B. of W. Africa. Common: seen in flocks of six or eight, making a continual chattering noise as they fly; this species dives into the salt as well as fresh water, sometimes from the height perhaps of twenty feet; I have seen them hover over their scaly prey like a kestrel.

Hab. Fernando Po and river Niger, as far up as Iddah.

Macronyx flavigaster, Swains. Jard. Nat. Lib. vol. (Orn.) vii.; B. of W. Africa, p. 215, 1837.

Hab. Accra.

Ploceus textor, Cuv.

Hab. Cape Palmas, Cape Coast and Fernando Po.

At each of the above places I found this bird extremely common; they commit much mischief in the rice and Indian-corn plantations. As many as fifty pairs may be seen building their domed nests in one

tree, and in the neighbourhood of houses : they lay from four to five mottled eggs, varying as much in size, colour and markings as do our common Sparrow (*Pyrgita domestica*, Cuv.) ; they are extremely active and noisy, continuing fighting and chattering from daybreak to sundown : the nest is composed of coarse grass interwoven, sometimes fixed in a forked branch of a tree and at other times suspended.

Ploceus brachypterus, Swains. Jard. Nat. Lib. vol. (Orn.) vii. ; B. of W. Africa, p. 168. pl. 10, 1837.

Hab. Fernando Po.

Found in company with *P. textor*, living in the gardens round Clarence. Irides white.

Ploceus personatus, Vieill. Gal. des Ois. pl. 84.

Hab. Cape Coast.

Euplectes oryx, Swains., *Loxia oryx*, Vieill.

Hab. Cape Coast. Common : frequents the Indian-corn plantations.

Vidua chrysonota, Swains. Jard. Nat. Lib. vol. (Orn.) vii. ; B. of W. Africa, p. 178, 1837.

Hab. Cape Palmas.

Vidua erythrorhynchus, Swains. Jard. Nat. Lib. vol. (Orn.) vii. ; B. of W. Africa, p. 176. pl. 12, 1837.

Hab. Cape Palmas. Common.

Passer simplex, *Pyrgita simplex*, Swains. Jard. Nat. Lib. vol. (Orn.) vii. ; B. of W. Africa, p. 208, 1837.

Hab. Cape Coast and Accra.

Passer Jagoensis, Gould. Voy. of Beag. (Birds) p. 95. pl. 31.

Pyrgita Jagoensis, Gould, Proc. Zool. Soc. 1837, p. 77.

Hab. St. Vincent's and St. Antonio, Cape Verde Islands (June).

Lamprotornis chrysonotis, Swains. Jard. Nat. Lib. vol. (Orn.) vii. ; p. 143. pl. 6, 1837.

Hab. Fernando Po.

Very shy : irides white, bill and legs black, nostrils large and open. Caws somewhat like a crow ; makes a burring noise like a parrot when beginning to fly ; lives in the loftiest trees. The gizzard contained small seeds and red berries. The sexes do not differ.

Cuculus rubiculus, Swains. Jard. Nat. Lib. vol. (Orn.) viii. ; B. of W. Africa, p. 181, 1837.

Hab. Fernando Po.

Very shy : irides red hazel, cere and legs bright yellow, base of both mandibles yellow, mouth red.

Zanclotomus flavirostris, Swains. Jard. Nat. Lib. vol. (Orn.) viii. ; B. of W. Africa, p. 183. pl. 19, 1837.

Hab. Fernando Po (June).

Somewhat like a magpie, jerking and bobbing its tail and making a carr-r-r-ring noise as it hops from branch to branch ; also a fast runner. A *mantis* found in the gizzard. Irides red, bill yellow, legs nearly black, cere turquoise colour. The sexes do not differ.

Centropus Senegalensis, Ill., Swains. Jard. Nat. Lib. vol. (Orn.) viii. ; B. of W. Africa, p. 185. pl. 20, 1837.

Hab. Cape Palmas and Accra.

Found on or near the ground.

Peristera tympanistera, Temm.

Hab. Fernando Po (June).

A female was killed on the nest, which was composed of small roots, and contained two white eggs; the nest was placed on the broken part of a small tree, about three feet from the ground. Irides hazel, bill and feet reddish plum-colour.

Chatopus Adansonii, Swains. Jard. Nat. Lib. vol. (Orn.) viii. ; B. of W. Africa, p. 217, 1837.

Hab. Central Africa.

This specimen was shot nearly opposite Iddah, about two hundred miles up the river Niger (August).

Glareola torquata, Temm.

Hab. Accra.

Rhynchops Orientalis, Rüppell, Atl. Zool. pl. 24.

Hab. Mouth of the river Nùn (August).

Mr. Fraser also called attention to two specimens of a species of *Manis*, which he laid before the Meeting. These, he observed, agreed in their characters with the species described by Mr. Gray in a communication read at the Meeting for February 28th of the present year, under the name *Manis multiscutata*. They were procured by Mr. Fraser at Fernando Po, and upon his return to England he had, upon comparing the specimens on the table with others of the *Manis tetractyla*, perceived those differences upon which Mr. Gray founds the *M. multiscutata*. The animals, judging from their bones, were evidently not adult; the largest measured thirty inches in length, of which the head and body were twelve inches, and the tail eighteen inches. He had kept them alive for about a week at Fernando Po, and allowed them the range of a room, where they fed upon a small black ant, which is very abundant and troublesome in the houses and elsewhere. Even when first procured they displayed little or no fear, but continued to climb about the room without noticing his occasional entrance. They would climb up the somewhat roughly-hewn square posts which supported the building with great facility, and upon reaching the ceiling would return head foremost; sometimes they would roll themselves up into a ball and throw themselves down, and apparently without experiencing any inconvenience from the fall, which was in a measure broken upon reaching the ground by the semi-yielding scales, which were thrown into an erect position by the curve of the body of the animal. In climbing, the tail, with its strongly pointed scales beneath, was used to assist the feet; and the grasp of the hind feet, assisted by the tail, was so powerful, that the animal would throw the body back (when on the post) in a horizontal position and sway itself to and fro, apparently taking

pleasure in this kind of exercise. It always slept with the body rolled up; and when in this position in a corner of the building, owing to the position and strength of the scales and the power of the limbs combined, Mr. Fraser found it impossible to remove the animal against its will, the points of the scales being inserted into every little notch and hollow of the surrounding objects. The eyes are black and very prominent. The colonial name for this species of *Manis* is Attadillo, and it is called by the Booby, 'Gahlah.'

April 25, 1843.

No Meeting was held.

May 9, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Hinds proceeded with his descriptions of new species of Shells collected during the voyage of Sir Edward Belcher, C.B., and by H. Cuming, Esq., in his late visit to the Philippine Islands: those characterized in the paper read were laid on the table.

Genus CORBULA, Bruguière.

CORBULA CRASSA. *Corb. testá solidá, incrassatá, elevatá, albidá, inæquilaterali, latere antico paululùm superante, longitudinaliter sulcatá, anticè rotundatá, posticè ad extremitatem truncatá, ab umbone ad marginem posticam biangulatá; valvarum margine ventrali inclausá, gibbosissimá, sinistræ posticè denticulatá; umbonibus obliquis, posticis; intùs fuscá.* Long. 11; lat. 7; alt. 7 lin.

Hab. Straits of Macassar; Straits of Malacca; Sabonga, island of Zebu; Bais, island of Negros, Philippines. Obtained in from seven to thirty fathoms, on a floor of coarse sand or gravel.

Cab. Belcher et Cuming.

Remarkable for the preponderance of the bulk of the anterior half over the posterior, a circumstance which also occurs in *C. bicarinata*. This, however, depends in some measure on the age, and is thus most conspicuous in those specimens which may be considered as beyond adult age.

CORBULA TUNICATA. *Corb. testá ovato-trigoná, obliquá, anticè rotundatá, posticè nasutá, excavatá, ab umbonibus angulatá; valvis inæqualibus, dextrá præcipuè maximá, valdè sulcatá, epidermide tenui cornedá indutá, sinistrá prope umbonem sulcatá, aliter epidermide densá indutá; umbonibus obliquis posticis; intùs fuscá.* Long. 12; lat. 7; alt. 9 lin.

Hab. Island of Corregidor, Bay of Manila; in seven fathoms, coarse sand. Straits of Macassar; Lagulhas Bank, Cape of Good Hope: from seventy fathoms, on a gravelly bottom.

Cab. Belcher et Cuming.

CORBULA CUNEATA. *Corb. testá ovato-trigoná, æquilaterali, solidá, complanatá, sulcatá, anticè rotundatá, posticè angulatá; valvis subæqualibus, marginibus ventralibus gibbosis inclausis; umbonibus rectis; intùs purpurascete.* Long. 7; lat. 3; alt. 5 lin.

Hab. Catbalonga, Philippine Islands; from ten fathoms, soft mud. Lagulhas Bank, Cape of Good Hope; from seventy fathoms.

Cab. Belcher et Cuming.

CORBULA PALLIDA. *Corb. testá ovatá, tenui, elevatiusculá, sulcatá,* No. CXXIV.—PROCEEDINGS OF THE ZOOL. SOC.

anticè rotundatá, posticè ab umbonibus ad marginem posticam angulatá, valvæ dextræ margine ventrali acutá, inflexá; umbonibus lævigatis, rectis; intùs prope cardinem rosed. Long. $7\frac{1}{2}$; lat. 3; alt. 5 lin.

Hab. —?

Cab. Cuming.

CORBULA SIMILIS. *Corb. testá ovatá, solidá, sulcatá, anticè elevatiusculá, rotundatá, posticè ad marginem posticam obliquè truncatá, ab umbonibus angulatá; valvis inæqualibus, dextrá margine ventrali subacutá, productá; umbonibus subobliquis; intùs rosed, dente valvæ sinistræ bifido.* Long. 6; lat. 8; alt. 4 lin.

Hab. Island of Corregidor, Bay of Manila; in seven fathoms, coarse sand.

Cab. Cuming.

CORBULA SCAPHOIDES. *Corb. testá oblongá, ordinatè sulcatá, interstitiis lævissimè striatis, anticè rotundatá, posticè elongatá, ad extremitatem obliquè truncatá, ab umbonibus subcarinatá; valvæ dextræ margine ventrali acutá, productá; umbonibus rectis.* Long. 6; lat. $2\frac{1}{2}$; alt. $3\frac{1}{2}$ lin.

Hab. Singapore; from seven fathoms, sandy mud. Bais, island of Negros, Philippines.

Cab. Cuming.

CORBULA FRAGILIS. *Corb. testá ovatá, tenui, albidá, striatá, striis transversis minutissimè reticulatá, anticè subproductá, rotundatá, posticè elongatá, ab umbonibus subrotundatá; valvæ dextræ margine ventrali acutá, productá; umbonibus rectis, lævigatis, æqualibus.* Long. 7; lat. 3; alt. 4 lin.

Hab. West coast of Veragua; from eighteen fathoms, mud.

Cab. Belcher.

CORBULA ALBUGINOSA. *Corb. testá retuso-ovatá, tenui, anticè rotundatá, posticè subelongatá, rotundatá; valvis valdè disparibus, dextrá longitrorsum striatá, pallidá, margine ventrali productá, acutá, sinistrá lævigatá, lineis elevatis radiantibus, epidermide fuscá indutá; umbonibus albidis, nitidis, inæqualibus.* Long. $4\frac{1}{2}$; lat. 2; alt. $3\frac{1}{2}$ lin.

Hab. New Guinea; Straits of Macassar: from seven to twenty-two fathoms, mud and coarse sand.

Cab. Belcher.

CORBULA ROTALIS. *Corb. testá oblongá, corneá, anticè rotundatá, posticè subnasutá; valvis valdè disparibus, dextrá præcipuè maximá, rotundatá, sulcatá, margine ventrali productá, acutá, sinistrá parvâ, lineis decenis elevatis radiantibus; umbonibus valdè inæqualibus, subobliquis, anticis.* Long. $2\frac{1}{2}$; lat. $1\frac{1}{2}$; alt. $1\frac{1}{2}$ lin.

Hab. Calapan, Mindora, Philippine Islands; from fifteen fathoms, coarse sand.

Cab. Cuming.

Several species of *Corbula* are provided with elevated lines radia-

ting from the umbo of the left valve towards the ventral margin, but none have them in such numbers, or so distinctly marked, as in the present small species. Here they are about ten in number, and with the great disparity of the valves, will readily distinguish the species.

CORBULA POLITA. *Corb. testá oblongá, ventricosá, tenui, albidá, obsolete sulcatá, anticè rotundatá, posticè ab umbonibus subangulatá; valvis ferè æqualibus, dextræ margine ventrali acutá, subproductá; umbonibus æqualibus, lævigatis, rectis.* Long. $3\frac{1}{2}$; lat. 2; alt. $2\frac{1}{2}$ lin.

Hab. Sorsogon, province of Albay, Luzon, Philippine Islands.
Cab. Cuming.

CORBULA QUADRATA. *Corb. testá quadratá, albidá, tenui, lævigatá, anticè rotundato-truncatá, posticè rotundato-angulatá, abbreviatá; valvarum marginibus ventralibus tenuibus; umbonibus obliquis, anticis; dentibus parvis, gracilibus.* Long. 6; lat. ; alt. 5 lin.

Hab. —?

Cab. Metcalfe.

CORBULA OBESA. *Corb. testá ovatá, tenui, ventricosá, pallidá, striatá, anticè rotundatá, posticè ad extremitatem truncatá, ab umbonibus acutè angulatá; valvarum marginibus ventralibus inclausis, gibbosis; umbonibus rectis, lævigatis.* Long. 3; lat. 2; alt. 2 lin.

Hab. The west coast of America, between $8^{\circ} 57'$ and $21^{\circ} 32'$ north latitude, in from twenty-two to thirty-three fathoms, mud; namely, Panama, coast of Veragua, and San Blas.

Cab. Belcher.

CORBULA SPECIOSA. *Corb. testá ovato-trigoná, anticè rotundatá, posticè excavatè angulatá, albidá, sanguineá, densè multiradiatá; valvis valde inæqualibus, marginibus ventralibus inclausis, dextrá rotundatá, sulcatá, sinistrá subplanulatá, striatá; umbonibus rectis, subplanulatis; intùs albidá.* Long. 9; lat. 5; alt. 7 lin.

C. radiata, Sowerby, Proc. Zool. Society, p. 36, 1833.

Hab. Panama; from six fathoms, mud. Gulf of Nicoya, Central America.

Cab. Belcher et Cuming.

This shell has been described as *C. radiata*, Sow., a name previously assigned by M. Deshayes to a fossil species. The description also was drawn up from such an indifferent shell, that it was almost by accident I discovered it was to apply to my specimens. I have therefore been under the necessity of recording a new description.

CORBULA MODESTA. *Corb. testá ovato-trigoná, complanatá, pallidá, radiatá, profundè sulcatá, anticè rotundatá, posticè ad extremitatem truncatá, ab umbonibus angulatá; valvarum marginibus ventralibus inclausis; umbonibus parvis, subæqualibus, roseis; intùs roseá.* Long. 7; lat. $3\frac{1}{2}$; alt. 5 lin.

Hab. Straits of Macassar; from seven fathoms, coarse sand. Ticao, Philippine Islands; from eight fathoms, sandy mud. The Macassar specimens are of a dwarf size.

Cab. Belcher et Cuming.

CORBULA SOLIDULA. *Corb. testá parvá, ovatá, subtrigóná, solidulá, elevatiusculá, æquilaterali, sulcatá; anticè rotundatá, posticè angulatá; valvarum marginibus ventralibus inclausis, gibbosis; umbonibus rectis, lævigatis.* Long. 2; lat. 1; alt. $1\frac{1}{3}$ lin.

Hab. Straits of Macassar; from seven fathoms, coarse sand. Bais, island of Negros, Philippines.

Cab. Belcher et Cuming.

CORBULA MARMORATA. *Corb. testá parvá, oblongá, solidulá, lævigatá, marmoratá, anticè rotundatá, posticè subangulatá; valvarum marginibus ventralibus inclausis; umbonibus obliquis, anticis; ante umbones sanguineo maculatá.* Long. 2; lat. 1; alt. $1\frac{1}{3}$ lin.

Hab. West coast of Veragua; from twenty-six fathoms, mud.

Cab. Belcher.

CORBULA EBURNEA. *Corb. testá parvá, ovatá, subtrigóná, eburneá, solidulá, complanatá, lævigatá, obsoletè sulcatá; margine ventrali gibbosá; umbonibus parvis, subrectis, nitidis; intùs corned.* Long. 2; lat. 1; alt. $1\frac{1}{3}$ lin.

Hab. North coast of New Guinea; Camaguing and Bohul, Philippine Islands: from seven to sixty fathoms, coarse sand and mud.

Cab. Belcher et Cuming.

This shell closely approaches *C. solidula*, but is distinguished by its somewhat more triangular shape, polished, ivory-like, flattened valves, and the slightly sulcate sculpture.

CORBULA MONILIS. *Corb. testá minutá, globosá, pallidá, striulatá; valvis valdè inæqualibus, dextrá multò maximá, posticè elongatá, margine ventrali acutá, productá; umbonibus rectis, lævigatis.* Long. 1; lat. $\frac{2}{3}$; alt. $\frac{2}{3}$ lin.

Hab. Sual, Luzon, Philippine Islands; from five to seven fathoms, sandy mud.

Cab. Cuming.

A small globose species remarkable for the inequality of the valves, the left being sunk into the right. The latter valve is also distinguished by the posterior nasute elongation.

CORBULA FASCIATA. *Corb. testá ovatá, subtrigóná, lævigatá, pallidá, atro-fusco trifasciatá, anticè productá, rotundatá, posticè elongatá, ab umbonibus arcuatè angulatá; valvarum marginibus ventralibus acutis, convexis, dextræ productá; umbonibus rectis, suberosis.* Long. $6\frac{1}{2}$; lat. $2\frac{1}{2}$; alt. 4 lin.

Var. *Testá pallidá, posticè subproductiori.*

Hab. St. Juan, province of Illocos, and Agoos, province of Pangasinan, Luzon, Philippine Islands.

Cab. Cuming.

CORBULA TRIGONA. *Corb. testá trigóná, lævigatá, pallidá, fuscá, vel obsoletè unifasciatá, anticè rotundatá, posticè abbreviatá, ab umbonibus angulatá; valvæ dextræ margine ventrali acutá, productá; umbonibus rectis.* Long. $4\frac{1}{2}$; lat. 2; alt. 4 lin.

Hab. Senegal.

Cab. Cuming et Metcalfe.

CORBULA LÆVIS. *Corb. testâ ovali, æquilaterali, pallidâ, tenui, lævigatâ, complanatâ; valvâ dextrâ margine ventrali acutâ, productâ; umbonibus rectis, suberosis.* Long. 6; lat. $2\frac{1}{2}$; alt. 4 lin.

Hab. Hong-Kong, China.

Cab. Belcher et Cuming.

Both valves are flattened towards their ventral margins in a very characteristic manner.

CORBULA FABA. *Corb. testâ ovali, subæquilaterali, elevatiusculâ, tenui, lævigatâ, pallidè fusco trifasciatâ, posticè ab umbonibus angulatâ; valvâ dextrâ margine ventrali acutâ, productâ; umbonibus rectis, fragmentis epidermide tenui indutâ.* Long. 5; lat. $1\frac{2}{3}$; alt. $2\frac{2}{3}$ lin.

Hab. St. Miguel, east coast of Luzon, Philippine Islands. Obtained in the mud at low water.

Cab. Cuming.

It is very probable that the four species last described affect situations where the water is brackish rather than salt; and though they retain the hinge of *Corbula*, in general character they materially differ from the more typical forms of the genus.

POTAMOMYA, J. Sowerby.

POTAMOMYA NIMBOSA. *Pot. testâ ovato-trigondâ, lævigatâ, anticè rotundatâ, posticè productâ, angulatâ; valvis inæqualibus, margine ventrali acutâ; umbonibus subæqualibus; epidermide tenui, tenebrosâ, indutâ, lineis capillaribus radiantibus; intùs albidâ.* Long. 17; lat. 8; alt. 11 lin.

Sowerby's Conch. Manual, f. 498, 499.

Hab. The tributary streams of the Rio de la Plata, in the mud.

Cab. Cuming.

POTAMOMYA OCREATA. *Pot. testâ valdè inæquilaterali, anticè abbreviatâ, rotundatâ, posticè productâ, subnasutâ, ab umbone ad marginem posticam angulatâ; valvâ dextrâ rotundatâ, margine ventrali anticè productâ, acutâ; epidermide fuscâ indutâ; intùs albidâ vel cærulescente.* Long. 13; lat. 6; alt. 8 lin.

Hab. Brazil. From freshwater streams.

Cab. Cuming et Metcalfe.

The younger specimens are much less inequilateral than the old.

The following descriptions of new species of Shells belonging to the genus *Cyclostoma*, by Mr. G. B. Sowerby, were then read.

CYCLOSTOMA PUSILLUM, nob., *Thes. Conch. part 3. pl. 23. f. 55**.

Cycl. testâ orbiculari, subdiscoïdè; apice spiræ subprominulo; anfractibus quatuor, rotundatis, lineis incrementi solùm striatis; suturâ profundâ; aperturâ circulari, peritremate tenuiusculo, subreflexo, posticè prope anfractum ultimum submarginato; umbilico patulo; operculo multispirali, extùs concavo, margine canaliculato, intùs nitido.

Var. *a*. Found at the roots of shrubs and trees at Calauang, isle of Luzon, by H. Cuming.

Var. *b*. Found under decayed leaves in the isle of Negros, by H. Cuming.

CYCLOSTOMA RUFESCENS, nob., Thes. Conch. part 3. pl. 24. f. 36, 37. *Cycl. testá suborbiculari, rufescente, spirá brevi, anfractibus quatuor, rotundatis, spiralitèr costellatis et striatis, costellis crenulatis; suturá profundá; aperturá circulari, peritremate tenui; umbilico magno.*

There are two varieties of this species, one of a dark red colour, the other almost white. They were communicated by Mr. Powis, from Martinique.

CYCLOSTOMA PLEBEIUM, nob., Thes. Conch. part 3. pl. 24. f. 40. *Cycl. testá subglobosá, tenui, obscurá, subfusá, spirá breviusculá; anfractibus quatuor, rotundatis, rapidè crescentibus, apice obtusiusculo; suturá distinctá; aperturá magná, circulari, peritremate tenui; umbilico parvulo; operculo multispirali, extùs albicante, maculá centrali, depressá, margine canaliculato, intùs nitido.*

Found in the earth under decayed leaves at Calauang, in the province of Laguna, isle of Luzon, by H. Cuming.

CYCLOSTOMA SPURCUM, nob., Thes. Conch. part 3. pl. 24. f. 75, 76. *Cycl. testá suborbiculari, rufescente-fusá, spirá prominulá; anfractibus quatuor, rotundatis, albicante-subvariegatis, spiralitèr striatis et subcarinatis, suturá distinctá, subcrenulatá; aperturá circulari, peritremate albo, tenui, subreflexo; umbilico parvo; operculo crassiusculo, anfractibus quinis.*

From the Seychelle Islands. In Mr. Cuming's collection.

CYCLOSTOMA CINCINNUS, nob., Thes. Conch. part 3. pl. 24. f. 77, 78. *Cycl. testá suborbiculari, subturritá, tenui, albidd, interdùm fusco-unifasciatá; anfractibus quinis, rotundatis, posticè spiralitèr sulcatis, sulcis subdistantibus, anticè spiralitèr striatis; suturá distinctá; aperturá circulari, peritremate tenui, versus umbilicum parvum subreflexo, apice obtusiusculo.*

Locality not known. In Mr. Cuming's collection.

CYCLOSTOMA NITIDUM, nob., Thes. Conch. part 3. pl. 29. f. 225, 226, 227. *Cycl. testá globoso-conicá, tenui, pellucidá, lævi, albá, interdùm fusco-variegatá, spirá acuminatá, anfractibus quinis, rotundatis, ultimo maximo, ventricoso, aperturá circulari, peritremate reflexo, latere columellari subsinuato; suturá distinctá; umbilico parvo; operculo tenui, corneo, spirali.*

Var. *a*. Shell pale, closely dotted with brown; on leaves of bushes in the isle of Guimaras.

Var. *b*. Shell pale, with brown dots and bands; from the same locality as *a*.

Var. *c*. Shell white; same locality as *a*, and on leaves of trees at Sibonga.

Var. *d*. Shell pale; found at Cabanatuan.

Var. *e*. Shell pale, with brown streaks and dots; from the island of Guimaras.

CYCLOSTOMA CONCINNUM, nob., Thes. Conch. part 3. pl. 29. f. 223, 224. *Cycl. testâ globoso-conicâ, tenui, pellucidâ, lævi, albidâ, viridi-fusco spiralitèr lineatâ, spirâ acuminatâ, anfractibus quinis, rotundatis, ultimo maximo, ventricoso; aperturâ circulari, peritremate reflexo, latere columellari subsinuato; suturâ distinctâ; umbilico parvo; operculo tenui, corneo, spirali.*

Several varieties of this very pretty species have been brought by Mr. Cuming from the Philippine Islands; they are as follows:—

Var. *a*. Shell with numerous brownish spiral lines. On leaves of trees at Jacna, isle of Bohol.

Var. *b*. Shell white, opaque, with hyaline spiral lines and a brown band in front. Found on leaves of bushes at Misamis, island of Mindanao.

Var. *c*. Shell like var. *b*, but without the brown band. On leaves of trees, island of Camaguing.

Var. *d*. Shell with broader brownish spiral lines. Found on leaves of bushes at Loon, island of Bohol.

Var. *e*. With the spiral brownish bands subinterrupted. Found at Marabojoc, island of Bohol, on leaves of trees.

Var. *f*. Shell pale brown, covered with a thin epidermis with hispid spiral lines. Found on leaves of bushes at Loboc, island of Bohol.

CYCLOSTOMA AQUILUM, nob., Thes. Conch. part 3. pl. 27. f. 131.

Cycl. testâ suborbiculari, subdepressâ, tenuiusculâ, lævi, fulvescente-fusco, nonnunquàm cingulo pallescente mediano; spirâ brevi, acuminatusculâ, anfractibus quinis, subplanulatis, primis paululum carinatis, ultimo maximo, rotundato; aperturâ circulari, expansâ, albicante vel fulvescente, peritremate subincrassato, reflexo, supra anfractum ultimum interrupto, latere umbilicali subsinuato; umbilico magno.

Found in the woods at Singapore under decayed leaves, by H. Cuming.

CYCLOSTOMA IRRORATUM, nob., Thes. Conch. part 3. pl. 27. f. 134,

135. *Cycl. testâ subgloboso-conicâ, tenui, lævi, pallescente, fusco-irroratâ, plerumque cingulo mediano nigricante; spirâ elevatiusculâ, apice nigricante, obtuso; anfractibus quinis, ventricosis, primùm subcarinatis, deindè rotundatis; suturâ tenui; aperturâ ferè circulari, posticè obsoletè subacuminatâ, anfractu ultimo tenuiter modificato, peritremate crassiusculo, rotundato-reflexo; umbilico mediocri.*

Numerous specimens of this species have been imported from China within the last few years.

CYCLOSTOMA SUBSTRIATUM, nob., Thes. Conch. part 3. pl. 25. f. 95.

Cycl. testâ suborbiculari, depressâ, crassiusculâ, læviusculâ, fuscescente, spirâ brevissimâ, submucronatâ; anfractibus quatuor, rotundatis, posticè transversim striatis, striis ex suturâ profundâ radiantibus, anticè lævibus; aperturâ circulari, peritremate subin-

crassato, subreflexo; umbilico lato; operculo multispirali, latere canaliculato, intus nitido.

Found in earth under decayed leaves in the island of Siquijod, by H. Cuming.

CYCLOSTOMA SEMISULCATUM, nob., Thes. Conch. part 3. pl. 25. f. 99.

Cycl. testá suborbiculari, depressiusculá, tenuiusculá, albicante, fasciá angustá medianá, fusco-nigricante, posticè plerumque brunneo-variegatá; spirá brevi, anfractibus quinque, posticè spiralitèr sulcatis, sulcis distantibus, anticè levitèr striatis vel lævibus; suturá distinctá; aperturá ferè circulari, peritremate incrassato, subreflexo, posticè angulifero; umbilico lato, intus spiralitèr striato; operculo corneo, crassiusculo, extus sublamelloso, intus lævi.

CYCLOSTOMA PANAYENSE, nob., Thes. Conch. part 3. pl. 30. f. 239.

Cycl. testá globoso-conicá, tenuissimá, pellucidá, lævi, fuscescente, spirá brevi, obtusiusculá, anfractibus quinque, spiralitèr et distantèr substriatis, rotundatis, ultimo anticè ad peripheriam cariná obsoletá munito; aperturá magná, ferè circulari, peritremate lato, reflexo, ad ultimum anfractum interrupto, margine interno albo, externo fusco; umbilico parvo; operculo tenui, anfractibus 5—6.

Found on leaves of bushes in the island of Panay and in the mountains of Basey, island of Samar, by H. Cuming.

CYCLOSTOMA LUTEOSTOMA, nob., Thes. Conch. part 3. pl. 30. f. 228,

229. *Cycl. testá globoso-conicá, tenui, pellucidá, albidá, epidermide tenui, cornéa indutá; spirá acuminatá; anfractibus quinque, rotundatis, ultimo magno, ventricoso; aperturá subcirculari, peritremate reflexo, aurantiaco, latere columellari subsinuato, prope ultimum anfractum interrupto; suturá distinctá; umbilico parvo; operculo tenui corneo, multispirali.*

On leaves of bushes in the island of Guimaras.

CYCLOSTOMA INSIGNE, nob., Thes. Conch. part 3. pl. 30. f. 232.

Cycl. testá subglobosá, subconoideá, prætenui, cornéa, pellucidá, viridescente fuscá, spirá acuminatusculá; anfractibus quinque, primis rotundatis, lævibus, duabus ultimis tenerrimè transversim striatis, margine acutè carinato, posticè subplamulatis, 5- ad 7-carinatis, ultimo maximo, ante carinam subobsoletè 2- vel 3-carinatis; aperturá magná, subcirculari, peritremate tenui, reflexo, intus albo, ultimo anfractu modificato; umbilico exiguo; operculo tenui, corneo.

Found on leaves of trees at Calapan, island of Mindoro, by H. Cuming.

CYCLOSTOMA FIBULA, Thes. Conch. part 3. pl. 30. f. 240, 241, 242.

Cycl. testá suborbiculari, conicá, tenui, cinerascete-fuscá vel albidá, nonnunquàm fusco angulatim strigatá, spirá acuminatusculá, anfractibus 5—6, lævibus, lineis spiralibus nonnullis elevatiusculis, ultimá magná, anticè obtusè carinatá, ante peripheriam subplamulatá; aperturá subobliquá, rotundato-subquadratá, peritremate reflexo, supra ultimum anfractum latè interrupto, latere umbilicali

rotundato revoluto ; umbilico parvo, angusto ; operculo tenui, conneo, anfractibus 6-7.

Several varieties of this species were brought from the Philippine Islands by Mr. Cuming ; they are as follows :—

Var. *a.* Shell greyish red. Found on leaves of trees at St. Juan, in the province of Cagayan, island of Luzon.

Var. *b.* Shell white, with angular brown stripes. Same locality as *a.*

Var. *c.* Shell white, with very delicate brownish streaks. Same locality as *a.*

Var. *d.* Shell larger ; white. Found upon palm-leaves near Cata-naun, in the province of Tayabas, island of Luzon.

Var. *e.* Shell small ; white. On leaves of trees at Lallo, in the province of Cagayan.

CYCLOSTOMA LEVE, Gray ; *C. immaculatum*, Chemnitz.

Of this species Mr. Cuming has collected the following varieties, viz.

Var. *a.* Shell white, with an obsolete keel. Found on leaves of trees at Bulinao, province of Zambales.

Var. *b.* Shell whitish, covered with small brown streaks and dots. Same locality as *a.*

Var. *c.* Shell white, with a brown band in front. Same locality as *a.*

Var. *d.* Shell of a pale colour, with a brown circumferential band. Found on leaves of bushes at Sinit, in the province of South Ilocos, island of Luzon.

Var. *e.* Shell pale, with strongly marked irregular stripes of brown. Same locality as *a.*

CYCLOSTOMA PERPLEXUM, nob., Thes. Conch. part 3. pl. 30. f. 243, 244. *Cycl. testá suborbiculari, subconicá, tenui, albidá, pallidè fusco variè nubeculatá, spirá brevi, anfractibus quinque, subrotundatis, levibus, ultimo ad periphæriam subcarinato, posticè lineis levatiusculis distantibus nonnullis munito ; suturá indistinctá ; aperturá subcirculari, peritremate crassiusculo, reflexo, ad ultimum anfractum interrupto, latere umbilicali revoluto ; umbilico mediocri.* Found on bushes at Abulug, isle of Luzon, by Mr. Cuming.

CYCLOSTOMA MUCRONATUM, nob., Thes. Conch. part 3, pl. 25. f. 91. *Cycl. testá suborbiculari, depressá, pallescente-fuscá, tenui, spirá brevi, mucronatá ; anfractibus quatuor, rapidè crescentibus, rotundatis, tenerrimè transversim striatis ; suturá validá ; aperturá circulari, peritremate duplici, externo lato, subreflexo, interno angusto, lineari ; umbilico lato ; operculo multispirali, suturá anfractuum lamellosá, margine canaliculato, intùs nitido.*

Found by Mr. Cuming under decayed leaves at Calauang in Luzon.

CYCLOSTOMA FULVESCENS, nob., Thes. Conch. part 3. pl. 25. f. 79, 80. *Cycl. testá globoso-conicá, tenuiusculá, pallidè brunneá, spirá subacuminatá, anfractibus quinque, rotundatis, confertim spiralitèr striatis, ultimo maximo ; aperturá ferè circulari, peritremate tenui ; suturá distinctá ; umbilico parvo.*

From Madagascar. Sent to Mr. Cuming by Mr. Petit.

CYCLOSTOMA LINGULATUM, nob., Thes. Conch. part 3. pl. 30. f. 208, 209, 210. *Cycl. testá suborbiculari, subdepresso-conoïded, tenuiusculá, lævigatá, pallidè fusco variè maculatá, vel radiatim strigatá, spirá brevi, subacuminatá, apice obtusiusculo; suturá subinconspicud; anfractibus $4\frac{1}{2}$, ventricosiusculis, plerumque acutimarginatis, nonnunquàm margine ultimi rotundato; aperturá circulari, peritremate pallido, plerumque duplici, interno lineari, externo latiori, reflexo, supra umbilicum plus minusve latè extenso; umbilico mediocri; operculo corneo, tenui, multispirali.*

Var. *a.* Distinctly keeled, dark brown, white-spotted near the suture and at the circumference. Found on leaves of bushes in the island of Siquijod.

Var. *b.* Of a pale colour, variously mottled with dark brown. Found in the same locality as var. *a.*

Var. *c.* Of a dark brown colour, with angular radiating white stripes. Found on leaves of bushes at Daleguete, in the island of Zebu.

Var. *d.* Strongly keeled, with dark brown marks radiating from the suture, and speckled with brown. Also from Daleguete.

Var. *e.* Last volution rounded. Found on leaves of bushes at Sibonga, in the island of Zebu.

Var. *f.* Last volution rounded, colour very pale, variously mottled and speckled with brown. Found on leaves of bushes at Loboc, island of Bohol.

Var. *g.* Of a very dark colour, variously mottled, and with the ligulate appendage of the lip very small. Found on leaves of bushes at Argao, in the island of Zebu.

Var. *h.* Of a paler colour, but in other respects like *g.* Found on leaves of bushes at Loboc.

CYCLOSTOMA ATRICAPILLUM, nob., Thes. Conch. part 3. pl. 30. f. 230, 231. *Cycl. testá globoso-pyramidali, tenui, nitiduld, albicante, variè fusco-strigatá, apice nigro, anfractibus 5, subrotundatis, plus minusve obsoletè spiralitèr carinatis; suturá distinctá; aperturá rotundatá, supernè subacuminatá, peritremate acuto, reflexo, latere umbilicali subsinuato, ultimi anfractus interrupto; umbilico parvo; operculo corneo, tenui.*

Mr. Cuming has brought the following varieties, viz. :—

Var. *a.* Nearly white, mottled variously with pale brown. Found on leaves of trees and bushes at Puerto-galero, isle of Mindoro.

Var. *b.* Of a brown colour, with pale mottlings. From the same locality as *a.*

Var. *c.* Of a pale colour mottled with dark brown, and a dark and light brown articulated band in front of the suture. Same locality as *a.*

Var. *d.* Of a pale colour, with dark brown irregular stripes radiating from the suture; paler in front. Same locality as *a.*

Var. *e.* White, with similar radiating dark brown stripes; keel white; brown stripes continued over the front. Found on leaves of trees and bushes at Calapan, island of Mindoro.

CYCLOSTOMA GONIOSTOMA, nob., Thes. Conch. part 3. pl. 30. f. 223,

224. *Cycl. testá suborbiculari, conoidea, margine carinato, tenui, subpellucidá, lævi, albida, fusco variè strigatá, spirá acuminatá, apice nigricante, obtusiusculá; anfractibus 5½, planulatis, ultimo subventricoso, obsolete bi-vel tricarinatis, margine acuto, anticè subplanulato; aperturá rotundato-subtrigondá, anticè subrotundatá, posticè extùsque angulatá, peritremate tenui, angusto, reflexo; umbilico parvo.*

The two following varieties were found by Mr. Cuming at Cagayan, in the province of Misamis, island of Mindanao:—

Var. *a.* Of a pale colour, with dark brown stripes.

Var. *b.* Of an uniform dun colour.

CYCLOSTOMA ACUMINATUM, nob., Thes. Conch. part 3. pl. 30. f. 235.

Cycl. testá subglobosá, pyramidali, tenui, lævi, pellucidá, albicante, spirá acuminatá, apice obtusiusculo, fuscescente, anfractibus sex, rotundatis, substriatis, ultimo magno, cariná ad periphæriam obsoleteiusculá munito, ante carinam planulatiusculo; aperturá subcirculari, posticè subacuminatá, peritremate tenui, reflexo, ad ultimum anfractum interrupto, latere umbilicali subsinuato; umbilico parvo.

Found by Mr. Cuming on leaves of trees at St. Juan, isle of Luzon.

CYCLOSTOMA MINUS, nob., Thes. Conch. part 3. pl. 30. f. 249.

Cycl. testá ovato-oblongá, cylindraceutá, tenui, hyaliná, lævi, nitidá, spirá obtusá, apice quasi truncato; anfractibus 4 ad 5, ventricosis, primis 2 ad 3 minimis, transversim costellatis; aperturá circulari, peritremate reflexo; umbilico nullo.

Found under decayed leaves in the mountains of Igbaras, province of Ilo Ilo, island of Panay, by Mr. Cuming.

CYCLOSTOMA CILIATUM, nob., Thes. Conch. part 3. pl. 30. f. 237, 238.

Cycl. testá suborbiculari, conoidea, tenuiusculá, lævigatá, fulvescente, fusco radiatim strigatá, spirá brevi, submucronatá; apice acuminatiusculo; anfractibus quinque, subrotundatis, ultimo magno, margine carinato (cariná epidermide ciliatá); aperturá circulari, peritremate reflexo, posticè emarginato; umbilico magno; operculo tenui, corneo, multispirali.

Found under stones at Mount Isarog, in the province of South Camarinas, island of Luzon.

CYCLOSTOMA HELICOIDES, nob., Thes. Conch. part 3. pl. 30. f. 245,

246. *Cycl. testá suborbiculari, conoidali, crassiusculá, spirálicè striatá, fulvescente, fusco radiatim strigatá; spirá brevi, acuminatiusculá, anfractibus 5 ad 6, rotundatis, anticè lævibus, posticè spirálicè striatis, obsolete 4- ad 5-carinatis, carinis duabus posticis epidermide ciliatis; aperturá circulari, peritremate duplici, albicante, posticè emarginato, interno tenui, levatiusculo, externo angusto, reflexo; umbilico majusculo; operculo tenui, corneo, multispirali.*

Var. *a.* Dark-coloured. Found under decayed leaves at Gindulman, in the island of Bohol.

Var. *b.* Pale. Found under decayed leaves at Jacna, island of Bohol.

CYCLOSTOMA PARVUM, nob., Thes. Conch. part 3. pl. 31. f. 254, 255. *Cycl. testâ suborbiculari, depresso-conoidâ, tenui, lævigatâ, fulvescente, radiatim fusco strigatâ, spirâ brevi, submucronatâ, anfractibus quinque, rotundatis, tenerrimè spiralitèr striatis, obsoletissimè 4—5-carinatis; aperturâ circulari, peritremate simplici, posticè subemarginato; umbilico magno; operculo corneo, crasso.*

Var. *a.* Found under decayed leaves at Daleguete, island of Zebu.

Var. *b.* Found under decayed leaves at Dingle, isle of Panay.

CYCLOSTOMA MACULOSUM, Thes. Conch. part 3. pl. 31. f. 256, 257.

Cycl. testâ suborbiculari, depressâ, crassiusculâ, lævi, castaneâ, albido-maculosâ, spirâ paululùm levatâ, apice nigricante; anfractibus 4, rotundatis, obsoletè spiralitèr striatis; aperturâ subcirculari, peritremate subincrassato, subreflexo, posticè acuminatiusculo; umbilico maximo, spiralitèr castaneo lineato.

In Mr. Cuming's collection.

Mr. Gulliver then communicated his notes on the blood-corpuscles of the Stanley Musk Deer.

“ Since my observations* have shown that the blood-discs of the Napu Musk Deer (*Moschus Javanicus*, Pallas) are minuter than those hitherto described of any other mammal, the size of the red particles of other allied species has become an interesting question.

“ The following measurements which I have lately made of the blood-discs of the Stanley Musk Deer (*Moschus Stanleyanus*, Gray) are expressed in vulgar fractions of an English inch :—

1-11339	}	Common sizes.
1-10664		

1-16000 Small size.

1- 8000 Large size.

1-10825 Average.

“ Hence the corpuscles of this animal are nearly as minute as those of the Napu Musk Deer and smaller than those of the Ibex and of the Goat, as may be seen by a reference to the comparative measurements given of the corpuscles of the three last-named animals in my paper on the blood-corpuscles of the Ibex, published in the Proceedings of this Society, August 9, 1842.”

Various species of Bats from the Philippine Islands, collected by Hugh Cuming, Esq., Corresponding Member, were placed on the table, and Mr. Waterhouse read his notes relating to them. He observed that the specimens exhibited formed part only of the extensive series brought home, and that he should lay the remaining portion before the Society on a future occasion.

Of the genus *Pteropus*, as now restricted, Mr. Cuming's collection

* Trans. Roy. Med. Ch. Soc. v. 23; Dublin Med. Press, Nov. 27, 1839; Froriep's Notizen, No. 268; Valentin's Repertorium, 1840; Appendix to Gerber's Anat., pp. 5 and 44.

contained two species: one is undoubtedly the *Pteropus jubatus* of Eschscholtz; the other is perhaps new. It is rather less than the *Pteropus Edwardsii*, and does not agree precisely with any of the descriptions given by Temminck in his 'Monographies.' The head is rusty yellow, slightly tinted with brownish on the muzzle and around the eye; the back of the neck, down to the shoulder, is of a beautiful golden rust-colour; the hair here is loose, but from the shoulder downwards the hair is of a harsher nature, closely applied to the body, and is of a very deep brown hue, but somewhat tinted with rust-colour near the thigh; the throat is of a deep chocolate-brown colour, and the under parts of the body are of a bright rust tint, excepting at the sides, where a dusky hue prevails; the hair on the humerus and on the under side of the membrane is nearly black. The interfemoral membrane is very narrow and much hidden by the fur. The principal dimensions are—

	in.	lin.
Total length	9	6
Expanse of the wings	32	0
From the tip of the muzzle to the ear	2	2
Length of ear	0	10
Depth of interfemoral membrane about	0	6

The collection contains but one specimen of this species, and that is preserved in spirit; I will not venture therefore to apply a specific name, having such imperfect materials.

Of the genus *Pachysoma* the collection contains three species—*P. amplexicaudatum* (Geoff.), *P. titthæcheilum* (Temm.), and the *P. brevicaudatum* (Is. Geoff.).

Macroglossus minimus (*Pteropus minimus*, Geoff.).—Of this species I find three specimens in the present collection. In all, the membranes of the wings, &c. are of a rich reddish brown colour.

Genus *Rhinolophus*.—Four species of this genus were brought home by Mr. Cuming. The first and largest species, I can feel no doubt, having examined its skull in combination with the external characters, is the *R. nobilis*, Horsf. The second I have pretty clearly identified with the *R. bicolor* of Temminck, and the other two are, I believe, undescribed. Their characters may be thus expressed:—

RHINOLOPHUS PYGMÆUS. *Rhin. prosthemate superiore semicirculari; corpore suprâ nigricante (pilis ad basin albescentibus), subtus cinerescente; auribus acutis ad latus exterius distinctè emarginatis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin.	1	5
———— caudæ	0	10 $\frac{1}{2}$
———— auris	0	4 $\frac{1}{4}$
———— antibrachii	1	5 $\frac{3}{4}$
Alarum amplitudo	8	6

This small species is almost of an uniform sooty colour (as seen in spirit), but the under parts are inclining to grey; and the fur on the back, though blackish externally, is nearly white next the skin; the hair on the lips and chin is white. The membranous appendages

of the nose are of considerable extent, and, taken together, they form an oval figure; this is transversely divided near the middle by a slight fleshy ridge; the membrane in front of this ridge, and which encircles the nostril-openings, has its edges free, and on each side of the muzzle are two distinct longitudinal narrow folds of membrane, situated partially under the free edge of the membrane which encircles the nostrils: behind the transverse mesial ridge is what may be termed the posterior nose-leaf; this is of a semicircular form, has its margin thickened and raised, and sending forwards to the transverse ridge just mentioned three small ridges, dividing the interspace into four little hollows or pits. The ears are of moderate size, acute at the point, and have the outer margin distinctly emarginated. On the lips are some indistinct warts, and on the tip of the lower lip are two which are more prominent and distinct.

The *R. pygmæus* approaches somewhat to the *R. bicolor*, but differs not only in colour, but in having the ears smaller and distinctly emarginated externally; the hinder nose-leaf is larger. It approaches in size the *R. tricuspidatus*. The ears are larger than in that species, and the nose-leaf is also larger, considerably more extended in the antero-posterior direction, and differs moreover in structure.

RHINOLOPHUS PHILIPPINENSIS. *Rhinol. suprâ obscure fuscus, subtus fusco-cinerescens; auribus magnis, subacutis, ad latus exterius emarginatis, et lobo magno accessorio, ad apicem rotundato, instructis; prosthemate maximo lobo posteriore lanceolato, anteriore valde elevato, ad apicem truncato, ad basin dilatato, hoc ferreo equino membraneo circumdato.*

	unc. lin.
Longitudo capitis cum corpore	1 11
——— caudæ	1 0
——— aurium	0 11
——— antibrachii	1 10
Alarum amplitudo	10 6

This species belongs to the same section as the *Rhinolophus ferrum-equinum*,—the second section of Temminck's 'Monographies,'—and approaches most nearly to the *R. euryotis* of that author, from which however it may be readily distinguished by the much larger size of the accessory lobe of the ear, and the truncated form of the foremost of the two membranaceous nasal appendages. It also approaches, in the large size of the ears and great development of the nasal appendages, the *R. luctus* of Temminck, but is of smaller size; the ears are rather less acutely pointed; the accessory lobe at the base is longer and proportionally narrower, and the proportions of the nasal membrane differ. In spirit the colour of the fur is very dark brown; on the under parts of the body rather paler than on the upper, and inclining to greyish. The nasal membranous appendages are very complicated, and being evidently on the same type as the *R. luctus*, I will compare them with the corresponding parts as shown in Temminck's figure of that species. The large decumbent horse-shoe

membrane is the same as in *luctus*, and similarly notched in front. The foremost of the two elevated appendages is nearly the same, but the lateral lobes at the base are less produced and considerably smaller; joining these lobes on each side is a small membranous fold extending outwards and backwards, and is attached to the horse-shoe membrane. The posterior lobe is lanceolate and more pointed than in *luctus*, has a transverse fold near its base as in that species, and is joined to the anterior truncated elevated lobe by a longitudinally elevated membrane. The height of the posterior lanceolate lobe is $3\frac{1}{4}$ lines, and of the anterior lobe $2\frac{3}{4}$ lines, or rather more. On the side of the muzzle is a longitudinal fleshy ridge. The chin presents four warts, two at the tip and one on each side of these. The extreme point of the tail is free, the free portion being however not more than half a line in length.

Lastly, Mr. Waterhouse called attention to a new species of *Megaderma*.

MEGADERMA PHILIPPINENSIS. *Meg. supra cinereo-fuscus, subtùs cinereus; prosthemate verticali, ferè ovali, ad apicem subtruncato, horizontali, paulò minori, cordiformi; auribus permagnis, trago elongato, attenuato, acuto, ad basin, anticè, lobo mediocri acuto instructo.*

	unc.	lin.
Longitudo capitis cum corpore	2	8
———— aurium	1	$1\frac{1}{2}$ *
———— antibrachii	2	$1\frac{1}{4}$
Alarum amplitudo	12	9

This species, of which Mr. Cuming's collection contains several specimens, agrees closely with the *M. trifolium* of Geoffroy in having the foremost nose-leaf broader and the hinder one shorter and broader than in *M. Lyra*; but it differs from the *M. trifolium* in the form of the tragus of the ear, this not presenting the character which suggested the specific name; it differs moreover (judging from M. Geoffroy's figure) in having the ears considerably larger, and not quite so deeply cleft. The whole length of the divided nose-leaf is $5\frac{3}{4}$ lines, of which the anterior cordiform portion is rather less than half; the greatest width of the posterior portion is nearly $3\frac{1}{4}$ lines, and of the anterior portion $3\frac{2}{3}$ or nearly $3\frac{5}{4}$ lines. The length of the tragus of the ear is $8\frac{1}{3}$ lines; it is very narrow and acutely pointed, and at the base has a small nearly triangular lobe about two lines in length.

The specimens from which my description is taken are preserved in spirit, consequently the proportions given of the nose-leaf, &c. are likely to be more accurate than were they preserved in a dry state.

Mr. Fraser pointed out the distinguishing characters of a new species of Partridge which had recently died at the Society's menagerie. Several specimens of this species, for which Mr. Fraser pro-

* I measure the height of the ears externally from the crown of the head.

posed the name *Perdix Bonhami*, were procured at Tehran, in Persia, by Edward W. Bonham, Esq., H.M. agent at Tabreez, Persia, and presented to the Society by that gentleman, together with a living specimen of the *Tetraogallus Nigelli* from the same locality, which having died had been stuffed, and was exhibited at the Meeting. The new Partridge was thus characterized :—

PERDIX BONHAMI. *Perd. arenaceo-flava, plumis nigro adspersis præsertim apud latera, collum et pectus, hoc notd circulari ornato; strigis superciliaribus subocularibus, et frontalibus nigris; plumis auricularibus albis, laterum plumis nigro-marginatis; rectricibus caudæ quatuor externis crissoque rufis; rostro corneo.*

Fœmina distinctiùs adspersa, quamvis notis nigris auribusque albis, maris signis, caret.

This species is nearly allied to *Perdix Heyi*, Temm. Pl. Col., but is readily distinguished from that bird by the black stripes about the head of the male. The female differs in having a more mottled appearance.

Mr. Yarrell exhibited a specimen of the *Puffinus obscurus* from the Dardanelles, and called attention to some peculiarities in its habits, as pointed out in the 'Familiar History of Birds,' &c. by the Rev. Edward Stanley (now Bishop of Norwich), to whom the specimen belonged. Considerable interest is attached to the bird exhibited, since, though often alluded to by travellers who have visited the Dardanelles (but under native names only), naturalists were not aware to what species the accounts referred; and moreover certain prejudices of the inhabitants render it extremely difficult to procure this species of Petrel from the locality mentioned.

May 23, 1843.

R. C. Griffith, Esq., in the Chair.

Mr. Cuming communicated the following paper by M. Récluz, being descriptions of various new species of Shells belonging to the genus *Nerita*, from his collection.

NERITA POWISIANA. *Ner. testâ ovato-transversâ, ventricosâ, supernè depresso-planiusculâ, variè pictâ; spirâ brevissimâ, derosâ, auriculâ elevatâ, marginatâ; aperturâ ovatâ, dilatatâ, externè subrectâ; labio planissimo, anticè recto, acuto et sub lente ruguloso.*

Var. *α.* *Testâ lutescente, nebulis pallidis vix purpurascensibus variegatâ.*

Var. *β.* *Testâ ut in var. α, maculis nigerrimis characteriformibus, triseriatim cinctâ.*

Var. *γ.* *Testâ luteo-fuscescente, lineolis nigris undulatis, longitudinalibus, densè notatâ.*

Hab. Var. *α* and *β*, New Ireland, in mountain-streams, by R. B. Hinds, Esq., Surgeon of H.M.S. Sulphur.

Long. 19 mill.; lat. 14 mill.; convex. 12 mill.

Species valdè mirabilis. Var. *γ.* *Hab.* —? Mr. Powis.

NERITA TURTONI. *Ner. testâ ventricoso-ovatâ, luteo-rufâ seu rubicundâ, flammis nigrescentibus undatis, remotisque, sive angulato-flexuosis pictâ; anfractibus 4–5, convexis, supremis derosis: infimo supernè horizontaliter depresso; labio subconvexo, fusco-rubente, margine in medio tenuiter crenato, basi leviter emarginato; labro intùs calloso-albo, ad marginem fusco rubente.*

Hab. —? Mr. Powis.

Long. 15½ mill.; lat. 13 ad 14 mill.

Neritæ variegatæ, Lesson (*Ner. pulchra*, Sowerby), valdè affinis.

NERITA NEBULATA. *Ner. testâ ovato-globosâ, tenuiter striatâ, luteo-fuscescente, lineis nigris squamæformibus parvulis nebulatâ; spirâ prominulâ, rotundatâ; labio angustato, subconvexo, margine reliusculo, crenulato, flavescente; labro semi-ovato, intùs cærulescente, margine flavo.*

Hab. Immimaylan, in a mountain-stream.

Long. 10 mill.; lat. 11 mill.; convex. 8 mill.

NERITA MERTONIANA. *Ner. testâ ovato-globosâ, maculis pallidè lutescentibus zonisque articulatis nigro-purpurascensibus fimbriatis cinctâ; spirâ vix prominente, rotundatâ, apice eroso; aperturâ obliquâ, luteolâ; labio subconvexo, angusto, margine tenuè arcuato et crenulato.*

Var. *β.* *Testa major, lineolis intricatis picta.*

Hab. cum præcedente.

Long. 9 ad 10 mill. ; lat. 11 ad 11 $\frac{5}{8}$ mill. ; convex. 7 $\frac{5}{8}$ ad 8 mill.

Affinis *Neritæ Oualaniensis*, Lesson, sed major, solidior, minus rotundata et variegata : non var. robustior.

NERITA MICHAUDIANA, Récluz in Rév. Cuvérienne, Paris 1841.

Var. β . *Testa rotundata, suprà medium spinis angustis brevibusque armata.*

Hab. cum typo ad “ Bunang, province of Pangasinan, isle of Luzon, on small stones on the bank of a river.” DD. Souleyet et Cuming invenierunt.

NERITA JOVIS. *Ner. testá ventricoso-ovatá, nigrá, lineolis angulato-flexuosis fulgurantibusve albis pictá, punctatáque; anfractibus quinis convexis; spirá conico-depressá, nigro-violascente, albo punctatá, acutá; aperturá albo-virescente; labio plano, margine in medio vix arcuato ac denticulato.*

Hab. — ? Mr. Powis.

Neritinæ lugubris, Lamarck, valdè affinis, sed solidior, minor, colore denique propria.

NERITA CUPRINA. *Ner. testá ventricoso-oblongá, subepidermide cupreo-micante nigrá, lineolis angulato-flexuosis densissimè pictá; anfractibus 4-5 ? convexis, supernè rotundatiusculis; apice deroso; labio plano, lutescente, in margine vix arcuato et denticulato, basi subemarginato; labro intùs albido-cærulescente, ad marginem luteo-viridescente.*

Hab. — ? Mr. Powis.

Long. 12 mill. ; lat. 11 mill.

Affinis *Neritæ Royssianæ*, Récl., sed colore et epidermide notabili diversa.

NERITA PFEIFFERIANA. *Ner. testá ventricoso-ovatá, nigrá, albido-lutescente bizonatá; zoná medianá spiram decurrente; anfractibus quaternis, convexis, ad suturam minimè marginatis; apice decorticato, obtusiusculo; aperturá rotundatá; labio compresso, concaviusculo, albido, in margine arcuatim ac obtusè denticulato; denticulis obsoletis, cardinali productiusculo; labro dilatato, tenui, nigro-cærulescente et luteo quadrifasciato.*

Hab. From New Ireland, in a mountain-stream, by R. B. Hinds, Esq.

Long. 8 mill. ; lat. 7 mill. ; convex. 4 mill.

Species elegans, rarissima. *Columella extùs zoná angustá, e punctis moniliformibus seriatis cincta.*

NERITA APIATA. *Ner. testá ventricoso-globosá, tenuissimá, rugosá, subepidermide olivaceá fusco-violascente, lituris transversis albidis pictá; anfractibus quaternis supernè depresso-planulatis; spirá prominulá, apice pulchrè croceo, hyalino; aperturá dilatatá; labio semilunari, nigrescente externè zonato, anticè albo, recto, integer-rimo.*

Hab. Island of Negros; in mountain-streams, on stones.

Long. 11 mill. ; lat. $14\frac{1}{2}$ mill. ; convex. $10\frac{1}{2}$ mill.

Affinis variet. *Nerite dubia*, sed columella basi non emarginata diversa est. Columella in centro parùm inflexa.

NERITA DONOVANA. *Ner. testâ semiglobosâ, tenuiter et densè striatâ, viridescente, lineis obliquis purpureo-nigris, undatis, æquidistantibus ornatâ; anfractibus tribus convexis, supra medium spinis curvatis armatis; apice deroso; aperturâ cærulescente, basi effusâ angulatâque; labio angusto, supernè calloso, basi concavo, margine subrecto, denticulato; dente cardinali majori.*

Var. β . *Ovata, nitida, maculis viridibus et purpureis, densè intricata; ultimo anfractu supernè ascendente; spirâ prominulâ, convexâ.*

Hab. Island of Guimaras, on stones in a small stream.

Long. $12\frac{1}{2}$ mill. ; lat. 15 mill. ; convex. 10 mill.

Var. β . Long. 14 mill. ; lat. 15 mill. ; convex. 11 mill.

Living examples of two species of *Hypsiprymnus*, belonging to the Right Hon. the Earl of Derby (President), were exhibited.

June 13, 1843.

Prof. Rymer Jones in the Chair.

A white variety of the Irish Hare (*Lepus Hibernicus*, Yarrell), presented by Robert Leslie Ogilby, Esq., was exhibited.

The following Notes by Prof. E. Forbes, on the species of *Neæra* (Gray) inhabiting the Egean Sea, were read:—

“Among the Mollusca inhabiting the seas of the Grecian Archipelago are four species of the genus *Neæra*, two of which have been previously described, and two are apparently new.

“The described species are the *Neæra cuspidata*, a well-known shell, and the type of the genus, extensively distributed throughout the European seas. In the Egean it is scarce, but by no means local; and of all the Greek species, is that found in the shallowest water. The second described species is the *Neæra costellata*, a beautiful bivalve hitherto recorded only in the fossil state. It was described and figured by M. Deshayes in the great French work on the Morea, from specimens found in the tertiary strata of that country. I have taken it not unfrequently in the Egean, sometimes alive and at considerable depths, even below 100 fathoms.

“Of the new species, one is nearly allied to *Neæra cuspidata*, and appears to replace it in the deeper parts of the Egean. I have called it

NEÆRA ATTENUATA. *N. testâ oblongâ, obsolete striatâ, anticè rotundatâ, superiore subangulatâ, posticè longi-rostratâ; rostro angusto, areâ lineari transversè striatâ; umbonibus obtusis; dente laterali in valvulâ superiori lineari.* Long. $0\frac{5}{10}$; lat. $0\frac{2}{10}$.

“The second is an anormal and aberrant form, differing in its hinge characters from the other Egean species. It inhabits very deep water, even to 200 fathoms, and I have never taken it in less than 100. I have never met with it alive.”

NEÆRA ABBREVIATA. *N. testâ suborbiculari, transversè leviter sulcatâ, anticè rotundatâ, posticè brevi-rostratâ; rostro lato, areâ obsoleteâ; umbonibus acutissimis; dente laterali obsoleteo.*

The following paper was then read:—

“Descriptions of new species of *Neæra*, from the collection of Sir Edward Belcher, C.B., made during a voyage round the world, and from that of Hugh Cuming, Esq., obtained during his visit to the Philippines; with notices of the synonymy.” By Mr. Hinds.

The number of species of *Neæra*, Gray, now on record permits us to generalize on their geographic distribution. They are all found in Nos. CXXV. CXXVI. & CXXVII.—PROC. OF THE ZOOL. SOC.

water of greater or less depth, and spread over a wide extent of latitude; the larger proportion are found in the seas of warm climates, particularly of the Indian Ocean. In the Atlantic the group is met with in a high northern latitude, but the number of species gradually diminishes towards the seas of temperate or cold climates. A few of the recent species are found in a fossil state in the more recent tertiary deposits, and there are some fossil species which hitherto have not been noticed in a recent state. The individuality of the genus has also been maintained by M. Nardo, who has called it *Cuspidaria*.

NEÆRA ROSTRATA, Chemnitz (sp.).

Mya rostrata, Chem., vol. xi. p. 195. vig. C, D.; Dillwyn, Cat. vol. i. p. 45.

Anatina longirostris, Lamarck, Hist. des An. sans Vert., ed. Deshayes, vol. vi. p. 78.

Neæra chinensis, Gray. Griffith's Ed. of Cuvier's An. Kingd., Mollusca, pl. 2. f. 5.

Neæra chinensis, *ibid.* Index.

Corbula rostrata, Deshayes, ed. Lamarck. Note. Hanley's species of Lamarck.

Hab. China.

Cab. Cuming.

NEÆRA CUSPIDATA, Olivi (sp.).

Tellina cuspidata, Olivi, Zool. Adriatic, p. 101. pl. 4. f. 1.

Erycina cuspidata, Risso, Hist. Nat. des environs de Nice, t. iv. p. 366. f. 170.

Hab. As a recent shell it inhabits deep water in the Adriatic Sea; Northumberland; also the north-west coast of Sweden. Nor can I perceive any specific difference in the valve of a shell obtained from eighty-four fathoms in the China Sea, the temperature below being 66°, and at the surface 83°, except that it is the portion of a much larger shell. As a fossil it is described by Risso from 'Trinité,' and also abounds in Sicily.

NEÆRA HYALINA. *N. testá magná, diaphaná, ventricosá, anticè rotundatá, posticè subrostratá, rotundatá; valvis subæqualibus; epidermide tenui, scabrâ, indutâ.* Long. 11; lat. 7; alt. 8 lin.

Neæra hyalina, Sowerby, *ined.*

Hab. China; Mr. G. B. Sowerby.

Cab. Cuming et Belcher.

My regard for the conchological attainments of Mr. G. B. Sowerby has induced me to adopt his cabinet name for this shell.

NEÆRA ELEGANS. *N. testá oblongá, tenui, lineis salientibus transversis ornatá; rostro angulato, corrugato; valvarum margine ventrali acuto, simplici.* Long. 8; lat. 4; alt. 4½ lin.

Hab. New Guinea, China Sea, and Singapore. On a muddy floor, in from seven to eighteen fathoms.

Cab. Belcher et Cuming.

NEÆRA COSTELLATA, Deshayes (sp.).

Corbula costellata, Deshayes, Géologie de la Grèce, *Mollusques*, pl. 7. f. 1, 2, 3.

Hab. Originally described as a fossil by Deshayes, but has been subsequently obtained recent by Professor Forbes in the Adriatic Sea. A pair of valves is in the collection of Mr. Cuming, purporting as coming from the north-west coast of Sweden, and has the name of *Neæra sulcata* attached to them.

NEÆRA COSTATA, Sow. (sp.)

Anatina costata, Sowerby, Proc. Zool. Soc. 1834, p. 87.

Hab. The west coast of America, between 2° 47' and 8° 5' north lat., namely at St. Helena, from six fathoms, sandy mud; Magnetic Island, twenty-two fathoms; and coast of Veragua, twenty-six fathoms, mud.

Cab. Belcher et Cuming.

NEÆRA GOULDIANA. *N. testâ oblongâ, fragili, hyalinâ, ventricosâ; costis duodecim radiantibus; valvis valdè inæqualibus; rostro lincis tribus obliquis elevatis.* Long. $3\frac{1}{2}$; lat. $1\frac{1}{2}$; alt. 2 lin.

Hab. New Guinea; Cagayan, island of Mindanao; and Bay of Manila, Philippines: in from seven to thirty fathoms, sandy mud.

Cab. Cuming et Belcher,

The specific name is in honour of Dr. Gould, the author of the able and luminous Report on the Mollusca of Massachusetts.

NEÆRA SINGAPORENSIS. *N. testâ oblongâ, fragili, hyalinâ, ventricosâ, costis 17-20 radiantibus; valvis inæqualibus; rostro breviusculo, lineis tribus obliquis elevatis.* Long. $2\frac{2}{3}$; lat. $1\frac{1}{3}$; alt. $1\frac{2}{3}$ lin.

Hab. Singapore; in seven fathoms, mud.

Cab. Cuming. A single specimen.

A shell so very similar to *N. Gouldiana* that it might most easily be confounded with it. In that species however I find the number of radiating ribs to be so constant in a number of individuals, that I must regard it a good diagnostic character. The present species then will be found to differ from it in its smaller size, diminished number of radiating ribs, and shorter beak.

NEÆRA CASTA. *N. testâ oblongâ, fragili, hyalinâ, ventricosâ; costis numerosis radiantibus, minoribus alternantibus, transversè subtilissimè striatâ; rostro breviusculo, parvo, lineis obliquis elevatis instructo.* Long. $2\frac{1}{3}$; lat. $1\frac{1}{3}$; alt. $1\frac{1}{2}$ lin.

Hab. New Guinea; dredged from a muddy floor in seven fathoms.

Cab. Belcher.

NEÆRA CONCINNA. *N. testâ oblongâ, fragili, subplanulatâ; costis numerosis, parvis, confertis, ultimâ maximâ; valvis subæqualibus; rostro parvo, breviusculo, lineis tribus obliquis elevatis instructo.* Long. $2\frac{1}{3}$; lat. 1; alt. $1\frac{1}{2}$ lin.

Hab. —?

Cab. Cuming.

NEÆRA DIDYMA. *N. testá oblongá, lævigatá, albá; costis duabus radiantibus; margine dorsali antico prominulo; rostro lato, subtruncato.* Long. 3; lat. 2; alt. 2 lin.

Hab. The west coast of Veragua, in twenty-six fathoms, mud; in society with *N. costata*.

Cab. Belcher.

On the anterior and ventral margin there is a disposition to the formation of a number of small ribs; the shell is otherwise smooth and left to the occupation of the two prominent ribs, which eminently distinguish it.

NEÆRA ROSEA. *N. testá oblongá, albidd, epidermide tenui striatá indutá; valvis inæqualibus, dextrá majori; rostro attenuato, roseo.* Long. $3\frac{1}{2}$; lat. $1\frac{2}{3}$; alt. 2 lin.

Hab. New Guinea, in seven fathoms, mud; Cagayan, island of Mindanao; San Nicholas, island of Zebu, Philippines, in from five to thirty fathoms, sandy mud.

Cab. Belcher et Cuming.

Not unlike diminutive specimens of *N. cuspidata*; the anterior portion of the shell, however, does not occupy more than a third of its entire length; the beak is more attenuated and of a rose-colour; and I cannot perceive any vestige of the angular line which extends posteriorly from the umbo.

NEÆRA PHILIPPINENSIS. *N. testá oblongá, albidd, subplanulatá, epidermide tenui striatá indutá, in rostro brevi attenuatá; valvis inæqualibus, dextrá minori.* Long. $2\frac{1}{3}$; lat. 1; alt. $1\frac{1}{2}$ lin.

Hab. Cagayan, island of Mindanao, and Batangas, island of Luzon, Philippines; in from twenty to thirty fathoms, sandy mud.

Cab. Cuming.

NEÆRA TRIGONA. *N. testá trigoná, albá, minutè sulcatá; laterè antico retuso; rostro brevissimo, obliquo.* Long. $2\frac{1}{3}$; lat. $1\frac{1}{2}$; alt. $1\frac{2}{3}$ lin.

Hab. ———?

Cab. Cuming.

NEÆRA IRIDESCENS. *N. testá albidd, ventricosá, lævigatá, politá; valvis æqualibus, margine ventrali posticè emarginato; retusè rostratá.* Long. 8; lat. 4; alt. $5\frac{1}{2}$ lin.

Hab. Sual, island of Luzon, Philippines; from five to seven fathoms, sandy mud.

NEÆRA OPALINA. *N. testá ovali, hyalind, lævigatá, politá, subplanulatá; valvis æqualibus; rostro gradatim elongato, obtuso.* Long. 6; lat. 2; alt. $4\frac{1}{3}$ lin.

Hab. Bassey, island of Samar, Philippines; from four fathoms, among coarse sand and mud.

Cab. Cuming.

In the foregoing ventricose species the anterior portion of the shell is considerably dominant. In this flatter species the greater bulk is devoted to the formation of the rostrum.

NEÆRA LATA. *N. testá ovali, albidd, planulatá, iridescente, lævigatá, politá; valvis æqualibus; rostro lato, gradatim attenuato, planulato, obtuso; margine ventrali posticè submarginato.* Long. 12; lat. 4; alt. 7 lin.

Hab. Catbalonga, island of Samar, Philippines; from ten fathoms, soft mud.

Cab. Cuming.

These three latter species are aberrant, and hold the same relations to *Neæra* as *Nucula arctica*, Brod. et Sow., and its congeners do to that genus.

Various species of *Mammalia* from Coban, in Central America, were exhibited. These specimens were from Mr. J. Gray, who in a letter addressed to the Curator, which accompanied them, observes that the collection contains the following species: viz. *Mustela frenata*, Licht., *Didelphys Quica*, *Heteromys Desmarestiana*, *Corsira tropicalis*, *Corsira Temlyas*, *Saccophorus Quachil*, *Mus Tazamaca*, and *Mus Tegua*; all of which species, with the exception of the first two, are new to science.

“Descriptions of new species of Shells about to be figured in the ‘Conchologia Iconica,’” by Mr. Lovell Reeve, were read.

Genus CONUS.

CONUS VIDUA. *Con. testá turbinatá, albd, fusco subtilissimè reticulatá, reticulis ruptis, subsparsis; fasciis binis nigerrimo-fuscis, maculis albis sparsis, irregulariter punctatis, cinctá; spirá concavo-depressá, coronatá, apice subobtusó.*

Conch. Icon., Conus, pl. 8. f. 45 *a* and *b*.

Hab. Island of Capul, Philippines (on the reefs); Cuming.

This curiously mottled Cone presents a somewhat different style of painting from the proximate species *C. Nicobaricus* and *nocturnus*.

CONUS FURVUS. *Con. testá elongato-turbinatá, angustá, lævi, spirá elatá; luteold, fasciis duabus, latis, furvo-fuscis, cingulatá; aper-turá lineari.*

Conch. Icon., Conus, pl. 13. f. 69.

Hab. Islands of Ticao and Masbate, Philippines (found in sandy mud at low water); Cuming.

I have to thank Mr. Adamson of Newcastle for sending me this new and interesting Cone, a few specimens of which have been collected by Mr. Cuming in the localities above noted.

Genus PECTUNCULUS.

PECTUNCULUS BICOLOR. *Pect. testá suborbiculari, umbones versus attenuatá, longitudinaliter sulcatá, sulcis numerosis, angustis; albidá, violaceo-nebulosá, maculis trigonis ferruginco-rubidis irregulariter pictá.*

Conch. Icon., Pectunculus, pl. 5. f. 20.

Hab. Gulf of California.

Mr. Gray appears to have mistaken this shell (Zoology of Becchey’s Voyage in the Blossom) for the *Pectunculus inæqualis*.

PECTUNCULUS PALLIUM. *Pect. testâ obliquè ovatâ, subquadratâ, radiatim costatâ, costis levibus, prope marginem subobsoletis; luteolâ, maculis rubidis, quadratis, sparsis, vividè pictâ.*

Conch. Icon., *Pectunculus*, pl. 5. f. 21.

Hab. Zanzibar.

This shell may be easily recognised by the dark ruddy spots which are sparingly scattered here and there upon the warm uniform ground which covers the surface. The cardinal portion of the shell is rather solid.

PECTUNCULUS NODOSUS. *Pect. testâ suborbiculari, fulvo, furvo castaneove variegatâ; radiatim costatâ, costis nodosis; intus albidâ, anticè fuscescente.*

Conch. Icon., *Pectunculus*, pl. 5. f. 21.

Hab. Ceylon.

The knobs on the ribs, by which this shell is chiefly characterized, are much more strongly developed on the posterior side of the shell; on the anterior side they are almost obsolete.

PECTUNCULUS LINEATUS. *Pect. testâ orbiculari, convexâ, subauriculatâ; decussatim striatâ, striis longitudinalibus fortioribus; albidâ, posticè et medianè maculis castaneis irregulariter nebulosâ, anticè lineis longitudinalibus castaneis vividè pictâ; umbonibus centralibus.*

Conch. Icon., *Pectunculus*, pl. 5. f. 25.

Hab. West Indies.

The painting of this species is not much unlike that of the *Pectunculus pennaceus*; the anterior side of the shell, however, is white and very peculiarly lined.

PECTUNCULUS OBLIQUUS. *Pect. testâ transversâ, obliquè ovatâ; albido-rufescente, maculis cuspidiformibus spadiceis profusè pictâ; intus nigerrimo-fuscâ; umbonibus centralibus.*

Conch. Icon., *Pectunculus*, pl. 6. f. 33.

Hab. Swan River.

The whole of the inside of this shell, with the exception of the anterior margin and muscular impression, is of a very deep blackish brown.

PECTUNCULUS TELLINEFORMIS. *Pect. testâ ovatâ, transversâ, subdepressâ, radiatim costatâ, costis subobsoletis; albidâ, anticè et supernè carneo-fusco tinctâ; intus subfuscâ, posticè albicante; umbonibus vix obliquis.*

Conch. Icon., *Pectunculus*, pl. 6. f. 34.

Hab. Rio Janeiro.

This shell differs from the preceding in being more transverse and faintly ribbed; the interior is not so dark, nor does the outer surface exhibit the least indication of any spots or other dark marks.

PECTUNCULUS TENUICOSTATUS. *Pect. testâ orbiculari, subventricosâ, subtilissimè costatâ, costis quasi filis, numerosis, interstitiis epidermide lineariter insertâ; fuscescente, costis pallidioribus; umbonibus subcentralibus.*

Conch. Icon., *Pectunculus*, pl. 6. f. 35.

Hab. Australia.

The valves of this shell are entirely covered with beautiful thread-like ribs, and the interstices are filled with fine roots of epidermis, arranged in from three to four rows.

Mr. Gould read a paper on the habits of *Leipoa*, drawn up from accounts which he had recently received from His Excellency G. Grey, Governor of South Australia, and Mr. Gilbert. The notes of these two careful observers, though made in distant parts of Australia, were confirmatory in all essential particulars of the account of the habits of this curious bird as published by Mr. Gould in his work on the Birds of Australia. The notes moreover contained various interesting additional facts, and were illustrated by sectional drawings of the mound constructed for the deposit of the eggs.

Mr. Gould then called attention to a new species of Kangaroo-rat, which he exhibited, and thus characterizes:—

BETTONGIA CAMPESTRIS. *Bett. vellere longo, molli; corpore suprâ fusco, albo-penicillato, subtùs sordidè albo; auribus mediocribus intùs pilis sordidè albis, subflavescentibus tinctis; tarsi longi, graciles, pilis pallidis, flavescenti-lavatis; caudâ longâ (capite corporeque ferè æquante) plerumque pilis brevibus, adpressis, pallidè rufo-flavescentibus vestitâ, subtùs et ad apicem pallidiore.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin. . . .	15	9
————— ad basin auris	2	8
————— <i>auris</i>	1	1
————— <i>caudæ</i>	14	0
————— <i>tarsi digitorumque</i>	4	10

Hab. South Australia.

In the texture and colouring of the fur this little animal greatly resembles the common European Hare. The under-fur is dense, long and soft; grey next the skin, and sooty brown externally; but this last colour is confined to the tip of each hair, there being a considerable space between the grey and brown portions, which is of a very pale yellowish brown: interspersed with the under-fur (especially on the back) is an abundance of very long and harsher hairs, the visible portion of which is of a brownish white colour, except the extreme point of each hair, which is blackish. The sides of the body are of a pale dirty yellowish tint, and the under parts are dirty white. The feet and tail are of an uniform very pale yellowish brown. The ears are short and rounded, but with the apical portion slightly contracted in width; they are well-clothed with pale dirty yellowish hairs, except on the fore-part of the outer side, where there is an admixture of deep brown hairs.

The following "Notices of Fishes newly observed or discovered in Madeira during the years 1840, 1841, and 1842," by the Rev. R. T. Lowe, M.A., Corresponding Member of the Zoological Society, were communicated to the Meeting.

Family SCOMBRIDÆ.

Genus SERIOLA, Cuv. and Val.

SERIOLA GRACILIS. *Ser. elongata, fusiformis; capite cubico, lateribus declivibus planis, oculis magnis: pinna dorsali prima triangulari, secunda altiore; secundæ analisque (antice elevatis) radiis posterioribus subproductis, in pinnulas subsecedentibus; pectoralibus lanceolatis elongatis, capite longioribus; ventralibus mediocribus.*

1^{ma} D. 9; 2^{da} D. 3 + 20; A. 3 + 20; P. 24; V. 1 + 5; C. $\frac{4+IX.}{4+VIII.}$;

M. B. 6. Squamæ lin. lat. 60.

A single individual of this species has occurred, said to have been thrown up in a gale. It measured six inches and three quarters in length. Its nearest ally is *S. bipinnulata* (Quoy et Gaim.), Jen. in Darw. Fish. p. 72. Like that species, it has no spine inclining forwards before the dorsal, nor any free spines before the anal fin; but in the more complete connection and regularity of the hinder rays of the second dorsal and of the anal fins, it possesses a degree more of the typical Serioline character than that species. Still it is not unlikely that a comparison of the two fishes may warrant, on some future occasion, their separation from *Seriola* into a genus, which may be called *Cubiceps*.

The lower jaw shuts within the upper, like a box-lid; forcibly reminding the observer of *Tetragonurus*, for a battered or bleached state of which fish this example might have been easily mistaken.

The colour was an uniform pale dull grey, with the fins and towards the back darker and brownish.

Fam. CORYPHÆNIDÆ.

BRAMA LONGIPINNIS. *B. corpore abbreviato alto: squamis postice caudam versus antrorsum aculeato-umbonatis; pinna dorsali analique antice longe falcato-productis.*

D. 4 + 31; A. 2 + 26; P. 20; V. 1 + 5; C. $\frac{4+IX.}{4+VIII.}$; M. B. 7;

Sq. lin. lat. 41-45.

Though founded upon a single individual, this appears a truly distinct species in the above characters from *B. Raii*, Bl., of which it presents the general appearance, colour and habit. The example seen measured eighteen inches and a quarter in length, and was eight inches deep at the origin of the dorsal and anal fins. As settling, by its partially aculeate scales, the true position of *Taractes*, this fish has been a very valuable acquisition.

Gen. TARACTES, nob.

Char. Gen.—*Corpus* ovatum compressum (ad finem pinnæ dorsalis analisque abrupte in caudam contractum), squamis cycloideis retrorsum aculeato-umbonatis muricato-asperum. *Caput* squamosum; oculis magnis; rostro brevissimo simo; rictu magno sub-

verticali; dentibus *Bramæ* similibus subscobinatis recurvis, externis majoribus; palatinis vomereque armatis. *Operculum* simplex inerme. *Præoperculum* basi eximie dentato s. subcalcarato; suboperculo interoperculoque denticulatis.

Pinna malacopterygiæ, s. omnes radiis mollibus. *Ventrales* subjugulares. *Pinna dorsalis analisque* unica conformis lata: *caudalis* simplex integra rotundata. *Membrana branchiostega* septem-radiata.

Squamæ magnæ trapeziformes postice emarginatæ cycloideæ; umbone in aculeum recurvato-erectum producto.

TARACTES ASPER.

D. 5 + 28; A. 3 + 20; P. 17; V. 1 + 5; C. $\frac{4+VIII.}{3+VII.}$; M. B. 7;

Squamæ corporis in serie longitudinali 43 fere.

The generic name imposed at its first discovery on this particularly interesting, though plain and sober-coloured little fish, expresses the difficulty experienced in settling its relations of affinity, which are indeed so obscure and complicated, that but for the subsequent discovery of *Brama longipinnis*, with its similarly, though contrariwise, hooked scales, its true position, next to *Brama*, with analogies to many other families (e. g. *Zenidæ*, *Caproidæ*, *Scombridæ*), must have remained in abeyance.

PTERACLIS PAPILO. *P. longitudine altitudinem plus quater multiplicatam æquante: pinna dorsali prima anulique cæruleo-violuceis, lituris inter radios aureo-viridibus postice biseriatis; hac radio secundo, illa quarto validiore, ceteris capillaceis flexuosis.*

1^{ma} D. 35; 2^{da} D. 6; A. 35; P. 18; V. 6; C. $\frac{3+I.+VIII.}{3+I.+VII.}$.

Nothing can exceed the splendour of the deep violet-blue, with the gold and green iridescent dashes or short stripes between the rays of the first dorsal and the anal fins. It resembles the breast of certain Humming-birds, and contrasts singularly with the pure uniform silvery whiteness of the whole head and body. The second dorsal fin, though very small, is sufficiently distinct in this species, and possibly has been merely overlooked or mistaken in imperfectly preserved specimens of others for an accidentally detached portion of the first dorsal fin. The proportions, not only of the depth, but of the head, eye, muzzle and thickness, differ notably from those assigned by MM. Cuvier and Valenciennes to their *P. oculata*, of which it wants besides the dorsal fin-spot. The ventral and caudal fins are also longer. It agrees in these and other points far better with *P. trichopterus*, *P. Carolinus*, or *P. guttatus* (*Coryphæna velifera*, Pallas) of these authors, but differs from them still more widely than it does from *P. oculata*, in the numbers of the fin-rays.

ASTRODERMA PLUMBEUM.

The Madeiran *Astroderma* recorded under the name of *A. coryphænoides*, Bon. (Proceed. Zool. Soc. 1840, p. 37; Trans. iii. p. 7),

is probably a distinct and undescribed species. It differs from MM. Cuvier and Valenciennes' description of the Mediterranean fish, and from that by Risso of the same, under the name of *Diana semilunata*, in size, being only four instead of twelve or fifteen inches long; in proportions, the depth being contained three instead of not quite four times in the length, making it a deeper fish, and the length of the head equalling the depth; in having the eye exactly in, not partly before and altogether below the middle of the head, and the hinder nostril larger than the foremost; in the less height backwards of the dorsal and anal fins, and their nearer approach at their hinder ends to the root of the caudal fin. The pectoral fins are longer, and the ventral fins, instead of being very short, with the first spine strong and serrate, are half the length of the whole fish, with the first ray or spine feeble, weak, or slender, and perfectly even or entire; the other rays, especially the first, being produced into fine hair-like points. The scales are firmly fixed, not easily removeable. There is no trace of the two little oblique crests or ridges at the base of the caudal fin on each side the faint central keel, like those which the Mackerels have; and lastly, the pectoral and caudal fins, instead of a fine coral-red, are pale tawny or dirty yellowish white; the body being a dull silvery lead-colour, instead of silvery rose.

It were not safe, from inspection of a single individual of such small size, and in a genus hitherto consisting of a single species, to pronounce these characters of actual specific value; some, or perhaps all, may be due merely to age or sex. The name of *A. plumbeum* is therefore here proposed only provisionally for the Madeiran fish.

Ausonia Cuvieri, Risso, Hist. iii. 342. f. 28; Cuv. Règ. Anim. ii. 214, note.

Luvarus imperialis, (Raf.) Cuv. Règ. Anim. ii. 214; Cuv. et Val. ix. 412.

I shall take an early opportunity in 'The Fishes of Madeira' of furnishing a full account, with a figure from a fresh and perfect individual, of this little known, most rare, and interesting fish. The several discrepancies between my example, which is deposited in the Society's collection, and the former individuals on record, seem fairly attributable to the paucity of those before examined, or to imperfect means of observation. The Madeiran fish differs not more from each of those included in the above references than they do respectively from one another, whilst it presents an assemblage of characters only to be collected from them all.

This really fine and striking fish offers no ambiguities whatever of affinity, the very fishermen regarding it as some kind of "Dourado" (*Coryphæna*), which it resembles, both in general aspect and in the form of the head and profile. Something about the mouth and profile reminds one also of the turbot, whilst in the shape of the body, and perhaps of the dorsal and the anal fins, it resembles the "Enxareo" (*Caranx luna*, Geoffr.). The colour of the fins recalls to mind the *Lampris*.

The length of this example was five-eighths of an inch less than three feet.

Fam. ZENIDÆ, nob.

ZEUS ROSEUS. *Z. roseus immaculatus inermis*: pinna antica anali nulla, dorsali haud filamentosa; pinnis ventralibus amplis triangulari-ovatis.

D. 8 + 27 v. 28; A. 1 v. 2 + 29; P. 14; V. 9; C. $\frac{5+VI.}{5+V.}$ v. $\frac{4+V.}{5+VI.}$;

M. B. 7 v. 8.

Two examples of this very handsome and most distinct new species of Dory have occurred. There is no danger of confounding it with any other of the genus yet recorded, for the *Z. Childrenii* of Bowdich, so obscurely indicated in the 'Excursions in Madeira,' was most probably the Boar-fish (*Capros Aper*, Lac.).

Sternoptyx diaphana (Herm.), Cuv. R. An. ii. 316. t. xiii. f. 1.

The acquisition lately of an example of this most rare and curious of fishes has confirmed a suspicion I have long entertained, that the true position of its genus is near *Zeus*. It has also some relation to *Trachichthys*, but I think only in the way of analogy.

This little fish was taken in August at sea, between Madeira and St. Mary's, the southernmost of the Azores, about eighty miles to the south-east of the latter island, in a calm smooth sea. It is not a little remarkable, that after so long an interval, *Sternoptyx diaphana*, originally discovered by Hermann so long ago as 1774, in the West India islands, should have been rediscovered thus near the Azores; that is, in the locality in which the cognate *St. Olfersii*, Cuv. l. c. t. xiii. f. 2, has yet alone been found.

Fam. CAPROIDÆ, nob.

Gen. ANTIGONIA, nob.

Char. Gen.—*Corpus* compressum rhombiforme, altitudine longitudinem subæquante. *Os* parvum haud protractile; dentibus conicis minutis. *Caput* asperum; genis operculoque squamosis. *Præoperculum interoperculumque* limbo denticulato nudo. *Oculi* magni, circulatim cristato-carinati, cristis denticulatis. *Squamæ* asperæ, pectinato-ciliatæ.

Pinna dorsalis unica, continua, ad angulum superiorem corporis nascens, antice alta; *analis* parte anteriore spinosa a posteriore sinu distincta: spinis utriusque striatis, squamosis; *pinnæ ventrales* majusculæ, ad angulum inferiorem corporis sitæ. *Pinna caudalis* simplex, truncata. *Membrana branchiostega* septemradiata.

Obs.—Species adhuc unica, Maderensi-Atlantica, rarissima parvula rubescens Caproidea. Pinnarum spinæ validæ, striatæ, squamulis imbricatis vestitæ, membrana nuda. Capite armato s. præoperculo interoperculoque cristisque ossium omnibus denticulatis, dentibusque brevibus conicis scobinatis, squamisque asperis ciliatis, ad Percidas per *Enoplosum* Lac. dum tendit, a Chætodontibus (e. g. *Platax*, *Drepane*) Coryphænidisque (e. g. *Peprilus*, *Apolectus*), quibus forma aspectuque simillima, recedit. Iisdem characteribus,

necnon cauda lineaque laterali simplicibus, spinisque ante pinnas verticales liberis nullis, Scombridis (e. g. *Blepharis*, *Gallichthys*, *Argyreiosis*, *Vomer*, *Hynnis*), forma similibus, magis ac magis distat. Pluribus quinetiam notis *Equulam* ac *Gerrem*, e. g. *Gerrem Plumieri* Cuv. et Val. t. 167, revocat in mentem. A *Capro* Lac. forma, ore vix protractili, pinnaque dorsali unica continua antice alta differt.

ANTIGONIA CAPROS.

D. 8 + 34; A. 3 + 33; P. 14; V. 1 + 5; C. $\frac{4+I+\overline{V.}}{3+I+IV.}$; M. B. 7.

A single individual only of this most curious and interesting little fish has yet appeared. It forms a most distinct genus, throwing considerable light on the affinities of several other genera, which, before its discovery, had been placed very much at random.

Fam. MUGILIDÆ.

Mugil Cephalus, L. Cuv. et Val. xi. t. 307.

I procured three or four examples of this species by dragging with a net at the mouth of the Machico river. They were all caught in perfectly fresh water, in a place which was quite cut off from all communication with the sea, except in the time of winter-floods or particularly high tides. The species was quite unknown to the fishermen.

Mugil auratus, Risso.

M. chelo, Syn. 184; nec aliorum.

M. Maderensis, Suppl. in Proceed. 1839, p. 82; Trans. iii. p. 8.

The usual exposure of the ends of the maxillary in the Madeiran fish prevented an earlier recognition of its proper name and synonym. They are only occasionally, and, except in full-sized fishes, rarely,—not generally or characteristically, as must be inferred from MM. Cuvier and Valenciennes' account of the species,—“entièrement cachés,” although their figure represents them more correctly partially exposed.

Fam. GOBIDÆ.

Blennius parvicornis of my Suppl. (Proceed. 1839, p. 83; Trans. iii. p. 9), but not of MM. Cuvier and Valenciennes, proves to be a mere variety, or perhaps monstrous state, with a notched dorsal fin, of the common *Bl. palmicornis*, Cuv. and Val. It is *Bl. palmicornis*, var. γ *strigata*, nob. Another var. (β *sinuata*, nob.) of the same species has the dorsal fin merely faintly sinuate, instead of notched like var. γ , in the middle. As for the true *Bl. parvicornis* of Cuvier and Valenciennes, which, having the dorsal fin even*, cannot be referred correctly to either of these states of the species, I feel authorized, after examination of perhaps some hundred individuals of this common little fish, with a particular view towards the confirmation of the form in question as a species, to pronounce it a mere trivial and accidental aberration (so far at least as concerns the Madeiran

* “Sa dorsale est continue.” Cuv. et Val. xi. 258.

individual alluded to by MM. Cuvier and Valenciennes) of the typical common state (var. *a*) of *Bl. palmicornis*.

PHOLIS TRIGLOIDES.

Pholis lævis, Syn. 185; Suppl. in Proceed. 1839, p. 83; in Trans. iii. 9.

This fish proves to be distinct specifically from the British *P. lævis*, Fl., of which I had considered it at first a mere variety. This correction has been recently confirmed, on a comparison of specimens, by my friend Mr. Jenyns, who finds the eyes in the Madeiran fish "more than twice the size of those of *P. lævis*, Fl., not to mention other differences." I am also so far satisfied as anything short of an inspection of their specimens can warrant, that *Bl. trigloides* of MM. Cuvier and Valenciennes, which even by their own showing* is misplaced in their genus *Blennius*, is founded, at least in part†, on an example of this species, for which I therefore now propose the name of *Pholis trigloides*, it being a genuine member of the genus *Pholis* of Fleming.

PHOLIS BUFO. *P. fusco-nigrescens, versicolor, mox pallide cervina, nigro maculata et punctata, magna, pigra: pinnis pectoralibus nigro maculatis, maculis transverse fasciatis: capite magno, crasso, obtuso; oculis nec magnis, nec extantibus, intervallo occipitali lato subsulcato: dentibus anticis abrupte et longissime productis, arcuato-incurvis.*

D. 12 + 19 v. 18; A. 20 v. 21; P. 13; V. 3; C. $\frac{2 + \overline{I. + V.}}{2 + \overline{I. + IV.}}$; M. B. 6.

This ugly, heavy-looking fish attains the length of ten or twelve inches, and is at present certainly the giant of its genus, and even of the true Blennies. It is very rare, or rather local, and confined apparently to beaches covered with large rounded rocks or stones, amidst which a little fresh water finds its way into the sea. I have had from ten to twenty individuals, from two inches and a half in length upwards, all exhibiting the same characters.

Fam. LABRIDÆ.

Proceed. Zool. Soc. 1839, p. 84, *Erratum*. The two lowest paragraphs at the bottom of this page belong to the head "*Acantholabrus imbricatus*;" the specific character and fin-formula of which have been transposed, by an error in the printing, from their proper place immediately before the first of these two paragraphs, beginning "*Crenilabrus luscus*," to p. 86, where they will be found forming in Italics the second paragraph from the top.

Fam. ESOCIDÆ.

Gen. ECHIOSTOMA, nob.

Char. Gen.—*Corpus* elongatum anguilliforme nudum. *Caput* ser-

* "Il n'y a point de tentacule au sourcil." Cuv. et Val. xi. 228.

† See Suppl. in Proceed., p. 83; Trans. iii. p. 9.

pentiforme, oculis magnis, rostro brevissimo obtuso, rictu magno longe diducto, mandibulæ inferioris symphysis barbiferæ. *Dentes* conferti numerosi aciculares recurvi inæquales, quibusdam prælongis; intermaxillaribus vomere palatinis linguaque armatis. *Apertura branchialis* ampla. *Opercula* plana simplicia inermia. *Pinnæ pectorales* jugulares rudimentales pauci-radiatæ (s. quadri-radiatæ), prima superiore distincta (in filamentum longissime producta), tribus inferioribus brevibus membrana subcoalitis: *ventrales* abdominales (ad medium corporis sitæ octo-radiatæ): *dosarli* analique parvis oppositis posticis, *caudali* parvo lunato-furcato rudimentali approximatis.

ECHIOSTOMA BARBATUM.

D. 15; A. 18; P. 1 + 3; V. 8; C. $\frac{5 + V.}{5 + VII.}$.

Stomias barbatus, Cuv. R. An. ii. 283, 284?

This is very probably the fish briefly noticed by Cuvier under the above synonym. But it seems, at all events, sufficiently distinct generically from the *Esox* or *Stomias Boa* of Risso (Hist. iii. 440. f. 40), with which Cuvier associates it; but which, besides having other differences indicative of generic distinction, is figured by Risso as covered with large scales, like a *Microstoma* or *Chauliodus*. Nor can I find any trace of the Madeiran fish in Risso*, or in any other work to which I have access. It may therefore be considered one of no less rarity than singularity of characters and aspect; linking the *Esocidæ* with the *Murænidæ*, and indeed partaking more of the habit, form and colouring of the latter tribe than of the former.

A single example only has been taken in a net close in shore, measuring thirteen inches and a quarter long. It was wholly devoid of silver spots, but had two rather conspicuous rows of pale pore-like dots low down on the sides, and a most singular rose-coloured, pear-shaped spot, placed obliquely beneath and a little behind the eye, at the bottom of the cheek. This soon faded to white in spirits. The whole body was an uniform dark chocolate-brown, punctate with black dots disposed in bands or figures. The single beard is thick or broad and subcartilaginous, equalling in length the depth of the head. The opercles are of the usual strength and structure.

Fam. SALMONIDÆ.

Gen. AULOPUS, Cuv.

Saurus Lacerta (Risso), Syn. p. 188, is certainly an *Aulopus*; and notwithstanding the larger number (15–17) of its branchial rays, is also probably the *A. filamentosus* of Cuvier (Rég. An. xi. 315). The reference to Risso is in such case perfectly correct; but the name, of course, must sink into a synonym, the fish being generically quite distinct enough from *Saurus*, Cuv.

* Cuvier speaks of his *Stomias barbatus* being equally with *Stomias Boa* a discovery of M. Risso's; but I can find no trace of the former fish in his 'Histoire,' or, as Cuvier cites it, the second edition of his 'Ichthyology.'

Gen. SAURUS, Cuv.

I possess the head of a third Madeiran Saurine fish, belonging truly to the genus *Saurus*, and not to *Aulopus*; but the body having been destroyed, I must decline for the present attempting either to identify or to define it. It was of a mottled pale and scarlet colour, varied with brown or dusky, and had a distinct dark spot above at the tip of the muzzle.

Gen. METOPIAS, nob.

I place here, as in some degree related to *Scopelus*, but merely provisionally, conceiving that further investigations may authorize its being formed into a new family, a most curious little fish, which I saw caught in a boat-scoop whilst swimming on the surface, about a league and a half from shore, on a hot calm day in September 1841. Although full-grown or adult, being in roe, it was only an inch and a half long, and was nearly altogether black.

With reference to its affinities and position in the Cuvieran system, let it be observed, that—

1st, it is decidedly Malacopterygious, and this without apparent affinity in other points to any known Acanthopterygious genus. If it recalls to mind in some respects *Pomatomus*, it altogether stands aloof in scales, dentition, single dorsal fin, small eyes, &c. from that genus. The fins resemble most those of a *Cyprinus*.

2ndly, the ventral fins are not abdominal, but thoracic, which at once opposes its insertion amongst *Cyprinidæ*, *Esocidæ*, *Salmonidæ*, and *Clupeidæ* of Cuvier. In *Aulopus*, Cuv., indeed, the ventral fins are subthoracic, and there are other points about *Metopias* indicating rather close alliance of some kind with *Scopelus*; but it has certainly no immediate natural affinity with the true *Salmonidæ*, or even with *Sauridæ*, either in scales, dentition, fins, or habit. It is also quite destitute of the artificial symbol of these families, having no trace of a second rudimentary or adipose dorsal fin.

3rdly, it differs *toto cælo* from *Gadidæ*; agreeing only with the rare *Mora Mediterranea*, Risso, in the thick cube-shaped head and short abrupt muzzle. The ventral fins, moreover, are thoracic, not jugular; and I could find no trace of a beard or barbule.

These considerations seem to point to the propriety of regarding *Metopias* as belonging to a new family or tribe of Thoracic Malacopterygians, ranging between *Salmonidæ* and *Gadidæ*; still it is very possible that a discovery of some yet unknown link with old-established groups may solve at once, as in the case of *Brama longipinnis* and *Taractes*, the problem of its true position. The following characters will serve meantime for its discrimination, whether they prove eventually of mere generic or still higher value.

Gen. METOPIAS.

Pinnae malacopterygiæ; *ventrales* thoraciæ: *pinna dorsalis* unica; *adiposa* nulla; *caudalis* bifida. *Squamæ* parvæ læves (cycloideæ). *Dentes* minuti uniseriati; *palatinis* linguaque vomereque inermibus.

Caput magnum subcubicum nudum, fronte abrupto declivi, rostro brevi lato emarginato, rictu oblique ascendente, mandibula inferiore longiore: oculi minuti. *Opercula* integra cum toto capite inermia.

Corpus antice crassum, postice compressum; cum capite clavæforme.

Pinnæ omnes amplæ, nudæ.

METOPIAS TYPHLOPS.

D. 4 + 14; A. 4 + 7; P. 15; V. 1 + 7; C. $\frac{3 \text{ v. } 4 + \overline{\text{I.} + \text{IX.}}}{3 \text{ v. } 4 + \overline{\text{I.} + \text{VIII.}}.$

Piscis admodum pusillus, nigricans, capite longitudinaliter exilissime striato. *Radii* quatuor primi dorsales et anales cum primo ventrali simplices, sed minime spinosi; ceteris furcatis vel ramosis.

Fam. CLUPEIDÆ.

CLUPEA LATICOSTA.—“*Arenque a casta larga.*” *C. edentula elliptica, lateribus latis planis, dorso abdomineque aequaliter convexis; operculis suborbitariisque obsolete striatis, illis intus gulaque nigris: squamis lunatis, linea laterali obsoleta s. nulla; pinna dorsali centrali, anali subelongata, caudali lobis gracilibus angustis, pectoralibus operculo subremotis.*

D. 3 + 15; A. 18 + 2; P. 1 + 15; V. 1 + 7; C. $\frac{4 \text{ v. } 5 + \overline{\text{I.} + \text{IX.}}}{5 + \overline{\text{I.} + \text{VIII.}};$

M. B. 6 utrinque.

I had long since seen, and have often heard of this deep-sided, larger sort of Madeiran Herring, or “*Arenque*,” from the fishermen, but only recently obtained an opportunity of examining it, and of discovering it to be a new species, nearest to the Pilchard; but differing chiefly in its greater size, greater depth, approaching that of *C. Leachii*, Yarr., six, not eight-rayed branchial membrane, and in the production of the last two rays of the anal fin. Like the Pilchard, it has the dorsal fin in the centre of gravity, and the subopercle cut square at the bottom.

Fam. GADIDÆ.

Merlucius vulgaris, Cuv.

The remarks upon the Madeiran Hake (*Merlucius vulgaris*, Syn. p. 189) at pp. 37 and 38 of my Supplement (Proceed. Zool. Soc. 1840; Trans. iii. p. 15), and the idea of its distinctness as a species from the common British or Northern Hake, arose from tracing in the form of the dorsal and anal fins in the Madeiran fish, and in Salviani's figure of the Mediterranean Hake, a very appreciable difference from my friend Mr. Yarrell's representation of the British Hake at p. 177 of the second volume of the first edition of his 'Fishes.' Having requested his attention to the subject, I learn, however, from the corresponding chapter of his second edition, that this difference is either inconstant or attributable to a fault in the

former figure; and he has furnished a new engraving of the British Hake, which leaves no doubt of its identity with the Madeiran fish, according to my first determination in the 'Synopsis of the Fishes of Madeira.' No variation in the form of the fins, it may be added, has yet been observed in the Madeiran Hake.

Mora Mediterranea, Risso, Hist. iii. 224.

Fishing at a depth of three or four hundred fathoms off Magdalena, five leagues to the west of Funchal, I was fortunate enough last summer (1841) to obtain many examples of both sexes of this very rare, and, even in Madeira, almost unknown fish, which Cuvier has wholly omitted in the 'Règne Animal.' It forms a very distinct genus of *Gadidæ*; in shape and colours resembling *Phycis Mediterraneus*, but in the large thick subcubic head, abrupt short muzzle and large scales, recalling to mind a pale-coloured *Pomatomus telescopus*. At Magdalena this last-named fish is called "Pimentelle," whilst its common Funchal name, "Ribaldo," is assigned to *Mora Mediterranea*.

Gen. GADELLA, nob.

Char. Gen.—*Corpus* subellipticum, postice valde attenuatum compressum: capite nuchaque superne latis planis: rostro obtuso, rictu amplo largo, ore lato transverso, maxillis æqualibus dentibus subscobinatis, quibusdam magnis uncinatis distantibus interspersis, vomere palatinis linguaque lævibus inermibus: barbula nulla.

Pinna dorsalis analisque unica conformis continua æqualis a nucha vel ano usque ad pinnæ caudalis basin protensa, antice angustissima, postice latior: dorsali prima plane nulla. *Pinnæ pectorales* lanceolato-acuminatæ, tenues nec carnosæ: *ventrales* jugulares parvæ pluri-radiatæ, radiis primis duobus in filamenta productis. *Pinna caudalis* elongato-lanceolata.

Obs. Piscis pusillus, cinereo-fuscus, Motelliformis, oculis magnis, membrana branchiostega septem-radiata.

GADELLA GRACILIS.

D. fere 60; A. fere 60; P. 24; V. 7; C. XXV. fere; M. B. 7.

This new type approaches *Motella*, *Raniceps*, and *Brosmius*; differing from the two former in the entire absence of a nuchal groove, or of any rudiment of a first dorsal fin; and from them all in the absence of barbule, and in the shape and delicate (not fleshy) nature of the pectoral fins. A single example only has occurred, measuring four inches and one-eighth in length.

Fam. MACROURIDÆ, nob.

MACROURUS SERRATUS. *M. pallide cinereo-fuscus, scaber, squamis pectinato-striatis, inermibus, ecurinatis: capite rostroque brevibus, simplicibus (nec cœlatis nec carinatis); oculis rotundatis; dentibus scobinatis: pinnæ dorsalis primæ altæ radio primo valido, antice spinoso-serrato; ventralium in filamentum productis.*

1^{ma} D. 1 + 9; 2^{da} D. 100 fere; A. 80-90; V. 1 + 7 v. 8; P. 19 M. B. 7.

Cuvier, in a note at p. 337 of the 'Règne Animal,' vol.ii, affirms, from "an immediate comparison," the identity of Risso's *Lepidoleprus calorhynchus* of the Mediterranean with the *Macrourus rupestris* of Bloch, which is described and figured by that author with the first ray of the first dorsal fin distinctly serrated in front. Yet Dr. Richardson, in the Proceedings of the Zoological Society for 1839, p. 100, speaks of "examples of *calorhynchus* from the Mediterranean and also from Madeira"—meaning, by these latter, my *Macrourus atlanticus*, Proceed. Zool. Soc. 1839, p. 88; Trans. iii. p. 15—"both in the Society's Museum, none" of which "have the first dorsal ray serrated."

Awaiting, therefore, further definitive information regarding the true *L. calorhynchus* of Risso, in reference to this character, I am compelled to give a distinct name to this second Madeiran species of *Macrourus*, which has the dorsal spine serrated at its fore-edge, but which, by its shorter muzzle and somewhat smaller and rounder eyes, appears, waving the question as to the serrature or non-serrature of the dorsal spine in Risso's fish, to approach even nearer than *M. atlanticus* to his *L. calorhynchus*.

A single example only has occurred, which was not seen till it had been partly dried.

MACROURUS LÆVIS. *M. pallidus, griseus, lucidus, levigatus s. exilissime areolato-scaber, inermis; squamis inconspicuis minutis: capite rostroque acuto abbreviatis, simplicibus (nec calatis nec carinatis); oculis rotundatis; dentibus in maxilla inferiore validis, uniseriatis: pinnae dorsalis primæ radio primo inermi; ventralium simplicium.*

1^{ma} D. 1 + 9; 2^{da} D. et A. ∞; P. 15; V. 1 + 7; M. B. 7.

This third Madeiran species of *Macrourus* is immediately distinguishable from the other two by its glossy, sleek or apparently naked appearance, caused by the fineness and minuteness of its areolæ or scales. It is also a more elongated fish. In the formation and proportions of the head, eyes and muzzle it nearly agrees with *M. serratus*, and it has also the cheeks plain and flat, without the strong sculptured subocular keel which gives so singular and trigloid an aspect to the head of *M. atlanticus*.

The only individual which has occurred was sixteen inches long.

Fam. OPHIDIIDÆ.

Gen. DIAPHASIA, nob. (*Les Fierasfers*, Cuvier.)

Diaphasia acus.

Ophidium fierasfer, Risso, iii. 212. No. 99.

Les Fierasfers (*Ophidium imberbe*, L.), Cuv. Règ. Anim. ii. 359.

The occurrence in Madeira of a single individual, imposes the necessity of proposing, in lieu of the barbarous vernacular appellation *Fierasfer*, a name founded on an obvious character, and accordant with the rules of scientific nomenclature.

Fam. DIODONTIDÆ.

Diodon reticulatus, L. Syn. p. 193.—*Erratum*. Expunge in the synonyms, “Le Diodon orbe *Lacepède*”; and for “*Diodon rivulatus*,” read *Diodon tigrinus*.

Fam. SQUALIDÆ.

Carcharias falcipinnis, Proc. Zool. Soc. 1839, p. 90; Trans. iii. p. 18.

This proves, as it was suspected, to be the *Squalus ustus*, Dum.; that is, *Carcharias (Prionodon) melanopterus* (Q. et G.) of MM. Müller and Henle.

Carcharias microps, Proc. Zool. Soc. 1840, p. 38; Trans. iii. p. 18.

This again may perhaps be found to be identical with the imperfectly known *Squalus obscurus*, Lesueur (*Carcharias (Prionodon) obscurus*, Müll. et Henle), concerning which, however, the information hitherto afforded is too scanty to allow the immediate adoption of the name. *Carcharias microps* differs from *C. P. Sorrah*, Val., as described and figured by MM. Müller and Henle, in the equiserrate teeth, the longer and narrower pectoral fins, the smaller eyes and shorter muzzle. It differs again from *C. P. Henlei* (Val.), Müll. et Henle, in the long and black-tipped pectoral fins.

Fam. CENTRINIDÆ.

CENTROPHORUS CALCEUS.—“*Sapata*.”

Acanthidium calceus, Proc. Zool. Soc. 1839, p. 92; Trans. iii. p. 19.

Although I have not yet succeeded in obtaining the male of this Shark, I perfectly concur in MM. Müller and Henle’s suggestion (Plag. 2^{ter} Nachtr. p. 199), that it will probably prove to belong to their genus *Centrophorus*, with which I was unacquainted at the time of its former publication. It is however quite distinct from either of the species they describe.

The other little shark, *Acanthidium pusillum*, nob., with which at that time, in expectation of MM. Müller and Henle’s work, I preferred associating it, though not without considerable scruple, to forming a new genus for a single species, is I think distinct specifically from *Spinax niger* (Buon.) of these authors (*Sq. Spinax*, L., *Acanthidium Spinax*, nob.), with which they* have supposed it identical. It must retain also the name which I have given it; that of *Spinax*, which MM. Müller and Henle, after the Prince of Canino, have assigned to the same combination of characters, belonging, by the right of priority†, to the distinct generic group to which these authors have assigned the name already otherwise or in a wider sense employed by Risso, of *Acanthias*, and the type of which is the *Squalus Acanthias*, L.

Fam. RAIIDÆ.

TORPEDO PICTA. *T. supra purpureo-fusca (sepiolina) maculis albidis reticulato-marmorata: corpore latiore quam longo, cauda abbreviata multo longiore; pinna caudali altiore quam longa; ventralibus amplis, dimidio caudæ longioribus: spiraculis septem-dentatis.*

* 2^{ter} Nachtr. p. 199.

† Cuv. Règ. Anim. ii. 391, 392

Torpedo marmorata, Syn. Mad. Fish. p. 195 ; nec Risso, nec aliorum.

The closer analysis which, since the publication of the Madeiran fish under the name of *T. marmorata*, Risso, this genus has received from MM. Müller and Henle, authorizes the proposal of it as a distinct and seemingly new species. It agrees with *T. marmorata* in the shape and relative proportions of the body-disc, the tail and caudal fin ; but the distance from the root of the ventral fins to their free hinder edge considerably exceeds the distance from their hinder edge to that of the caudal fin ; the teeth of the spiracles are not less developed in full-grown fishes of a foot and a half in length than in younger examples ; and lastly, the colours are liable to no variation, and are very different from those of any of the varieties of *T. marmorata* enumerated by MM. Müller and Henle. I regret I am unable at the present moment to compare the dentition with that of *T. panthera* (Ehr.), Müll. und Henle, Nachtr. p. 193.

Torpedo hebetans, Syn. p. 195 (*Raia hebetans*, Müll. und Henle, Nachtr. p. 194), in the remarkable notch on each side at the outer extremity of the front margins, most resembles *T. nobiliana* (Buon.), Müll. und Henle, p. 128. The disc of the body however was an inch broader than long, and the colours were too different in the only example (a male) which has yet occurred of the Madeiran fish to allow, without more evidence, its junction with this or any other Mediterranean species.

Raia Maderensis, Syn. p. 195. I am not quite prepared to acquiesce in MM. Müller and Henle's reference of this to *R. undulata* or *mosaica*, Auct. (See Müll. und Henle, p. 134, and Nachtr. p. 194.) The Madeiran fish is generally more or less completely rough beneath, and always coarsely shagreened *all over* on the upper surface. However, this discrepancy with their account of *R. undulata* might be due to the small size of their specimens ; but there is also still some further disagreement with regard to the large prickles in the middle of the back ; and the colours, which are constant in the Madeiran fish, agree only with their var. 3.

Raia oxyrhynchus (Will.), Suppl. Mad. Fish. p. 92 (see Müll. und Henle, 2^{ter} Nachtr. p. 200) is truly the *R. oxyrhynchus*, Linn., of Müller and Henle, p. 148, as distinguished from the nearly allied *R. lintea* of Fries.

PTEROPLATEA HIRUNDO. *P. glabra, supra unicolor hepatica, rostro vix prominulo, pinnis pectoralibus margine anteriore utrinque convexo, dein apices versus concaviusculo, corpore (postice convexo) plus duplo latiore quam longo, cauda brevissima dimidio corporis brevior, subtus linea elevata carinata, supra simplici, apicem versus quadrangularem : tentaculis pone spiracula nullis.*

Trygon altavela, Suppl. in Proceed., p. 92 ; in Trans. iii. p. 20 ; omisso synonym. Cf. Müll. und Henle, 2^{ter} Nachtr. p. 200.

Judging from MM. Müller and Henle's account of the species of this genus, the Madeiran fish is not only distinct from the Mediterranean *περπλάτεια* of F. Columna, to which I formerly referred it, but from every other. It differs from *Pt. altavela*, Müll. und Henle,

in the uniformity of colour of the body and tail above; in having the fore margin of the wings convex; in their greater width from point to point; in the tail being simple, or without any trace of fin, raised line, or keel, above; and lastly, in the absence of any kind of tentacle behind the spiracles. In the second and last of these characters it approaches much more nearly the American *Pt. maclura*, Müll. und Henle, but differs in smoothness when adult, in colour, greater width of body, and in the tail being sharp-edged or fin-carinate beneath. From the Indian *Pt. micrura*, Müll. und Henle, it is abundantly distinct.

June 27, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

The reading of the Rev. R. T. Lowe's paper on the Fishes of Madeira was resumed.

Mr. Gould called attention to a rare species of Kangaroo living in the Society's menagerie.

An extensive collection, consisting of ninety-six specimens of Fishes, one Snake, a species of *Pteropus*, a Crab, and four nests of the Weaver-bird, was laid before the Meeting. These specimens, which are from Ceylon, were presented to the Society by D. Kelaart, Esq., Corresponding Member.

Seven bottles of Reptiles from India, presented by Mr. Shaw, the son of A. N. Shaw, Esq., Corresponding Member, and a collection of Bird-skins (also from India), presented by the Rev. F. W. Hope, were likewise laid before the Meeting.

July 11, 1843.

Lovell Reeve, Esq., in the Chair.

The reading of the Rev. R. T. Lowe's paper on the Fishes of Madeira was concluded.

"Descriptions of new species of *Nucula*, from the collections of Sir Edward Belcher, C.B., and Hugh Cuming, Esq.," by Mr. Hinds, were read.

NUCULA CUMINGII. *Nuc. testá ellipticá, tenui, epidermide virente indutá, anticè abbreviatá, subrostratá, posticè elongatá, rotundatá; margine ventrali acuto, anticè submarginato, dorsali postico, prominulo; cardine anticè dentibus 6, posticè 19-20. Long. 11; lat. 4; alt. $7\frac{1}{2}$ lin.*

Hab. The Asiatic analogue of *N. obliqua*, and is widely diffused over the seas of the Indian Archipelago. It has been obtained at New Guinea; Straits of Macassar; Bolinao, San Nicholas, Sual and Bassey in the Philippines; Singapore; and Straits of Malacca; in a depth of water varying from seven to twenty-three fathoms, on a floor of mud and sandy mud.

Cab. Belcher et Cuming.

It is distinguished from *N. obliqua* by the disposition to rostration of the anterior limb, prominent dorsal margin, slight indentation at the anterior part of the ventral margin, and larger size.

NUCULA MITRALIS. *Nuc. testá conoidali, solidulá, epidermide fuscá indutá, anticè brevissimè abbreviatá, rectá; margine dorsali posticè inclinatá, marginibus ventralibus crenulatis; cardine anticè dentibus 10, posticè 28-30. Long. $5\frac{1}{2}$; lat. 3; alt. 4 lin.*

Hab. Straits of Malacca; from seventeen fathoms, mud.

Cab. Belcher.

The very contracted and straight anterior margin of this shell gives it the shape of a mitre, or other similar elevated head-dress.

NUCULA PULCHRA. *Nuc. testá ellipticá, solidá, sulcatá, interstitiis transversim striatis; marginibus ventralibus crenulatis; cardine anticè dentibus 9, posticè 27-29. Long. 7; lat. 4; alt. $5\frac{1}{2}$ lin.*

Hab. L'Agulhas Bank, Cape of Good Hope; from seventy fathoms.

Cab. Belcher.

NUCULA DIVARICATA. *Nuc. testá ellipticá, anticè excavatá, subacuminatá, posticè rotundatá; lineis divaricatis, striatá; marginibus ventralibus crenulatis; cardine anticè dentibus 7, posticè 22-24. Long. 5; lat. $2\frac{1}{2}$; alt. 4 lin.*

Hab. China Sea; from eighty-four fathoms.

Cab. Belcher.

A single valve only was brought up from this great depth, and presents a character in its sculpture which has not hitherto been met with in any recent species, but which is also found in the following. This peculiarity consists of the presence of lines diverging from an angle near the middle of each valve. It however occurs in an English fossil, *N. Cobboldiæ*.

NUCULA CASTRENSIS. *Nuc. testâ ellipticâ, anticè rotundatâ, epidermide olivaceâ indutâ; lineis divaricatis; marginibus ventralibus crenulatis; cardine anticè dentibus 5, posticè 11. Long. 3; lat. $1\frac{1}{2}$; alt. 2 lin.*

Hab. Sitka, North-west America. A single specimen was dredged in the harbour, from seven fathoms; sand.

Cab. Belcher.

NUCULA TUMIDA. *Nuc. testâ ellipticâ, tumidâ, striatâ; marginibus ventralibus integerrimis; cardine anticè dentibus 6, posticè 15; intus leviter striatâ. Long. $4\frac{1}{2}$; lat. $2\frac{1}{2}$; alt. $3\frac{1}{2}$ lin.*

Hab. Straits of Malacca; from seventeen fathoms, among mud.

Cab. Belcher.

NUCULA MARMOREA. *Nuc. testâ ellipticâ, solidulâ, albiddâ, sulcatâ; liris ad angulum planulatis; latere antico brevi, subacuminato; marginibus ventralibus minutè crenulatis. Long. $2\frac{2}{3}$; lat. 1; alt. $1\frac{2}{3}$ lin.*

Hab. Straits of Malacca; from seventeen fathoms, in society with *N. tumida*.

Cab. Belcher.

NUCULA DECLIVIS. *Nuc. testâ parvâ, obliquè ellipticâ, solidulâ, epidermide tenui, fuscâ indutâ; latere antico brevi; margine dorsali longè inclinato, ventralibus crenulatis. Long. 2; lat. $1\frac{1}{3}$; alt. $1\frac{1}{2}$ lin.*

Hab. — ?

Cab. Belcher.

A still more oblique shell than *N. pisum*, to which it is closely allied.

NUCULA NANA. *Nuc. testâ minimâ, trigono-ellipticâ, levigatâ, nitidâ; marginibus ventralibus minutissimè crenulatis; cardine anticè dentibus 5, posticè 11; umbonibus fuscis. Long. 1; lat. $\frac{1}{2}$; alt. $\frac{2}{3}$ lin.*

Hab. Cagayan, island of Mindanao, Philippines; from twenty-five fathoms, among coarse sand.

Cab. Cuming.

NUCULA BELCHERI. *Nuc. testâ politâ, oblongâ, sulcatâ, anticè elongatâ, truncatâ, angulatâ; ab umbone biangulatâ, tertio intermedio minori; dentibus numerosis, serierum ambarum numero subæquali; margine ventrali subrecto. Long. 12; lat. $3\frac{1}{2}$; alt. $5\frac{1}{2}$ lin.*

Hab. L'Agulhas Bank, Cape of Good Hope; dredged from a depth of forty to fifty-four fathoms.

Cab. Belcher.

NUCULA SEROTINA. *Nuc. testá politá, oblongá, sulcatá, anticè elongatá, rotundatá, ab umbone angulatá; margine dorsali antico subprominulo; umbonibus elevatis.* Long. 6; lat. 2; alt. 3 lin.

Hab. Singapore; from seven fathoms, mud.

Cab. Cuming.

This closely resembles a fossil from the Sutton crag. The latter is a larger shell, of somewhat different proportions, and wants the rounded anterior slope of the recent species.

NUCULA TENELLA. *Nuc. testá oblongá, lævigatá, tenui, planulatá, anticè elongatá, rotundatá; umbonibus parvis.* Long. $4\frac{1}{2}$; lat. $1\frac{1}{2}$; alt. $2\frac{1}{2}$ lin.

Hab. Singapore; from seven fathoms, mud. In society with the preceding.

Cab. Cuming.

NUCULA RETUSA. *Nuc. testá parvá, nitidá, lævigatá, subæquilaterali, anticè retusá, subacuminatá; umbonibus elevatis.* Long. $2\frac{1}{3}$; lat. 1; alt. $1\frac{1}{2}$ lin.

Hab. St. Nicholas, Philippine Islands; Straits of Macassar.

Cab. Cuming et Belcher.

If the Lamarckian species, *N. nicobarica*,—a transversely elongated, finely striated shell, with both extremities rounded and lengthened anteriorly—is taken as a type of departure for the four preceding species, then *N. Belcheri* will be distinguished by its great transverse length, polished sulcated surface, angulated lines, truncated extremity, and three slight projections at the termination of the angles,—*N. serotina* by its polished sulcated surface, lengthened and rounded anterior extremity, and slightly prominent dorsal margin,—*N. tenella* by its flattened shape, smooth polished surface, and by being lengthened and rounded anteriorly,—and *N. retusa* by being nearly equilateral, smooth, polished, and with the anterior portion slightly disposed to terminate in a point.

NUCULA CRASSA. *Nuc. testá oblongá, ventricosá, crassá, sulcatá, anticè arcuatè rostratá, excavatè angulatá; liris rotundatis; posticè valdè rotundatá; intùs pallidè luteá.* Long. 14; lat. 6; alt. 10 lin.

Hab. Australia.

Cab. Cuming.

NUCULA LATA. *Nuc. testá oblongá, politá, planulatá, lineis impressis excavatá; anticè elongatá, latè rostratá, posticè rotundatá; margine dorsali anticá prominulá; umbonibus parvis.* Long. 8; lat. 2; alt. 4 lin.

Hab. New Guinea; in from five to twenty-three fathoms, among mud.

Cab. Belcher.

NUCULA CÆLATA. *Nuc. testá luteo-virente, oblongá, argutè sulcatá; anticè arcuatè rostratá, sulcis paululùm oblitteratis; umbonibus prominulis.* Long. 7; lat. 3; alt. 4 lin.

Hab. California, between $38^{\circ} 18'$ and $34^{\circ} 24'$ north latitude;

namely, at Russian Bodegas, San Francisco, and Santa Barbara, in from six to ten fathoms.

Cab. Belcher.

More ventricose and acutely beaked than *N. pella*, and presenting a partial obliteration of the sulci near the anterior dorsal margin.

NUCULA VENTRICOSA. *Nuc. testá oblongá, pallidè luteá, ventricosá, sulcatá; anticè subrectè rostratá, umbonibus magnis, prominentibus; margine ventrali anticè coarctatá.* Long. 7; lat. $3\frac{1}{2}$; alt. 5 lin.

Hab. Straits of Malacca; from seventeen fathoms, mud.

Cab. Belcher.

The character of the sulcation here is very different to that of the preceding species and of *N. pella*. Here it presents the most usual features of regular furrows with intervening ridges; but in the other two species the ridges are inclined planes, having an inclination towards the ventral margin. In this direction they consequently present a number of step-like elevations, but not in the contrary.

NUCULA RECTA. *Nuc. testá oblongá, tumidá, inclinatè sulcatá, rectè et attenuatè rostratá, posticè rotundatá.* Long. 6; lat. $2\frac{1}{2}$; alt. 4 lin.

Hab. New Guinea; in seven fathoms.

Cab. Belcher et Cuming.

NUCULA EXCAVATA. *Nuc. testá globosá, sulcatá, gibbosè rostratá, anticè carinatá; lunulá excavatá, ovali, striatá.* Long. 4; lat. $2\frac{1}{2}$; alt. $3\frac{1}{2}$ lin.

Hab. Panama; dredged among mud in thirty fathoms.

Cab. Belcher.

NUCULA RETICULATA. *Nuc. testá parvá, oblongá, sulcatá, striis longitudinalibus interstitialibus reticulatá; anticè arcuatè rostratá.* Long. 3; lat. $1\frac{1}{2}$; alt. 2 lin.

Hab. Philippine Islands, in several localities: namely, Cagayan, island of Misamis, from twenty-five fathoms; Mindanao, from twenty-five fathoms, sandy mud; and Loay, island of Bohol, from sixty fathoms, clayey sand.

Cab. Cuming.

NUCULA LYRATA. *Nuc. testá oblongá, nitidá, angulatè sulcatá, acutè subrectè rostratá, posticè elongatá, rotundatá; margine ventrali acuto integro.* Long. $9\frac{1}{2}$; lat. 4; alt. 5 lin.

Hab. Panama; from thirty fathoms.

Cab. Belcher.

NUCULA PUELLATA. *Nuc. testá oblongá, nitidá, læviter striatá, anticè breviter arcuatè rostratá, posticè rotundatá; prope umbones turgidá.* Long. 3; lat. $1\frac{1}{2}$; alt. 2 lin.

Hab. Malacca; from ten to seventeen fathoms, coarse sand.

Cab. Cuming et Belcher.

NUCULA CRISPA. *Nuc. testá oblongá, turgidá, sulcatá, arcuatè ros-*

trata, anticè ab umbonibus exarata, posticè obtusè carinata; lunula ovali. Long. 3; lat. $1\frac{1}{2}$; alt. 2 lin.

Hab. Gulf of Nicoya; from thirty-six fathoms.

Cab. Belcher et Cuming.

Mr. Lovell Reeve communicated a paper from Mr. Sylvanus Hanley, containing the following "Descriptions of five new species of bivalve Shells, from the collection of W. Metcalfe, Esq."

Genus SOLEN.

SOLENI PHILIPPINARUM. *Sol. testâ lineari, convexâ, crassâ, subarcuatâ, albido-lutescente; latitudine longitudinem quintuplo superante; margine posticè rotundato, anticè convexo; natibus ad quintam partem totius latitudinis collocatis; epidermide amplâ, rugosâ, impolitâ, olivaceo-flavescente; dente valido, acuto, in utraqve valvâ prominente. Lat. 1; long. 5 poll.*

Hab. ad Insulas Philippinarum.

A species nearly allied to the *S. ambiguus* of Lamarck, from which however it differs, both in its greater curvature and in the absence of the discal rays which adorn that species. Its breadth is throughout equal, and the umbones are considerably flattened.

SOLENI ACINACES. *Sol. testâ lineari, nived, subdepressâ, arcuatâ, posticè abruptâ, anticè attenuatâ, rotundatâ; latitudine longitudinem propè quadruplò superante; margine postico vix convexo; epidermide nitidâ flavescente; cardine terminali, dente in utraqve valvâ unico, rotundato. Long. $\frac{3}{2}$; lat. 3 poll.*

Hab. — ?

A shell scarcely to be confounded with any of this genus, but with somewhat the aspect of *S. scalprum*.

SOLENI CYLINDRACEUS. *Sol. testâ lineari, rectâ, cylindraced, subepidermide fugaci, albâ, rubido-purpurascente variegatâ; latitudine longitudinem sextuplo superante; margine anticè rotundato-obtuso, posticè abrupto, concavo; cardine terminali, dente sublunari in utraqve valvâ prominente. Long. $\frac{1}{2}$; lat. 3 poll.*

Hab. — ?

A tolerably strong shell, intermediate between the *S. linearis* of Wood and the *S. brevis* of my descriptive Catalogue. The former species is considerably narrower from the umbones to the ventral margin, these proportions being precisely reversed in the latter. The colouring likewise, which in the adult is almost entirely confined to the posterior half, differs from its arrangement in the *S. brevis*.

MESODESMA TRIQUETRUM. *Mes. testâ obliquè triangulari, valdè inæquilaterali, crassissimâ, tumidâ, læviusculâ, sordidè albâ; posticè brevi, rotundatâ, anticè productâ, subacuminatâ, subrostratâ; margine antico declivi, ventrali arcuato; pube depressâ; foveâ ligamentali inter nates distantes planè hiante; dentibus lateralibus magnis, validis. Long. $\frac{7}{8}$; lat. 1 poll.*

Hab. — ?

I know of no species which could possibly be confused with this extraordinary shell, which, from the peculiar triangular cavity between the beaks (as in the genus *Schizodesma* of Gray), may eventually prove the type of at least a subgenus. In the unique specimen before me there is the appearance of ochraceous rays, but I do not venture to consider them as characteristic until the comparison with further specimens. The shape reminds one of *Mulinia Donaciformis*. The cardinal tooth is bifid in the left valve.

MESODESMA PLANUM. *Mes. testâ ovato-sublenticulari, transversâ, valdè compressâ, inæquilaterali, utraq̃ue extremitate rotundatâ; sub epidermide corneâ, albidd, levigatâ; natibus elevatis, acutis; margine ventrali arcuato; foveâ ligamentali angustâ.* Long. $\frac{6}{7}$; lat. 1 poll.

Hab. — ?

A peculiarly flat shell, which is not unlike *M. complanatum*, but differs as well in the colouring of its epidermis as in many other particulars. From the little convexity of the dorsal margins, the beaks appear extremely angulated. The teeth are obtuse, and the lateral short and approximate.

Note.—The shells described by me in this and the preceding papers will be figured in Mr. Wood's second Supplement to the 'Index Testaceologicus.'

A new species of *Chiton*, from the Philippine Islands, was exhibited by Mr. Cuming, which was thus characterized by Mr. G. B. Sowerby:—

CHITON BIRADIATUS. *Chi. testâ ovali, subelongatâ, subdepressâ, obtusè angulatâ; areis centralibus longitudinaliter minutè scabroso-sulcatis; areis lateralibus subelevatis, utrinque costis duabus bifidis validè irregulariter moniliformibus; areis terminalibus radiatim rugoso-costatis, margine minutissimè granuloso; colore pallidè fulvo, griseo maculato; margine griseo fasciato.* Long. .60; lat. .35.

Hab. Dumaguete, Ins. Negros, Philippinarum. H. Cuming legit.

This species differs from *Ch. Janierensis* in having the lateral ribs bifid and the sculpture generally much more minute.

July 25, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from E. L. Moore, Esq., Corresponding Member, dated Newfoundland, June 16, 1843, was read. It announced that that gentleman had forwarded, as a present to the Society, a young Harp-Seal and two heads of the Hooded Seal, preserved in brine.

Mr. Prince exhibited to the Meeting, on the part of Mr. Gould, nine new Birds, collected during the recent voyage of H.M.S. Sulphur, which, together with *Coryphilus Dryas*, exhibited by Mr. Gould at the meeting held on the 22nd of November 1842, and *Pteroglossus erythropygius* and *Pterocles personatus*, exhibited by him on the 14th of February 1843, comprise the whole of the ornithological novelties brought home by the expedition.

The species now exhibited were

HALCYON SAUROPHAGA. *Halc. capite, collo, dorso superiore et corpore subtus albis, cateris partibus saturatè cæruleis, dorso virescente.*

Head, neck, upper part of the back and all the under surface white, with the exception of the lores, which are black, and a narrow longitudinal mark immediately behind the eye, which is deep blue; remainder of the upper surface, wings and tail deep blue, tinged with green on the back and scapularies; bill black; basal half of the under mandible horn-colour; tarsi and feet blackish brown, tinged with purple.

Total length, $10\frac{1}{2}$ inches; bill, $2\frac{3}{4}$; wing, $4\frac{3}{4}$; tail, $3\frac{3}{4}$; tarsi, $\frac{3}{4}$.

Remark.—A typical *Halcyon* and one of the largest of the genus, differing from every other species known, particularly the *Alcedo leucocephala* of Latham, which specific term would be much more appropriate for the present bird.

Hab. New Guinea.

PIPRA VITELLINA. *Pip. vertice, vittâ dorsali, alis, caudâque nigris; mento, guld, pectore et torque nuchali vitellinis, partibus reliquis olivaceo-viridibus.*

Crown of the head, band across the back, wings and tail black; chin, throat, ear-coverts, chest and collar round the back of the neck, beautiful yolk-of-egg yellow; rump and upper tail-coverts olive-green; abdomen and under tail-coverts paler olive-green, into which the yellow of the chest gradually passes; bill black; legs yellowish brown.

Total length, $3\frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, 2; tail, $1\frac{1}{8}$; tarsi, $\frac{3}{4}$.

Hab. Panama.

The only specimen procured is now in the British Museum.

LEUCOSTICTE GRISEOGENYS. *Leuc. fronte nigra, genis et occipite cinereis, reliquis partibus fuscis; tectricibus alarum, tectricibus caudæ superioribus et inferioribus, abdominisque plumis ad apicem roseo-marginatis.*

Forehead and throat shining black; cheeks and back of the head grey; general plumage umber-brown; wing-coverts, upper and under tail-coverts, flanks and abdomen, tipped with beautiful rosy red; primaries and tail-feathers brown, faintly margined with rosy red; bill yellow; feet black.

Total length, $7\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $4\frac{1}{2}$; tail, $3\frac{1}{2}$; tarsi, 1.

This is the largest of the *Fringillinae* Mr. Gould has yet seen; it is nearly allied to, but differs from, the *Leucosticte tephrocotis*, Swains., in the greater depth of its colouring, in the cheeks as well as the hinder part of the head being grey, and in the greater abundance of the rosy hue upon the abdomen and under tail-coverts.

NECTARINIA FLAVIGASTRA. *Nect. corpore supernè flavescente-olivaceo; lineâ superciliari et corpore subtùs nitidè flavis.*

Crown of the head, ear-coverts and all the upper surface yellowish olive; stripe over the eye and all the under surface bright yellow; bill and feet black.

Total length, $4\frac{1}{4}$ inches; bill, $\frac{3}{4}$; wing, 2; tail, $1\frac{1}{8}$; tarsi, $\frac{5}{8}$.

Hab. New Ireland.

The single specimen procured is in the collection of J. O. Goodridge, Esq., Assistant-Surgeon of H.M.S. Starling.

CACTORNIS INORNATUS. *Cact. corpore superiore nigrescente-fusco, singulis plumis olivaceo-fusco non sine tincturâ rufescente marginatis; gula et corpore inferiore fulvis, plumis notâ centrali obscuriore.*

Crown of the head and all the upper surface blackish brown, each feather margined with reddish olive-brown, the secondaries, wing-coverts and tail being more broadly margined and inclined to buff; throat and under surface buff, each feather having a darker centre; bill horn-colour; feet blackish brown.

Total length, 4 inches; bill, $\frac{1}{2}$; wing, $2\frac{3}{4}$; tail, $1\frac{3}{4}$; tarsi, $\frac{3}{4}$.

Hab. Bow Island.

The only specimen procured is said to be a female. This species is I believe the only insessorial form inhabiting the island. Its principal interest consists in its forming an additional species of a small group of birds hitherto believed to be peculiar to the Galapagos Islands.

In the possession of the Zoological Society, to whom it was presented by the Lords Commissioners of the Admiralty.

PSITTACUS FLAVINUCHUS. *Psitt. viridis, vittâ nuchali nitidè flavâ; remigum primorum pogoniis internis nigris, remigis primi pogonio externo saturatè cæruleo; reliquorum pogoniis externis ad basim saturatè viridibus, exindè cæruleis, remigum minorum pogoniis externis coccineo, viridi et cæruleo pictis, rectricibus utrinque tribus externis cum pogoniis internis ad basim coccineis.*

Head, throat and under surface light green; the feathers on the sides of the neck slightly margined at the tip with black; at the nape a broad band of beautiful yellow; back, scapularies and wing-coverts dark green, the latter with paler edges; first primary black on the inner web and deep blue on the outer, the inner webs of the remaining primaries black; the basal third of their outer webs green, and for the remainder of their length deep blue, the whole very slightly tipped with buff; first four primaries black on their inner webs; their outer webs crimson for more than the basal half of their length, then green, and lastly deep blue, the two latter colours gradually blending into each other; the rest of the secondaries black on their inner and green on their outer webs, with a spot of deep blue near the extremity; tail yellowish green, crossed on the middle by a broad band of dark green, the three lateral feathers with a patch of crimson on their inner webs; basal portion of the inner webs of all the wing-feathers on their under surface deep grass-green; bill horn-colour; feet mealy white.

Total length, 14 inches; bill, $1\frac{3}{8}$; wing, 9; tail, $5\frac{3}{4}$; tarsi, 1.

Hab. Shores of South America and the Pacific.

In the collection of the Zoological Society.

COCYZUS FERRUGINEUS. *Cocc. capite cinereo, dorso alisque saturatè ferrugineo-fuscis, colore ad apices remigum primorum pallescente; caudè in medio fusca, gradatim ad rectrices externas albescente; corpore subtùs fulvo.*

Head grey, tinged on the crown with ferruginous; back and wings dark rusty-brown, becoming paler towards the extremities of the primaries, which are brown on their inner webs at the tip; two centre tail-feathers sandy buff, passing into brown at the tip; the two next on each side sandy at the base, deepening into brown, which is darkest on the outer web; that nearest the central feathers slightly, and the next largely tipped with white; the two lateral feathers on each side buff at the base, passing into white, the inner one of the two with a line of brown down the basal two-thirds of its length; all the under surface buff, palest on the throat; bill olive-black, under mandible yellow at the base; feet black.

Total length, $11\frac{1}{2}$ inches; bill, $1\frac{1}{8}$; wing, $5\frac{1}{4}$; tail, $6\frac{1}{4}$; tarsi, $1\frac{1}{8}$.

Hab. Cocos island, North Pacific.

In the collection of the Zoological Society.

PENELOPE LEUCOGASTRA. *Pene. capite et collo superiore olivaceo-fuscis, singulis plumis cinerco marginatis; corpore superiore et alis splendide fuscis nitore metallico; caudè æneo-viridi, rectricibus externis latè albo marginatis; abdomine et femoribus albis.*

Head and upper part of the neck olive-brown, each feather margined with grey; back, wings and upper tail-coverts rich brown with a bronzy lustre; tail bronzy-green margined with bronzy-brown, all but the two centre feathers broadly tipped with pure white; chest dull brown, gradually passing into the white of the abdomen, thighs and vent; under tail-coverts light buff; bill and feet black.

Total length, 18 inches; bill, $1\frac{1}{4}$; wing, 8; tail, 9; tarsi, 2.

Hab. — ?

In the collection of the Zoological Society.

LARUS BRACHYRHYNCHUS. *Lar. capite, collo, corpore superiore, uropygio crissoque albis; dorso alisque cinereis; remige primo, ad pogonium externum et ad apicem, remigibusque sequentibus tribus, ad apicem, nigris; remigibus secundo, tertio et quarto, notâ cinered terminali; quinto vittâ nigrâ et apice cinereo.*

Head, neck, all the under surface, rump, upper and under tail-coverts and tail pure white; back and wings, including the primaries, grey, passing into white on the tips of the scapularies, secondaries, and all but the first five primaries, which are thus marked:— the outer primary has its external web and three inches of the tip of the inner web deep black; the next primary is tipped with black for three inches and a half on its outer, and two inches and a half on its inner web, and has a very minute speck of grey at the extreme tip; the third primary is tipped with black for two inches, and has a small spot of grey at the extremity; the fourth is tipped with black for an inch and a quarter, and has a larger spot of grey at the extremity than the third; and the fifth is crossed by an irregular band of black near the tip three-quarters of an inch wide, the extremity being grey, fading into white on the margin of the inner web; bill primrose-yellow; feet orange-yellow.

Total length, 14 inches; bill, $1\frac{1}{2}$; wing, $12\frac{1}{4}$; tail, $5\frac{1}{4}$; tarsi, $1\frac{1}{8}$.

Hab. Russian America.

The species of *Ortyx* exhibited were

ORTYX PARVICRISTATUS. *Ort. cristâ brevi, rectâ, pallidè fuscâ, ad apicem fulvâ; fronte fulvâ; guld et vittâ per latera capitis ferrugineo-rubris; torque collari anticè angustâ, posticè latâ, nigrâ, albo guttatâ et castaneo tinctâ; corpore superiore cinereo-nigro et fusco adperso; pectore rufo, singulis plumis guttis sex pallidè fulvis, et saturatè fusco circumdatis, ornatis; his apud latera et abdomen grandioribus et fusco-nigrescente.*

Crest short, straight, light brown tipped with buff; forehead buff; throat and a broad stripe down each side of the head, above and behind the eye, rusty-red; ear-coverts brown; collar surrounding the neck narrow in front and broad, behind black, spotted with white and stained with chestnut; centre of the back, between the shoulders, minutely freckled grey, brown and black; remainder of the back blackish brown, each feather freckled on the margin with grey; scapularies freckled grey and brown, and ornamented on their inner webs with large patches of dark brown; wing-coverts freckled, and with a large spot of dark brown and another of white near the extremity of each feather; primaries light brown fringed with greyish white, and a few indistinctly barred with freckles of the same on their outer webs; tail brown, crossed by narrow freckled bands of whitish and darker brown; across the breast a band of greyish red blotched with a darker tint; breast rufous, each feather with six spots of light buff encircled with dark brown, the spots gradually

increasing in size on the flanks and lower part of the abdomen, and the rufous tint changing into blackish brown; vent buff; under tail-coverts like the abdomen, but the markings less distinct; bill black; feet black.

Total length, 8 inches; bill, $\frac{1}{2}$; wing, $3\frac{3}{4}$; tail, $2\frac{3}{8}$; tarsi, $1\frac{1}{8}$.

Hab. Santa Fé de Bogota.

Nearly allied to *O. Sonnini*.

For an additional example of that division of the *Ortygidæ* to which the subgeneric term of *Odontophorus* has been given, Mr. Gould proposed, from the marbled appearance of its markings, the specific term of *marmoratus*, with the following characters:—

ORTYX (ODONTOPHORUS) MARMORATUS. *Ort. spatium circumoculari nudo, coccineo; plumis auricularibus rufo-castaneis; cristâ elongatâ, laxâ, fuscâ, plumis singulis flavescenti-fusco per medium irroratis; nuchâ nigrescenti-fuscâ, lineis irroratis cinereis angustis, transversim fasciatâ; primorum pogoniis externis arenaceo-fulvo guttatis; corpore inferiore fusco, lineis irregularibus et crebris nigrescentibus cinereis, et arenaceo-fulvis transversim fasciato.*

Naked orbits, scarlet; ear-coverts reddish chestnut; crest lengthened, curved and flowing, dark brown, freckled down the middle of each feather with yellowish brown; back of the neck blackish brown, crossed by numerous narrow freckled bands of grey; lower part of the back yellowish brown, freckled with a darker and a lighter tint; wings dark brown, the coverts and inner webs of the secondaries crossed by numerous broad irregular freckled bands of sandy buff; primaries spotted along their outer webs with light sandy buff; a few of the scapularies with a stripe of white freckled with black down the centre; under surface brown, crossed by numerous irregular narrow bands of blackish brown, grey, and sandy buff; bill and feet black.

Total length, 9 inches; bill, $\frac{5}{8}$; wing, $5\frac{3}{4}$; tail, 2; tarsi, $1\frac{5}{8}$.

Hab. Santa Fé de Bogota.

Nearly allied to *Odon. Guianensis*.

And for an Albatross nearly allied to, but larger than, *Diomedea chlororhyncha*, and which also differs from that species in the colouring of the culmen, he proposed to designate

DIOMEDEA CULMINATA. *Diom. spatium circumoculari nigrescenti-cinereo, gradatim pallescente; facie albâ; vertice corpore subtus et uropygio albis; dorso, alis et caudâ cinerescenti-fuscis; culmine olivaceo-flavo.*

Space surrounding the eye blackish grey, gradually passing into the white of the face; crown of the head, all the under surface and rump white; back of the neck sooty-grey; back, wings and tail dark greyish brown, the latter with white shafts; culmen for its whole length olive-yellow; base of the under surface of the lower mandible fleshy horn-colour, remainder of the bill black; point of the upper mandible horn-colour; feet bluish white.

Total length, 30 inches; bill, $4\frac{1}{4}$; wing, 20; tail, 9; tarsi, $3\frac{1}{4}$.
Hab. Southern, Indian, and South Pacific Oceans.

Mr. Fraser having carefully determined the species of birds forming part of an extensive collection of subjects of natural history, brought to England by Mr. Bridges, laid them before the Meeting, and communicated the following notes from that gentleman relating to their habits, ranges, &c.

Sarcoramphus gryphus, Auct. *Condora* and *Buitre*.

“Found in all the provinces of Chile, and very abundant in the elevated valleys of the Andes. Builds its nest on the shelves of inaccessible precipices, and lays from one to two large white eggs. Iris of the female dark red.”

Cathartes Iota, Mol. *Ioté*.

“This species is found in abundance along the coast of Chile; also in the interior; devouring dead fish and carrion of all kinds. The head of the adult bird is red when alive. Iris light brown.”

Cathartes atratus, Sw. *Iotecito* and *Ioté de Mendoza*.

“This bird is found on the eastern side of the Andes near Mendoza, and is occasionally seen in Chile in the province of Colchagua. The caruncles of the head are very large when alive, and black. Iris dark brown.”

Haliaëtus Aquia, Temm. *Aquila* of the Spanish, *Calquin* of the Indians.

“This bird inhabits the retired woody and mountainous parts of the country. It sometimes soars to a great height. Its principal food is partridges and domestic fowls. The young appear to accompany the old for at least six months, and depend on them till that age for food. I have frequently seen an eagle catch a partridge and carry it to its young that would be waiting on a tree or rock ready to receive it. Iris light brown; legs pale yellow; cere yellow. Builds its nest on the tops of trees, and lays from three to four dirty-white eggs.”

Polyborus Brasiliensis, Sw. *Traro* and *Taro*.

“Feeds on carrion, worms, frogs and the larva of insects. It is common to see these birds following the ploughman, picking up worms, &c. in the newly broken soil. They build their nests in trees: the nest is composed of sticks and stems of a species of *Rumex*, and on the outside is a kind of platform where the male sits during the setting of the hen. The eggs are dirty white spotted with brown. Iris brown; legs and cere yellow. When pressed by hunger it attacks chickens.”

Phalocobæus montanus, D’Orb. *Tuique de la Cordelliera*.

“This is a very rare bird, occurring only in the valleys of the Andes at an elevation of from 5000 to 8000 feet. Found in pairs. Iris dark brown.”

Milvago pezoporos, Meyen. *Tuique*.

“Common in all parts of Chile. Habits the same as the *Traro* (*Pol. Brasiliensis*). Iris brown; legs light brown or grey.”

Buteo erythronotus, King. *Aguilucha*.

“This is the small eagle of Chile, as its name in Spanish implies. It inhabits the open parts of the country, and is mostly seen perched on the top of a solitary tree enjoying the sun in the afternoon. Base of the bill, cere and legs greenish yellow; iris brown. Food, rats and small birds.”

Astur unicinctus, Temm., Pl. Col. 313. *Peuco*.

“This species of hawk is found in the retired and woody parts of the country: it appears to seek the shade during the day and hunts its food in the evening. Iris light brown.”

Falco anatum, Bonap. *Gavilan*.

“The Gavilan is a rare bird in Chile, and the most rapid on the wing of all the Chilian hawks. It is occasionally seen in open parts of the country perched on a rock-stone. Iris brown; legs and nostrils yellow.”

Falco femoralis, Temm. *Alcon*.

“This is the species of hawk in Chile used for hunting partridges. It is easily domesticated. I have seen them caught in a net for the purpose of hawking, and in fifteen days afterwards follow their master and hunt partridges when sprung by the dogs. Base of the bill and margins of the eyes bright yellow; iris dark brown.”

Tinnunculus Sparverius. *Sarnicula*.

“This is the smallest of the hawk tribe in Chile. It is said to build its nest in holes of trees. The female is easily distinguished from the male by the bands across the tail-feathers. Iris dark brown.”

Circus cinereus, Vieill. *Nublina* is the name for the adult male, and *Barril* for the female and young.

“This species is less rapid in its motions than the other hawks, and generally flies nearer the ground. It feeds chiefly on rats and mice. The ruff of feathers round the head gives it the appearance of an owl. Iris bright yellow.”

Elanus dispar. *Baylarin*.

“This is the rarest of the Chilian hawks. It hovers over its prey, and from that it takes its name, which signifies dancer. Eyes large; iris yellow. Found in pairs. It appears to be migratory, making its appearance during the winter.”

Athene cunicularia, Mol., Hist. de Chile, pp. 293 and 390. *Piqueu*.

“This species lives in holes in the ground, which it makes to a considerable depth. In the afternoon it comes out of its cave and basks in the sun. It appears to live in communities, as several inhabit the same cave. Iris bright yellow.”

Athene ferox, Vieill. *Chucho*.

“This is the smallest species of owl found in Chile; it is very destructive to pigeons, killing the young and eating only the brains of

its victims. It is much dreaded by small birds, and the hiding-place of the Chucho is frequently discovered by their cries. It makes its nest in holes of trees. Iris yellow."

Otus palustris, Gould. *Nuco*.

"A rare species of owl, found in the province of Colchagua. Iris yellow."

Strix perlata, Licht. *Lechusa*.

"Inhabits old houses, and in holes in precipices made by the parrots. Rare in Chile."

Bubo Virginianus, Wils. *Túcúrrářě*.

"The largest species of owl found in Chile. It inhabits woods and may occasionally be found sleeping during the day. It has derived its name from its note. Iris pale yellow."

Caprimulgus bifasciatus, Gould. *Plasta* and *Gallina ciega*.

"This bird is found in bushy places on the east and west side of the Andes. Iris brown. The female is rarer than the male. It is called *Plasta* from its laying flat on the ground: *Gallina ciega* in Spanish signifies Blind-hen."

Hirundo leucopygia, Licht. *Golondrina*.

"Called in the Indian language *Pilmayqueu*. It builds its nest, which is composed of grass and feathers, in holes under the tiles of houses. Remains in Chile throughout the year."

Ceryle torquata, Gmel. *Martin Pescador*.

"The Indian name of this bird is *Quete Quete*. It inhabits all the southern provinces of Chile, and may be generally seen sitting on a bough over the water waiting for fish: it darts down upon them with astonishing rapidity. Iris dark brown."

Myiobius parvirostris, Gould. *Pio*.

"This little flycatcher makes its appearance near Valparaiso in gardens and on the mountains in September. It is called *Pio* from its note. Iris brown."

Myiobius albiceps, G. R. Gray. *Binda*.

"This little bird inhabits lonely and shady ravines. It has a singular and mournful note, from whence it has derived its name of *Binda* or Widow-bird. Iris brown."

Serpophaga parulus, Gould. *Torito* and *Cachudita*.

"This singular little bird inhabits gardens, and bushy situations on the mountains, in Chile. It takes its name, *Cachudita*, from the feather on the top of the head resembling a horn, *cacho* being a term for horn in Spanish. Feeds on small insects. Iris pale yellow."

Lichenops perspicillata, G. R. Gray. *Colegial*.

"This interesting little bird is always found near margins of rivers and marshes: when flying it has a singular appearance, as it then displays the white tips of its wings. Iris and margin of the eye bright yellow."

The *Lichenops erythropterus*, Gould, is either the female or young of the above species.

Xolmis pyrope, G. R. Gray. *Thincon* and *Dincon*.

“This bird is migratory: it visits the coast in the winter and spring months, and during the summer retires to the elevated parts of the country. Its food is flies and other insects. Iris bright red.”

Agriornis gutturalis, Gould. *Mero* and *Zorzal Mero*.

“This bird is found in the central provinces of Chile. Its food is insects. Iris brown.”

Agriornis maritimus, G. R. Gray. *Mero de la Cordelliera*.

“This bird inhabits the elevated valleys of the Andes on the east and west sides. Iris brown.”

Turdus Falklandicus, Quoy et Gaim. *Zorzal*.

“Found in all parts of Chile. Iris brown.”

Mimus Thenca, Mol. *Tenca* and *Trenca*.

“This bird is certainly the most celebrated for its song of all the birds in Chile: it sings during the months of September, October and November. It frequently builds its nest on the tall *Catus**. The eggs so much resemble the eggs of the blackbird of Europe that it would be difficult to distinguish them; nor is the nest unlike. It feeds on flies like the *Muscicapa*. Iris yellowish green.”

Opetiorhynchus nigrofumosus, G. R. Gray. *Molinero*.

“Inhabits the sea-shore in rocky places, margins of rivers, brooks and ditches. It has a most agreeable note or warble, and flaps its wings whilst singing. Iris brown.”

Opetiorhynchus vulgaris, G. R. Gray. *Churete*.

“Habits and manners the same as *O. nigrofumosus*.”

Geositta (Furnarius) canicularia, G. R. Gray. *Caminante*.

“Found on the plains in the intermediate provinces of Chile.”

Uppucerthia dumetoria, Is. Geoff.

“Inhabits the elevated valleys of the Andes. Iris brown.”

Pteroptochos megapodius, Vig. *Turco*.

“The *Turco* is found in the ravines or quebradas near Valparaiso.”

Pteroptochos albicollis, Kittl. *Tapaculo*.

“This bird is found in all the central provinces of Chile, especially where the *Octodon Cumingii* abounds: when pursued it takes shelter in holes made by the *Octodon*, and appears to live in harmony with that little animal. Its food is no doubt insects, worms, &c., which it obtains with its strong claws by scratching under trees and bushes. Iris brown.”

Scytalopus Magellanicus, G. R. Gray. *Chircan negro*.

“Inhabits hedges in various parts of Chile.”

Troglodytes Magellanicus, Gould. *Chircan*.

“This little wren builds its nest with twigs of *Trevoa trinervis*, and lines the inside with feathers: the nest is found in holes of trees and walls. It sings beautifully during the summer. Eggs white

* So in manuscript.

with reddish-brown spots. Inhabits gardens and hedges near Valparaiso."

Synallaxis rufogularis, Gould.

"Found near marshes amongst large aquatic plants."

Synallaxis pumicola, Kittl. *Bolaria*.

"This bird is somewhat rare, is fond of bushy situations on the mountains, and builds a cylindrical nest with a hole on the top, composed of twigs of *Trevoa trinervis*; the inside is lined with the down of a species of *Gnaphalium*: it lays from four to six eggs. Iris brown."

Synallaxis ægithaloides, Kittl. *Colilarga*.

"Inhabits woody and bushy places, seeking insects in the trunks of trees and amongst bushes."

Synallaxis spinicauda, King.

"Inhabits woody situations in the interior of the country."

Oxyurus dorso-maculatus, D'Orb.

"Found near marshes amongst large aquatic plants. A very rare bird."

Dendrodramus leucosternon, Gould. *Carpentero Pardo*.

"Inhabits woods in the province of Colchagua near the Andes. Rare."

Muscisaxicola mentalis, D'Orb.

"This little bird migrates to the coast in flocks in the months of June, July and August. Iris brown."

Muscisaxicola rufivertex, D'Orb.

"Inhabits elevated mountains of the Andes, near the snow."

Muscisaxicola nigra, Less. *Animita*.

"Inhabits margins of rivers in sandy places. Found in pairs the whole year."

Anthus correndera, Vieill.

"This interesting little bird inhabits moist plains and margins of marshes: when it flies it expands its tail and shows the two exterior white feathers: it is remarkably tame, and hides itself amongst high grass. Iris brown."

Cyanotis omnicolor, Swains. *Pajaro de Siete colores*.

Crithagra? brevirostris, Gould. *Chirique*.

"The Chirique is seen in the interior and on the coast of Chile in flocks of several thousands together. It builds its nest among high grass on the ground. Eggs dirty white with brown spots."

Chrysometris campestris, Gould. *Zilguero*.

"This little bird is common about Valparaiso in the months of September and October, on the mountains. It is caught with birdlime and in trap-cages, and sold in the market. It is kept in cages for its song, which is almost as agreeable as that of the canary. Iris brown."

Chrysometris Magellanicus, Bonap. *Zuilguero de la Cordelliera*.

"This little bird confines itself to the valleys of the Andes on the east and west side. Iris brown."

Zonotrichia mutatina, G. R. Gray. *Chincol*.

"Found in all parts of Chile, also in valleys of the east side of the Andes: builds its nest on bushes. Eggs white with brown spots."

Fringilla alaudina, Kittl. *Pichiquina*.

"This little bird makes its appearance in the summer months: inhabits corn-fields: builds its nest on the ground, and lays from four to five whitish eggs with brown spots. Iris dark brown."

Fringilla fruticeti, Kittl. *Jalé*.

"Inhabits hedges and bushy situations. Iris brown."

Fringilla Gayi, Edoy. et Gerv. *Cometocina*.

"The Cometocina visits the coast of Chile during the winter, and in summer it migrates to the valleys of the Andes. It is found both on the east and west sides. The name in Spanish signifies Bacon-eater; but why so called I know not. Iris light brown."

Fringilla Diuca, Mol. *Thiuca* and *Diuca*.

"The Diuca is common in all parts of Chile: during the summer months it sings before the dawn of day and in the afternoon. It is a splendid sight to see the sun rise over the Andes in the months of October and November, and the pleasure is moreover enhanced by the warbling of a thousand Diucas. It builds its nest in bushes, and lays from four to six dirty-brown-coloured eggs. Iris light brown."

Emberiza luteocephala, D'Orb. *Canaria*.

"Inhabits the elevated valleys of the Andes, east and west sides. Iris reddish brown."

Phytotoma rara, Mol.

"Called *Rara* by the natives, and is generally found near houses on bushes and hedges. It is a most mischievous bird in gardens, doing considerable damage to young plants by cutting them in two with its serrated beak: it appears to live on the juice of the plants. The note of this bird is singularly harsh, resembling more the croaking of a frog than the note of a bird. Iris bright red."

Sturnella Loica, Mol. *Loica*.

"The Loica is found in all parts of Chile. It congregates in winter on the plains, builds its nest on the ground amongst grass, and lays from four to six whitish eggs with brown spots. These birds often prove an annoyance to the sportsman in Chile, from the dogs pointing at them as at partridges. Iris brown."

Icterus Thilius, Mol. *Thili* or *Trili*.

"Occurs in marshy situations, and builds its nest amongst reeds, rushes and light grass: eggs white with brown spots. Iris dark brown."

Agelaius curaceus, Mol. *Tordo*.

"This bird is found in all the intermediate provinces of Chile. It congregates in the winter like the Loica and Thili. The Tordo builds

its nest on trees: in size and material the nest resembles that of the thrush of Europe, and is lined with mud inside in the same manner. It lays from four to six eggs of a pale blue colour inclining to white. This bird is easily domesticated, and may be taught to whistle and talk. Iris dark brown."

Conurus cyanolysios, Mol. *Psit. Patachinus*, Vig. *Loro* and *Tricague*.

"It makes holes in the precipices near rivers several yards in length, where it deposits its nest and eggs. The eggs are white and almost round, and vary from three to six in number. The young are highly esteemed for the table, and are obtained by attaching a fish-hook to the end of a long pliable stick, which is thrust into the hole and turned round, or drawn backwards and forwards, until such time as the person using it considers his object secured. The natives when employed in capturing these birds incur considerable danger, since they suspend themselves from the tops of high precipices by means of a laso or hide-rope, which is either secured to a tree or stake or held by two or three persons, who move as occasion requires. Iris white."

Psittacara cheroyeus, Mol. (*P. leptorhynchus*, Vig.) *Cheroy*.

"Inhabits the province of Colchagua."

Colaptes Pitiguus, Mol. *Colaptes Chilensis*, Vig. *Pitigue*.

"The Pitigue is found in all the southern provinces of Chile in woody situations; sometimes it may be seen on the ground seeking worms and grubs. It takes its name from its cry or scream, which may be heard at a great distance. Molina has committed an error by stating that this, unlike the rest of the family to which it belongs, builds its nest in holes in the ground. I have frequently found its nest in holes of trees, but never do I remember having seen or heard of an instance of its building as Molina asserts. The flesh is eaten. Iris greenish yellow. Eggs white."

Picus lignarius, Mol. *Picus Kingii*, G. R. Gray. *Carpentero*.

"Inhabits woods and hedges."

Trochilus gigas, Vieill. *Picaflor grande*.

"The *Troch. gigas* is found in all the intermediate provinces of Chile: it is seen about Valparaiso during the spring and summer months, feeding on the flowers of *Pourretia courc tata* and *Lobelia polyphylla* in preference to others. It generally builds its nest near a little rivulet, frequently on a solitary twig or branch over the water; the nest is beautifully constructed, and is composed of moss and the down of a species of *Gnaphalium*. Eggs white; iris dark brown. Catches flies."

Trochilus Millerii, Loddiges. *Picaflor de la Cordelliera*.

"This beautiful and rare species of humming-bird is only found in the elevated valleys of the Andes, residing amongst storms of hail, rain and thunder, and in places where the naturalist would least expect to find a species of *Trochilus*. It subsists more upon small flies than upon the nectar of flowers. On examination of the crops I found them filled with flies, which they take before sun-down along

the margins of the mountain rivulets. The specimens in the present collection were taken at Los ojos de Agua, province of Aconcagua, at an elevation of from 6000 to 8000 feet, and I saw them at least 1000 feet above that place. Iris brown."

Trochilus galeritus, Mol. (*T. Kingii*, Vig., *T. sephanoides*, Less.) *Picaflo*.

"Found about Valparaiso in abundance in the months of August, September and October. Feeds on the *Loranthus tetrandrus*, a parasitic plant growing on the olive. It is taken by the boys with bird-lime, made from the berries of the above-mentioned plant. This species of humming-bird is seen as far south as the island of Chiloe, in lat. 42° south. The females are destitute of the flame-colour on the head, and appear to be less numerous than the males."

Columba Fitzroyi, King. *Torcasa* and *Torquasa*.

"The *Torcasa* is found in all the southern provinces of Chile. Near Santiago it assembles in the winter in immense flocks, feeding on young grass and *Alfalfa*. In summer it migrates to the forests of the southern provinces to rear its young, and then feeds on the berries of the laurel. Iris reddish brown."

Columba Boliviana, D'Orb. *Tortola Cordellierana*, *i. e.* Dove of the Andes.

"This dove inhabits the Andes, but in winter it visits the coast for a short time. When put to flight it makes a whistling noise with its wings. Generally seen in small flocks."

Zenaida aurita, Temm. *Tortola*.

"This is the most common of the *Columbidæ* found in Chile. It assembles in winter in large flocks, and is killed and brought to the markets of Santiago and Valparaiso in large quantities. Iris dark brown."

Columbina strepitans, Spix. *Tortolita cyana*.

"This pretty little species of dove is found in the valley of Aconcagua in Chile, and more abundantly on the eastern side of the Andes near Mendoza. Iris greenish white."

Nocthura perdicaria, G. R. Gray. *Perdiz*.

"This bird is dispersed over all the Republic of Chile; it is found on the bushy sides of the mountains and in corn-fields. They are either solitary or in pairs, but never congregate: their eggs are of a beautiful dark purple colour, and from ten to fifteen in number. When sprung they utter a shrill whistle, and their flight is very rapid for a short distance. The male scarcely differs in plumage from the female. Iris brown."

Tinocorus D'Orbignianus. *Perdiz de la Cordelliera*.

"Inhabits elevated valleys and mountains of the Andes, both on the east and west sides. The male shows a strong attachment for its mate, and calls her immediately when separated. Found in pairs. Iris brown."

Tinochorus Eschscholtzii. *Perdizita* and *Perdigon*.

"This interesting little bird is found on plains in Chile. When it rises from the ground it takes a rapid and circular flight, often returning to the same spot from whence it rose. In winter they assemble in flocks. Iris brown."

Eudromia elegans, D'Orb. *Martinella*.

"Found in pairs on the Pampas near Mendoza."

Hæmatopus niger, Temm. *Tira Tira*.

"Found along rocky shores in small flocks: it utters a loud shrill whistle when put to flight. Feeds on *Buccinum concholepas* and the various species of *Patella*. Legs white; iris yellow."

Hæmatopus palliatus, Temm. *Pilpileu*.

"Inhabits sandy shores of Chile north of Valparaiso. It feeds on marine insects and assembles in small flocks. Iris yellow; legs white."

Ardea major? Mol. (*Ardea Cocoli*? Linn.) *Cuca*.

"This fine species of *Ardea* is probably the *A. major*, Mol.; it is very rare, and is only seen occasionally along the banks of rivers in the southern provinces of Chile."

Ardea Thula, Mol. *Garsa cirigonia* and *Garsa Chica*.

"Iris pale yellow; fore part of the legs black; hinder part yellowish green. Food small fish, frogs, and the larvæ of *Libellula congregates* in the spring. Builds its nest on trees near lakes, ponds and marshes."

Herodias galatea, Mol. (*Herodias leuce*.) *Garsa grande*.

"Inhabits lakes, marshes and rivers. Iris pale yellow; bill yellow; legs black."

Ciconia Pillus, Mol. (*Ciconia Maguari*.) *Pillo* and *Pillu*; pronounced *Peel-yu* and *Pe-yu*.

"This noble bird is often seen in the marshes of the province of Colchagua, and feeds on a species of lobster, called by the natives *Cangrejo*, which is abundant in the marshes and moist meadows. The habitat of the *Cangrejo* may be known by the extraordinary cylinders which it makes with the mud taken from its caves; sometimes they are elevated a foot above the surface of the soil, looking like so many little columns. The *Pillu* whilst stalking amongst them catches the *Cangrejo* on the top depositing its load brought from the bottom of the cave. I once took from the crop of those birds three entire mice, no doubt caught by them amongst the grass in the marshes. Iris pale yellow."

Nycticorax cyanocephalus, Mol. (*Nyc. Americanus*, Bonap.) *Guedavo*, *Huedavo*.

"This appears to be the *Ardea cyanocephala*, Mol., p. 260. It may almost be considered a nocturnal bird; it flies and seeks its food in the evening; during the day it is generally seen sleeping on trees or bushes whose branches extend over the water. Iris large, pale orange-colour; legs yellowish green; eggs pale blue. Flesh said to

be excellent eating. This bird varies much in its plumage according to age."

Phænicopterus Chilensis, Mol. (*Phæn. ignicapillus*, Is. Geoff.) *Flémenco* and *Cheuque*.

"Inhabits shallows in the lakes and rivers, especially in the southern provinces of Chile. Eye small; iris pale yellow; base of the bill rose-colour; point of the bill to the curvature black; legs sea-green, inclining to grey; feet and heel-joint deep rose or pink colour. It is a magnificent sight to see five hundred of these beautiful birds in a flock, wading in the shallows of the lakes, and no less so when they rise on the wing; the contrast of the black feathers beneath the wings and the lovely scarlet and rose colours producing a very pleasing effect. I have never been able to ascertain where these birds build their nest, but it is probably in the remote and elevated valleys of the Andes in marshy places, together with the numerous species of the *Anatidæ*."

Platalea ajaja, Linn. *Cuchareta*, *i. e.* Spoonbill.

"A rare bird in Chile; it is found in small flocks of five or six along the margins of rivers south of Valparaiso, and is a shy bird."

Harpiprion Cayanensis (*Ibis (Falcinellus) Ordi*, Bonap.). *Cuervo* and *Gallereta*.

"The *Cuervo* inhabits marshy places and occurs in immense flocks. When on the wing it always flies in some geometrical figure. Food aquatic insects. Iris crimson."

Theristicus melanops, Wagl. *Banduria*.

"The *Banduria* is not uncommon in the interior of Chile. Frequently seen in marshy places in small flocks; builds its nest on trees near water. It is easily domesticated. The flesh is eaten by the natives. Iris pale red."

Numenius Hudsonicus, Lath. *Perdiz de la Mar*.

"Inhabits sandy bays along the shores of Chile. Feeds on marine insects."

Himantopus nigricollis, Vieill. *Perrito*.

"Inhabits the margins of lakes and rivers. Legs red; iris dark brown."

Philomachus Chilensis, Mol. (*Vanellus Cayanus*, Auct.) *Queltregue* and *Queltregue*.

"A very common bird on the plains near the Andes; it feeds on locusts during the summer. The eggs of this bird, in size and colour, resemble those of the lapwing of England, so much so that it would be difficult to distinguish them, and are also excellent eating. Iris pale purple."

Oreophilus totanirostris, Jard. & Selb.

"This is a very rare bird, probably a native of the Andes. It makes its appearance on the plains in small flocks in the winter. Iris brown. Rare."

Strepsilas Interpres, Ill.

"Inhabits sandy shores and mouths of rivers. Iris brown."

Charadrius Virginianus, Wils.

"Inhabits sandy shores and mouths of rivers. Iris brown."

Squatarola Urvillii (*Squatarola cincta*, Jard.; *Charadrius rubecola*, King).

"Inhabits sandy shores and mouths of rivers. Iris brown."

Hiaticula bifasciata.

"Inhabits the shores and margins of lakes in Chile."

Phalaropus Wilsonii, Sab.

"Inhabits the lake of Quintero. Rare."

Limosa Hudsonicus, Sw. *Avecasina de la Mar*, i. e. Sea-Snipe.

"Inhabits the mouths of rivers near the sea. Rare."

Scolopax Paraguaica, Vieill. *Avecasina* and *Porrotero*.

"Found in large flocks in the marshes during winter. Iris brown."

Rhynchea semicollaris, G. R. Gray. *Avecasino pintada*, i. e. Painted Snipe.

"Inhabits marshes. Bill and legs pale green; iris brown."

Rallus sanguinolentus, Sw. *Piden*.

"Iris bright red; bill blue at the base and light green at the tip. Inhabits marshes and margins of rivers. The flesh is highly esteemed; by the Chilenos considered equal to that of the partridge."

Gallinula crassirostris, J. E. Gray. *Taguita*.

"The Taguita is found in marshes, rivers and lakes. Iris red; legs brown; bill pale green. Eggs brown or dirty white with reddish spots."

Fulica galeata, G. R. Gray.

"Found abundantly in the lakes of Quintero and Santa Domingo. Legs reddish brown."

Anser melanopterus, Eyton. *Pinguen*.

"Found during the winter, in pairs, on plains near the Andes, in the province of Colchagua."

Chlæphaga Magellanica, Eyton. *Canquena*.

"Found in the winter months on the plains."

Cygnus nigricollis. *Cisne*.

"This noble bird is found in all the lakes near the coast of Chile. Iris brown. In pairs."

Rhynchaspis maculatus. *Pato Abaston*.

"Found in lakes and rivers near the sea."

Querquedula creccoïdes, Eyton. *Pata Jergon Chico*.

"Inhabits rivers and lakes. Common. Iris brown."

Querquedula cærulata, Eyton (*Anas Rafflesii*, Vig.). *Pato colorado*, or Red Duck.

"This beautiful species of duck is found in the lakes and rivers in small flocks. Iris pale red."

Mareca Chilensis, Eyton. *Pato real*, or Royal Duck.

"Inhabits rivers and lakes. Found in pairs."

Anas chalcoptera, Kittl. (*Anas specularis*, King.) *Pato del Estero*.

"This is a rare species of duck: it inhabits the rivers and lakes in the province of Colchagua where wood abounds. It does not congregate like the other species, but is mostly seen in pairs. Iris brown; web between the toes black."

Anas Bahamensis? Linn. *Pato Jergon grande*.

"Inhabits rivers and lakes. Common. Iris brown."

Erismatura ferruginea, Eyton. *Pato Pimpillo*.

"This is a very difficult bird to obtain, being very shy and diving when you approach within gun-shot of it. Found in the lake of Quintero."

Podiceps Kalipareus, Quoy et Gaim. *Gualita de la Mar*.

"This species confines itself to the sea, and assembles in large flocks in the months of September and October. Found in the bay of Valparaiso and along the coast. Iris red."

Podiceps Rollandii, Quoy et Gaim. *Pollolo*.

"Inhabits rivers and freshwater lakes near the coast. Iris red."

Podiceps Chilensis, Garnot. *Guala* and *Gualon*.

"This fine species of grebe inhabits the sea and freshwater lakes near the coast of Chile. Iris light brown."

Puffinus cinereus, Steph.

"Rocky islets near the bay of Quintero."

Pelecanoides Garnotii, G. R. Gray. *Palo yunco*.

"Inhabits the bay of Quintero. Rare."

Procellaria glacialoides, Smith.

"Found in the bay of Valparaiso."

Daption Capensis, Steph. *Tablero*.

"Found off the coast of Chile, from thirty to forty miles distant from land. Iris dark brown."

Merganetta armata, Gould. *Pato de la Cordelliera*.

Larus dominicans? Licht. *Quilla*.

"Inhabits the shores of Chile; in sandy shallows near the mouths of rivers. Iris brown."

Xema (Chroicocephalus) cirrocephalum, G. R. Gray. *Caguil*.

"Found with *L. dominicans*?"

Rhynchops nigra, Linn. *Tijereta*, or Scissor-bird.

"This species of *Rhynchops* inhabits the coast of Chile; its favourite abode is the warm sandy shallows in the lakes and mouths of rivers. It assembles in large flocks in the spring. Iris brown; legs red."

Phalacrocorax Gaimardii (Phalacrocorax cirriger), King. *Pato Lila*.

"Inhabits the bay of Valparaiso. Iris dark green; legs red."

Phalacrocorax Brasiliensis? Spix. *Yeco* and *Pato del Diablo*, or Devil Duck.

“ This bird builds its nest on the summits of the loftiest trees, in flocks of many thousands in the bay of Valdivia, near a place called Los Guauros, south of the island of Mansera. It is impossible to remain long in the place where they build, owing to the offensive smell occasioned by their dung, together with the putrid fish which falls from the trees brought for their young. They obtain their food by diving near the rocks along the shore, and are capable of remaining long under water. Iris sea-green.”

Sula ——— ? *Piguero*.

“ The Piguero inhabits the coast of Chile from the island of Chiloe to Copiapo. It is amusing to watch the motions of this bird when flying over the surface of the sea. The moment it perceives a fish, it folds its wings and falls with the rapidity of lightning into the water, diving no doubt to a considerable depth, and often rises with the fish in its mouth. The base of the bill, gullet and legs are a beautiful light purple. Iris light brown.”

The following species are found in the vicinity of the city of Mendoza, and are not found on the western side of the Andes :—

Progne purpurea, Boie. *Golondrina*.

“ This beautiful bird makes its nest in holes along the steep banks of the rivers of Mendoza ; also in precipices near the thermal springs at Villa Vicencia. Iris dark brown.”

Muscivora Tyrannus, Gray. *Tijerata*.

“ This singular bird is very pugnacious when setting ; when on the wing it extends its tail, which gives it a very singular appearance. It takes its name from its tail resembling a pair of scissors. Inhabits fields and vineyards near Mendoza. Iris dark brown.”

Lichenops (Fluvicola cyanirostris), D'Orb.). *Virey*.

“ This curious little bird receives its name from its note, which it makes on the wing. It perches on the top of a bush, and on a sudden ascends for two yards in the air, and whilst so doing calls out ‘ *Vi-rey*,’ returning to the same twig from whence it rose. It feeds on flies and insects, and inhabits the valleys of the Andes near Villa Vicencia. Bill blue ; legs black ; iris dark brown.”

Turdus fuscater, D'Orb. *Zorzal*.

“ Inhabits the vicinity of Mendoza. Iris brown. Sings equal to the blackbird of England.”

Mimus tricaudatus, D'Orb. *Calandria*.

“ This bird has a soft and melodious note ; it sings when the sun is nearly lost in the horizon, which perhaps may give it a greater charm. Iris brown.”

There is in the collection another species from this locality (Mendoza) called *Trenca*, the technical name of which has not yet been made out.

Rhynomya lanceolata, D'Orb. *Turco*.

“ Found in bushy places on the Pampas near the river Tunilyan. Iris brown.”

Molothrus niger, Gould. *Tordo*.

“ Found in small flocks in fields near Mendoza. Iris dark brown.”

Diplopterus guira, Gray. *Urraca*, or Magpie.

“ This bird is noisy and restless in its habits; it is found in gardens, vineyards, &c. near Mendoza. Iris pale yellow.”

Mr. Fraser observed that an entire series of the above Chilian Birds is contained in the museum of the Earl of Derby.

August 8, 1843.

Prof. Owen in the Chair.

A letter from the Society's Corresponding Member, H. J. Ross, Esq., was read. This letter is dated Malta, July 3, 1843, and announces the receipt of various packages forwarded to Mr. Ross by the Society. This gentleman offers his services in collecting for the Society at Malta, and gives an account of a species of Petrel found in that island, which he thinks is possibly new to science. He observes, moreover, that in his former letters he had omitted to state that the Common Nuthatch (*Sitta Europæa*) is common at Kaipariah.

Mr. Fraser stated that he had received the following observations from Mr. George Loddiges, relating to some species of Humming Birds described in the Society's Proceedings:—

Ornismya vestita, Revue Zoologique, 1838, p. 314; 1839, p. 18; 1840, p. 8, is your *Trochilus uropygialis*, Proc. Zool. Soc. 1840, p. 15.

O. heteropogon, Revue Zool. 1839, p. 354; Mag. de Zool., 1840, pl. 12, Oiseaux, is your *T. coruscus*.

O. microrhyncha, Boissenneau, Revue Zool. 1839, p. 354, Dec.; Mag. de Zool. 1840, pl. 16, Oiseaux, is your *T. brachyrhynchus*.

O. ensifera, Revue Zool. 1839, p. 354, Dec.; Mag. de Zool. 1840, pl. 15, Oiseaux, is your *T. Derbianus*.

O. Bonapartiæ, Revue Zool. 1840, p. 6, is my *T. aurogaster*. The female only is described.

O. Temminckii, Revue Zool. 1839, p. 354, Dec.; Mag. de Zool. 1840, pl. 14, Oiseaux, is my *T. cyanopterus*.

O. Guerinii, Boissenneau, Revue Zool. 1840, p. 7, Jan., is your *T. parvirostris*. The female only is in both described.

O. La Fresnayi, Revue Zool. 1840, p. 8, Jan., is your *T. flavicaudatus*.

O. Allardi, Bourcier, Revue Zool. 1839, p. 294, Oct.; *O. Allardi*, Bourc., Anal. des Sci. Physiques de Lyon, iii. p. 226; *O. Paulinæ*, Boissenneau, Revue Zool. 1839, p. 355, Dec.; Mag. de Zool., pl. 13, 1840, D'Orbigny's *smaragdinocollis*, is my *T. Tyrianthinus*.

Mr. Fraser read a portion of a letter from the Earl of Derby, President, relating to the hatching and rearing of Fire-back Pheasants in his Lordship's menagerie.

A species of *Cercopithecus* recently added to the Society's menagerie was exhibited. Of this species, the Secretary observed, he had seen several specimens, and that in the Leyden Museum it is labelled as the *Cercopithecus lunulatus* of Kuhl.

August 22nd, September 12th and 26th, and October 10th,
no meetings were held.

No. CXXVII.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.

October 24, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from the Society's Corresponding Member, J. B. Harvey, Esq., was read. In this letter, which is dated Port Lincoln, February 14, 1843, Mr. Harvey announces that he had forwarded for the Society's Museum several jars, containing numerous zoological subjects preserved in spirit. The specimens referred to were laid before the Meeting, and were contained in seventeen bottles; among them were many invertebrate animals of considerable interest and some specimens of marsupial mammals in a foetal condition.

The Chairman observed, that it was with the greatest regret he had to announce the recent death of Mr. Harvey, a gentleman who had for many years past been one of the Society's most active and zealous Corresponding Members,—one to whom the Society was greatly indebted for very numerous valuable presents, and for several interesting communications.

A stuffed specimen of the Cassowary, presented by Her Majesty the Queen, and a specimen of the Great Northern Diver, presented by J. B. Robinson, Esq., were exhibited. On the table was also a specimen of the Common Chameleon, presented by Dr. J. B. Thompson, and in a note which accompanied it that gentleman states that the specimen had lived for two months in this country, but at the end of that time died in a spasmodic fit, apparently occasioned by the sting of a wasp, which had been observed flying about it. On the afternoon of the day that the chameleon was supposed to have been stung, it became very restless, and changed its hue oftener than usual; it continued in this state for two days and died on the third.

The following papers were read:—

“Notes of the Dissection of a Female Orang-utan (*Simia Satyrus*, Linn.),” by Prof. Owen.

“The female Orang-utan which died October 11th, 1843, was examined by me on the following day. Its weight was 41 lbs.; its age probably between five and six years. The living animal, when first received at the Gardens, January 4th, 1839, weighed 33 lbs. 8 oz. The acquisition of the permanent series of teeth had been in progress nearly a year. Of this series the first true molar tooth on each side of both upper and lower jaws was first acquired; then the two middle lower incisors; next the two large middle upper incisors cut the gum. The two lateral upper incisors and the left lateral lower incisor were soon after displaced, but their successors had not made their appearance through the gum at the time of the death of the animal. At this period, therefore, the following deciduous teeth

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were retained in the jaw: the right lateral lower incisor, the four canines, and the eight molars.

"The permanent teeth (bicuspidæ) destined to succeed these had their crowns about half formed. Those of the large permanent canines were in the state of hollow cones, supported, like the foregoing, by large and highly vascular matrices, in the course of conversion into the dental substance. The crowns and fangs of the lateral permanent incisors were almost completed. There was no trace of the matrix of the last true molar tooth in the lower jaw.

"The membranes of the brain were unusually injected, and there was much serum between the arachnoid and pia mater. An unusual quantity of serum had likewise been effused into the cavities of the thorax, pericardium and abdomen.

"The principal and lethal morbid changes were found in the chest: the right lung adhered by nearly the whole of its superficies to the surrounding parietes. Its substance was disorganized throughout by numerous tubercles, some of which had begun to soften in the centre. The left lung had been the seat of more recent and active inflammation; its cellular tissue was gorged with bloody serum, and its lower part hepatized. A small cyst, with firm parietes and clear fluid contents, adhered to its surface. The heart had an oval patch, two-thirds of an inch broad, of opaque lymph upon its surface, as in a former Orang: a cyst like that on the left lung adhered to its surface. The mucous membrane of the trachea and bronchi was of a rose-tint, and the tubes loaded with frothy opaque mucus.

"The right lobe of the liver was enlarged and congested; there was a slight adhesion of the epiploon to the spleen, which organ presented a slight anomaly sometimes observed in Man, viz. a small separate supplemental spleen, about half an inch in diameter, attached to the epiploon, just below the spleen proper. With the exception of a slight increase of vascularity at one or two parts, the whole alimentary tract was in a sound state.

"The laryngeal sacs were expanded as far as the clavicles and shoulder-joint, but did not extend below the clavicles.

"The ovaria were of a narrow elongated form, with a slightly tuberculated surface. I obtained ova from several of the graafian vesicles, and one of these contained two ova: they closely resemble those of the human subject, have a thick transparent vitelline tunic, containing the minutely granular contents and germinal vesicle: diameter $\frac{1}{200}$ th of an inch."

Prof. Owen exhibited one of these ova, and concluded by observations on the brain of the Orang-utan. Its weight was 11 oz. 2 drs. 12 grs. avoird., including the injected *pia mater*.

"Descriptions of new species of *Scalaria* and *Murex*, from the collection of Sir Edward Belcher, C.B.," by Mr. Hinds.

SCALARIA GLABRATA. *Scal. testâ elongatâ, politâ; anfractibus decenis, rotundatis, ferè disjunctis; costis membranaceis, vicinis suprâ et infrâ connatis, propè suturam dilatatis; anfractu ultimo decem-costato; aperturâ ovali; umbilico peritremate tecto.* Axis 8 lin.

Hab. Amboina; Straits of Macassar; Straits of Malacca. On a muddy floor, in from ten to seventeen fathoms.

The specimens were all obtained without the animal, but the mottled appearance which they present seems to indicate, that when recent they were most probably of a light brown colour.

SCALARIA DIANÆ. *Scal. testá ovatá, acuminatá, politá; anfractibus septenis connatis, costis valdè alaformibus ornatis; anfractu ultimo hexacostato, ad basin obtusè carinato; aperturá rotundatá, infernè subtruncatá; peritremate extùs alato; umbilico nullo.*
Axis 5 lin.

Hab. Gulf of Nicoya; from thirty-six fathoms, among mud.

SCALARIA VESTALIS. *Scal. testá ovato-elongatá, pallidá; anfractibus nonis rotundatis, connatis; costis numerosis, tenuibus, sparsim varicosis, lineis transversis eleganter cancellatis; aperturá ovali; umbilicatá.* Axis $4\frac{1}{2}$ lin.

Hab. New Guinea; from seven fathoms, among mud.

An elegant cancellated species, with numerous fine ribs, which, when becoming varicose, are slightly spined above. The number of ribs on the last whorl appears little liable to fluctuation, and they become a very useful and valuable character in the discrimination of the species. In *S. vestalis* their number is twenty-two.

SCALARIA SUTURALIS. *Scal. testá elongatá, pallidè fuscá; anfractibus decenis, connatis; costis numerosis, parvis, approximatis, lineis transversis decussatis, subdistanter varicosis; suturá et anfractu ultimo ad basin carinato; aperturá subrotundá; umbilico nullo.* Axis 8 lin.

Hab. Straits of Malacca; from seventeen fathoms, among mud.

An elongated shell; also somewhat cancellated by lines traversing the numerous small ribs. At intervals of something less than the volution of each whorl a thick rounded varix is formed: a keeled line also occupies the most inferior portion of the whorl, close to the suture. The specimens had been left by the animal some time previous to being captured, and though they are not in very good condition, there still remains a disposition to a dark brown banding.

SCALARIA ACICULINA. *Scal. testá elongatá, politá; anfractibus decenis subdisjunctis; costis rotundatis, supernè angulatis; anfractu ultimo decemcostato; aperturá ovali; umbilico parvo.*
Axis $3\frac{1}{2}$ lin.

Hab. West coast of intertropical America.

SCALARIA CREBERRIMA. *Scal. testá ovato-elongatá, albidd; anfractibus septenis, connatis, costis tenuibus creberrimè instructis; aperturá ovali; umbilico nullo.* Axis 3 lin.

Hab. North coast of New Guinea; from seven fathoms, among mud.

The whorls are closely set with ribs, in numbers almost too great to be enumerated.

SCALARIA PORRECTA. *Scal. testá ovato-elongatá, fuscá, politá; anfractibus octonis, connatis, supernè rotundatis; costis acutis, supernè aculeatis; anfractu ultimo septemdecemcostato, pallidè fasciato; aperturá ovali, ad basin truncato; umbilico nullo. Axis* $4\frac{1}{3}$ lin.

Hab. Straits of Malacca; from seventeen fathoms, among mud.

SCALARIA VULPINA. *Scal. testá elongatá, fuscá; anfractibus nonis rotundatis, connatis; costis obtusis, rotundatis, lineis elevatis decussatis; suturá profundá; anfractu ultimo novemcostato, ad basin obtusè carinato; aperturá rotundá; umbilico nullo. Axis* 3 lin.

Hab. Island of Quibo, Veragua, Central America; from thirty fathoms, among mud; the temperature below being 58° , and at the surface 82° .

A pretty little shell, which, under first impressions, the propriety of placing in *Scalaria* might be called in question, though it possesses the characters assigned to the genus. Still there is a difference of character and appearance, which creates a momentary hesitation. But, together with its deep suture, the basal whorl is provided at its inferior surface with a blunt keel, which is also to be met with in a few other species of *Scalaria*, but I am not aware in any other genus, and which induces me to place it here without the least doubt as to the propriety of its location.

The following new species of *Murex* were collected, with three exceptions, during the voyage of the Sulphur, under the command of Sir Edward Belcher, C.B., and figures of them will shortly be published in the 'Zoology' of the Voyage. These descriptions are by Mr. Hinds.

MUREX ANTILLARUM. *Mur. testá subfusiformi, pallidá, trivaricosá; anfractibus septenis rotundatis; varicibus tribus rotundatis, spiniferis, posticè fornicatis; ad angulum anfractuum spind unicá elongatá, deinde quinque breviusculis; interstitiis tri-, vel rariùs, quadri-fariam noduloso-costatis, lineis transversis fuscis penicillatis; canali elongato, aperto, propè anfractum basalem subflexo, spinis duabus cavis gerente. Axis* 18 lin.

Hab. Tortola, West Indies. Mus. Cuming.

This shell is another of those typical forms of *Murex* which have recently become somewhat numerous, and which appear to be confined to the tropical seas. I am strongly disposed to think that it is meant to be represented in fig. 69 of the 'Conchological Illustrations,' which is mentioned as a variety of *M. Motacilla*, though there are still some little points of difference. A fine specimen often permits a conchologist to clear up his doubts as to specific importance, and I have had the assistance of such in drawing up the above description. Indifferent specimens are not uncommon, and Mr. Sowerby, jun. had most probably only such, and was compelled to leave it as a variety of *M. Motacilla*.

MUREX CENTRIFUGA. *Mur. testá gracillimè fusiformi, pallidè cor-*

neá, passim creberrimè striatá; varicibus tribus, subalatis, in spirinis compressis laciniatis; spiriná ad angulum anfractuum elongatá, subrectá; interstitiis nodo unico; aperturá elongatá, ovali; labro intùs lævi; canali mediocri, rectiusculo, clauso, ad basin subrecurso. Axis 16 lin.

Hab. West coast of Veragua; on a sandy floor in fifty-two fathoms. This species has the general character of *M. pinniger* and *M. capensis*, and is very closely allied to the latter.

MUREX FESTIVUS. *Mur. testá fusiformi, crassá, fulvá, trivaricosá; varicibus simplicibus, recurvis, supernè cristatis, subtilissimè creniferis; interstitiis nodulosis, lineis subgeminis transversis fuscis eleganter ornatis; aperturá ovali; labro intùs sparsim denticulato; canali valdè clauso, ad basin subrecurso. Axis 13 lin.*

Hab. Bay of Madalena, California; dredged from seven fathoms, on a sandy floor.

MUREX FOVEOLATUS. *Mur. testá fusiformi, crassá, multivaricosá, transversim creberrimè sulcatá, laminis minimis longitudinalibus foveolatá atro-purpureo pallidè bifasciatá; varicibus septenis simplicibus, posticè rotundatis, anticè margine acutá; aperturá ovali, coarctatá; labro intùs obtusè denticulato; labio interno producto; canali aperto, subrecurso. Axis 12½ lin.*

Hab. Bay of Madalena, California; with the preceding.

MUREX ANANAS. *Mur. testá fusiformi, ventricosá, crassá, multivaricosá; anfractibus septenis supernè subplanulatis, transversim costatis, costis alternatè minoribus; varicibus senis rotundatis spiniferis, spiriná supremá præcipue maximá, brevi, rectá, solidá, biplicatá, transversim compressá, cæteris brevissimis subæqualibus; aperturá roséá, rotundatá, seu paulisper elongatè ovali, posticè canaliculatá; canali mediocri, subobliquo, aperto, margine columellari rugulosá, dorso bifariam spinoso, serie supremá superante.*

Hab. West coast of Africa. Mus. Cuming.

A shell closely resembling *M. rosarium* in its size and proportions, but finds its specific distinction in its greater massiveness, the superior size of its upper series of spines, and the absence of nodules on the interstitial ribs. Both shells have a distinct fasciation of three dark bands, but our species is entirely wanting in that beautiful and elegant covering of striæ which is so conspicuous in the fine specimen of *M. rosarium* in Mr. Cuming's collection.

MUREX BELCHERI. *Mur. testá magná, fusiformi, crassá, ponderosá, pallidè fuscá, multivaricosá; anfractibus quadratis, albo fasciatis; varicibus numerosis, foliaciis simplicibus, supernè elongatis, fornicatis, atate valdè erosis; aperturá quadratá, pallidè carnéá; labro intùs lævi, infernè dente magno, crasso, obtuso; canali tortuoso, aperto, ad sinistram inclinato; umbilico præcipuè magno. Axis 66 lin.*

Hab. San Diego, California. From a bank of mud near the head of the harbour.

MUREX CALIFORNICUS. *Mur. testá fusiformi, fulvá, trivariicosá; anfractibus senis, supernè planulatis, transversim costatis, costis rotundatis, subdistantibus, ad lacinias varicum incurrentibus, intervallis costellatis, creniferis; varicibus sex-laciniatis, supremá maximá alatá, deinde gradatim minoribus creniferis; aperturá ovali, lævi; canali clauso, recurvo, ad basin purpurascente. Axis 18 lin.*

Hab. California. Mus. Cuming.

MUREX HAMATUS. *Mur. testá rhomboided, pallidè luted, multivariicosá; anfractibus septenis, inter varices areis quadratis; spirá subelongatá, acutá; varicibus senis alatis, laciniis uncinatis; aperturá ovali, infernè dente parvo acuto; canali clauso, rectiusculo. Axis 13½ lin.*

Hab. Bay of Guayaquil; from a muddy floor, in twenty-one fathoms.

This shell, together with *M. emarginatus*, *M. monoceros* and *M. Nuttali*, belong to a section of the genus which has been called by Conrad *Cerastoma*. But if the marginal tooth of the aperture is to be regarded as sufficient grounds for separation, then I fear we must draw freely on some of the typical species, where its existence seems to have been little heeded. Mr. Swainson assigns it as a character of his subgenus *Muricanthus* or *Centronotus*; but for the above reasons it ceases to possess any importance. In *M. hamatus* the situation of the tooth on the dorsal varices is marked by a small sharp notch.

MUREX CIRROSUS. *Mur. testá fusiformi, ventricosá, pallidè carneá, formosissimè multivariicosá; suturá profundá, propè nigricante; varicibus nonis sexfariam laciniatis; laciniis fistulosis, albis, respectantibus, gradatim minoribus; interstitiis costis rotundatis lacinias incurrentibus; aperturá ovali; labro intùs lævi; canali gracili, recurvo, ferè clauso, dorso bifariam laciniato, serie superiore gemind. Axis 9 lin.*

Hab. Straits of Macassar. In fifteen fathoms, among sand and fine gravel.

An uncommonly beautiful species, both from the delicacy of its colour, and the rich, varied, and elaborate character of its sculpture.

MUREX GRAVIDUS. *Mur. testá globosè fusiformi, multivariicosá; anfractibus senis rotundatis, transversim costatis, supernè fusco fasciatis; costulis approximatis, lamellosis; varicibus quinis costulis subdivergentibus transitibus, posticè foveolatis; aperturá ovali, productá; labro intùs lævi; canali longiusculo, aperto, ad sinistram inclinato. Axis 10 lin.*

Hab. Cape Blanco, west coast of Africa. From sixty fathoms.

MUREX RADICATUS. *Mur. testá fusiformi, pallidè lutescente, multivariicosá; varicibus quinis, laciniatis, anticè abruptis; laciniis compressis, subquadratis, medio lineá duplicatis, posticè medio interstitiorum exsistentibus; aperturá ovali, productá; labro intùs lævi; canali ferè clauso, ad basin subrecurvo, Axis 10 lin.*

Hab. San Blas, west coast of Mexico. From eleven fathoms, among mud.

In this species the laciniae of the varix take root near the centre of the interspace, whence they proceed directly forwards. They are of a squarish compressed shape, and are partially divided in their middle by an impressed line.

MUREX PERITUS. *Mur. testâ subrhomboidâ, albidâ, multivaricosâ; anfractibus septenis, supernè angulatis et fuscis, ultimo elongato in canallem attenuato, transversim striatis; varicibus senis tenuibus, laciniatis, anticè inter lacinias seriebus duabus eleganter crenatis; laciniis acuminatis, uncinatis, gradatim minoribus; aperturâ obovatâ; canali aperto, ad basin subrecurvo.* Axis $9\frac{1}{2}$ lin.

Hab. Bay of Madalena, California. From seven fathoms, on a sandy floor.

Mr. Bridges on the habits, &c. of some of the smaller species of Chilean Rodents.

“*Mus longicaudatus*, Bennett.—I found this mouse in the valley of Quillota, fourteen leagues distant from Valparaiso, in the vicinity of brooks and rivulets, amongst weeds and long grass, although from its appearance I should imagine it seldom takes the water. In that part of Chile it is not rare, but it cannot be considered a common species. In the province of Colchagua I have found another species approaching *M. longicaudatus* and more abundant, differing slightly in the length of its tail, and in being somewhat less in size. At first sight the two species are liable to be confounded. Probably this is the same species mentioned in p. 40 of the ‘Zool. of the Voyage of the Beagle’ by Mr. Darwin as being so numerous in the province of Concepcion.

“*Mus longipilis*—Waterh., ‘Voy. of the Beagle,’—inhabits the provinces of Aconcagua, Valparaiso and Colchagua. Its favourite haunts are the hedges made of bushes of *Mimosa Cavenia* and *Trevoa trinervis*, also other shrubs used indiscriminately for that purpose. It is necessary to explain that the hedges of the fields of Chile are renewed every year by throwing on each side of them new layers of bushes, and that they are frequently two or three yards across, forming thus a mass of decomposing wood, which gives excellent shelter for the numerous small Rodents inhabiting that country, which is so rich in this interesting group. The *Mus longipilis* is without a native name to distinguish it from the other species found in Chile. All the small species belonging to different families are known and called by the natives by the name of Llaucha, pronounced Yaw-cha, a term in the language of the Auracarian Indians signifying a mouse, and this name is current in the present day in the parts of the country occupied by the descendants of the Spaniards. The general term applied to the large species is ‘Ratones.’ There is a species found near the town of Quillota, fourteen leagues distant from Valparaiso, and probably not yet known to naturalists, called ‘Pericote.’ This animal lives in common in the caves with *Octodon Cumingii*.

“*Myopotamus Coypus*, Auct.,—*Mus Coypus*, Molina,—inhabits the

margins of rivers and lakes in the southern provinces of Chile, abounding more in the lakes than in the rivers, where the *Typha latifolia* and *Scirpus* species are plentiful to give them shelter. During the time of copulation, which takes place in September and October, the Coypo makes a mournful kind of cry, which somewhat resembles that of a young child. I was once riding along the margins of one of the streams which enters the river Teno in the province of Colchagua, and my attention was roused by a most melancholy sound, which I fancied was from a child in the water, and to my surprise I found it arose from a Coypo seated on a dead stump almost on a level with the water. I could not help listening for a few minutes at the singular noise, till on a sudden, when the Coypo saw me, it disappeared under water. The Coypo possesses a strong attachment for its young, and swims with them on its back till they are sufficiently large to follow the old ones in pursuit of their food. The places where the Coypo most abounds in Chile are the borders of the river Maypo near Santiago, the capital of the country, also in the lakes of 'Aculeo' and Quintero. The natives, especially the husbandmen, use the skin of this animal to make tobacco-pouches.

"*Octodon Cumingii*, Bennett,—*Sciurus Degus*, Molina,—*Dendrobatus Degus*, Meyen,—is the most common of all the Chile Rodents. It is found in the hedges of the central provinces of Chile, and may be seen during the day, but more generally in the afternoon. In habits it is tame, and at first sight distinguished from all other species from its activity and by its carrying the tail curved upwards like the mountain *Lagotis* or Viscacha. This little animal has a very extended range: I have seen it as far north as lat. 28°, and in south 35°, and it may probably extend further, but I do not remember seeing it in the provinces of Chiloe or Valdivia. In the province Coquimbo, where hedges do not abound, owing to the sterility of the country, it inhabits rocky situations, living amongst the loose stones on the slopes of mountains; and it is frequently found in the caves or burrows of the Chinchilla. The natives employed in killing the 'Chinchillas,' which are not uncommon about Coquimbo and Huasco, before they commence following the burrows, which they do with crow-bars, examine the dung of the animals about the caves, and from their practical knowledge they distinguish at once if the caves are inhabited by the Chinchilla or the Octodon. Nevertheless, as both animals often inhabit the same cave, they frequently after great labour find it only occupied by the Octodon. From observations which my long residence in Chile has given me, I am inclined to believe that the *Octodon Cumingii* does not breed more than twice during the year, viz. in spring and autumn, producing from four to six young at a birth. The favourite food of the Octodon is herbage near the hedges: but in the winter months, when pressed by hunger, it feeds on the tender bark of *Mimosa Cavenia*, also that of *Cestrum Palqui*.

"*Schizodon fuscus*—Waterh. 'Proc. Zool. Soc. for November 1841—is found in the Valle de las Cuevas, on the eastern side of the Andes, about six leagues from the slopes of the volcano of Peteroa, at an elevation of from 5—7000 feet, in S. lat. 35°. Its favourite abode

is near the mountain streams in grassy situations. There are certain places in the valley completely undermined by the workings of this animal; and whilst we were riding over these districts, our horses frequently plunged almost up to their knees in the burrows. Whilst rambling in search of the beautiful alpine plants I could not help feeling surprise at finding animals of this order in such a locality as those elevated valleys, which are covered with snow at least four months during the year. The question is, do they on the approach of snow-storms migrate towards the verge of the Pampas, or make a provision of dried grass and roots for the winter months? I should give my opinion in favour of the latter, judging from their enormous burrows. The *Schizodon fuscus* is nocturnal like *Poepthagomys ater*: those I procured were shot in the evening near the entrances of their caves. I have seen them burrowing and throwing the sand out of their caves during the day; but the moment they hear a noise their labours cease and they retire deeper into their caves.

“*Notice of the new animal allied to Octodon.*—This animal is found in the vicinity of the town of Curico, in the province of Colchagua; it inhabits the hedges made of dead bushes, and does not appear to burrow, like many other species. The present species may be known by the singular chirping or whistling noise which it makes. It forms its nest in the decomposing bushes and sometimes on the surface of the ground, of dried grass, and appears to live in small communities of one or two families. This animal appears to be more rare than many other Rodents, as I have never been able to find it in any other locality, except the one above mentioned.

“*Poepthagomys ater*, F. Cuvier; *Mus cyanus*, Molina.—The *Poepthagomys ater* is undoubtedly the animal alluded to by Molina under the name *Mus cyanus*; his long description of its habits agrees in most respects with the habits of this little animal; but I have never yet heard it called by the natives ‘Guanque’: it is generally known in Chile by the name of Cururo and Cuyeita; Guanque is the vernacular name of a species of *Dioscorea* on which the ‘Cururo’ subsists. Molina is perfectly correct in saying that it stores up a considerable quantity of provisions, which consist of the *Dioscorea*, *Conanthera*, *Ornithogalum*, *Brodiaea*, and other bulbs and tubers which abound in the country. The poorer class of inhabitants being aware of its habits, sound the caves or burrows, and rob them of their store, which they eat. The jaws of the Cururo are capable of extraordinary expansion, and by this provision of nature it is enabled to carry bulbs and tubers of a large size to its granary.

“The work of this little animal would surprise a person unacquainted with its habits; I have frequently seen a considerable surface of ground completely undermined by its burrows. It generally selects the slopes of hills and mountains, where bulbs are found, especially in the interior parts of the country: its caves are carried in a horizontal course, at the depth of eight or ten inches, or rather about the depth in which they meet their food.

“This little animal may be considered nocturnal, seldom or ever making its appearance during the day; those which I procured were

obtained by waiting for them in the evening, and shooting them when their head scarcely emerged from their caves.

“Whilst residing in the elevated valleys of the Andes, on the eastern side, I observed on the dry slopes of the mountains the labours of a Rodent (probably a species of *Ctenomys* or *Poephagomys*) different from any I had previously met with; the chief difference consisted in the mouth of the cave never being left open. Its mode of burrowing is similar to *Poephagomys ater*, in being near the surface; but as I was unfortunately unprovided with traps, I could not obtain one.

“*Lagotis pallipes*, Bennett.—This is the mountain ‘Viscacha’; the specimen brought home by me, and now in the British Museum, was taken on the east side of the Andes, at an elevation of 4000 to 5000 feet, between Villavicencia and Uspallata. The specimen alluded to I found soon after sunrise near Uspallata, in a rocky valley; I saw four of these animals feeding on the scanty herbage, and at first took them to be young foxes, but my men assured me to the contrary. I gave my dog in charge of one of the men, so that I might approach them; but, unfortunately, before I got within gunshot the dog got loose. It was amusing to see these animals bound over the rugged and rocky side of the mountain, swinging their beautiful brushy tail and endeavouring to regain the caves in the rock.

“There is a mountain ‘Viscacha’ on the west side of the Andes, but not having seen it, I am unable to say if it be the *Lagotis pallipes* or another species of the same genus. This animal avails itself of caves in the rock or situations extremely rugged, where large stones lie tumbled one on another, leaving spaces between them sufficiently large to admit the body of the *Lagotis*.

“*Notice of a new species of Didelphys*.—In looking over the beautiful plates of the ‘Zoology of the Voyage of H.M.S. Beagle,’ I find three species of *Didelphys* figured, and I feel pleasure in stating that I am acquainted with another species in Chile, inhabiting the province of Colchagua. It is known to the natives by the name of ‘Llaca,’ pronounced ‘Yacu.’ In its appearance it resembles *D. elegans*, but is larger in size and possesses an extraordinary fleshy tail. In 1835, whilst some men were taking down a cottage on an estate near Curico, two of those beautiful little animals were found in the thatch; one was taken alive, and after having it several days in my possession it by some means made its escape. It appears to be rare, although, from its having a native name, it might be imagined to the contrary; I frequently offered a reward to the natives to induce them to obtain another specimen, but never was able to procure one.”

“Descriptions of four new species of *Ortyx*,” by Mr. Gould.

ORTYX LEUCOPHRYS. *Ort. facie et strigâ latâ superoculâri fulvescenti-albis; nuchæ laterumque colli plumis splendide castaneis albo utrinque fimbriatis; illis dorsi superioris castaneis, plumbeo marginatis; pectore cinereo, strigâ rubidè castaneâ per plumas singulas excurrente, primariis saturatè ferrugineis.*

Face and a broad stripe over the eye buffy white; ear-coverts and crown of the head brown; feathers of the sides and back of the neck rich chestnut, margined on each side with white; feathers of the upper part of the back rich chestnut, margined with slate-grey; breast grey, with a stripe of reddish chestnut in the centre of each feather; back dark greyish brown, very minutely freckled with black; wings brown, freckled with buff and black; primaries deep rust-red; tail dark brown, freckled with buff and black; irides clear brown; feet red; bill black.

Total length, $13\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $7\frac{1}{2}$; tail, 6; tarsi, $2\frac{3}{8}$.

Hab. Coban, Central America.

In the collection of the Earl of Derby. Another specimen, in the museum of the Jardin des Plantes, is somewhat larger and brighter in colour than the one here described.

ORTYX FASCIATUS, Natt. MS. *O. cinereus, alis corporeque subtùs, fulvo, nigrescenti-fusco, et albo fasciatis.*

Forehead reddish brown; crest deep brownish black, tipped with reddish brown; chin greyish white; ear-coverts brown; sides and back of the head light brown, minutely freckled with darker brown and white; all the upper surface greyish brown, minutely freckled with darker brown and white, the coverts and scapularies passing into black towards the extremity of each feather, and crossed at the tip with a narrow band of buff; tail similarly marked, but browner than the upper surface and crossed by numerous freckled irregular double bars of dark brown and greyish white; primaries brown, with lighter edges; all the under surface brownish black, each feather crossed at the tip with a broad band of pure white, which becoming gradually wider on the centre of the abdomen, leaves that part white; on the breast the white marks are very faint, and the feathers are tinged with rufous; thighs buff; under tail-coverts light buff, with two blackish brown spots down the centre of each feather; bill black; feet flesh-colour.

Total length, $8\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $4\frac{1}{4}$; tail, 3; tarsi, $1\frac{1}{4}$.

Hab. California.

In the collections of the Royal Museum at Brussels and of His Highness the Prince Massena, to whose kindness I am indebted for the loan of the specimen here described.

For this species, perhaps the most interesting of its family, I cannot do better than retain the specific appellation proposed for it in a letter lately received from him by my late much-valued and lamented friend Mr. John Natterer of Vienna, whose talents as a naturalist are too well known to require any eulogy from me.

ORTYX LEUCOTIS. *O. facie, cristâ, et plumis auricularibus albis, fusco leviter tinctis, guld saturatè castaneâ, colli utroque latere strigâ splendidè castaneâ nigro punctatâ, ornato; corpore subtùs castaneo, albo distinctè guttato, præsertim apud pectus atque latera.*

Adult Male.—Face, crest and ear-coverts white, slightly tinged with buff; throat dark chestnut; stripe from over the eye down each

side of the neck chestnut, speckled with black; stripe down the back of the neck buff, speckled with black; sides and back of the neck spotted black and white; all the upper surface, wings and tail greyish brown, very minutely freckled with dark brown and greyish white; centre of the back blotched with black; inner webs of the scapularies and secondaries dark brown, margined internally with buff, forming a line in the direction of the body when the wing is closed; all the under surface chestnut, distinctly spotted with white, the spots separated by black; under tail-coverts buff, with a black mark down the centre of each; middle of the abdomen reddish chestnut; bill black; feet flesh-colour.

Young Male.—Crest and ear-coverts brown, head and throat striated with rufous and black; spots on the back stronger than in the adult; the colouring of the under surface similar, but much less rich, and the centre of the abdomen deep buff.

Female.—Crest and ear-coverts brown; sides of the head and the under surface pale buff, spotted and blotched with brown and black; centre of the abdomen wholly buff; all the upper surface pale brown, crossed by numerous narrow freckled bars of white; tail crossed by six or eight similar bars.

Total length, $8\frac{1}{4}$ inches; bill, $\frac{5}{16}$; wing, $4\frac{1}{4}$; tail, $2\frac{1}{2}$; tarsi, $1\frac{1}{4}$.

Hab. Santa Fé de Bogota.

ORTYX (ODONTOPHORUS) STROPHIUM. *O. vertice et plumis auricularibus nigrescenti-fuscus; facie sordide alba nigro punctata; mento albo, gula saturate nigra, lunula alba, ornatá.*

Crown of the head and ear-coverts blackish brown; sides of the face dull white, speckled with black; chin white; throat deep black, crossed by a broad crescent-shaped mark of pure white; all the upper surface dark brown, freckled and marked with sandy buff; each of the scapularies with a large patch of black near the tip of the inner web, and a stripe of buff down the centre; all wing-coverts with a spot of buff at the tip; primaries and spurious wing dark brown; breast and under surface rich reddish chestnut, with a large spot of white in the centre of each feather; vent and under tail-coverts deep brown tinged with buff; bill black; feet blackish brown.

Total length, 9 inches; bill, 1; wing, $5\frac{1}{2}$; tail, 2; tarsi, 2.

Hab. The southern countries of Mexico.

This is a most robust species, and distinguished from its congeners by its larger bill, shorter tail, and large and powerful tarsi.

The Meeting was then adjourned to November 28, the Chairman observing that as the Society was about to remove from Pall Mall to Hanover Square, it would be necessary to pass over the Meeting announced on the Society's cards for November the 11th.

November 28, 1843.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from Charles M. Willich, Esq., was read, in which that gentleman calls the attention of the Society to M. Gannal's method of preserving animal substances.

“ From the observations made by M. Gannal, and reported to the Académie des Sciences at a recent sitting, it appears that arsenic does not permanently preserve animal substances, although it prevents, for the moment, a putrid fermentation:

“ He alludes to his former communication, explaining how the salts of them act on the gelatin and preserve the animal matter from putrid fermentation by the combination of the two substances. The gelatin is thus rendered incapable of putrefaction; but the other evil, viz. the destruction by insects, is not avoided. For the latter object he proposes the following preparation:—

“ 1 kilogramme of sulphate of alum—1 kilog. = $2\frac{1}{4}$ lbs. avoird.;

“ 100 grammes of nux vomica in powder—100 grammes = $3\frac{1}{2}$ oz. av.;

“ And 3 litres of water—3 litres = $5\frac{1}{4}$ imperial pints.

“ The above to be boiled down to $2\frac{1}{2}$ litres, and then allowed to cool: the clear liquid is to be drawn off and serves for injection. The residue is employed in the following manner. With four table-spoonsful of this residue mix the yolk of one egg; let this paste be prepared as wanted. It is to be used for covering the interior of the skin, and particularly the fleshy parts which may have been left in skinning the animal. The yolk of egg serves to preserve the suppleness of the skin, tanned by the salts of alum.

“ In order to preserve the feathers of birds he proposes three modes:—

“ 1. The employment of nux vomica in powder.

“ 2. An alcoholic tincture of 100 grammes of nux vomica, macerated in 1 litre of alcohol.

“ 3. An alcoholic solution of 2 grammes of strychnine in 1 litre of alcohol.

“ Whatever mode may have been used for preserving the animal, the ravages of insects may be instantly arrested by covering with a soft brush the whole of the skin, either with the tincture or solution above described, as may be found best adapted.

“ If the feathers of birds are of delicate colour, the solution of strychnine should be employed; and for those very delicate birds, where soaking in either of the preparations is not possible, the nux vomica must be used in powder, taking care to insert it well in the apes of feathers. In all cases the inside of the skin may be rubbed with the paste.

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“In conclusion he states that from his experience he feels assured—

“That no arsenical preparation can insure the preservation of animal substances ;

“That they are destroyed by exposure to the air for a period exceeding three years ;

“That those substances enclosed in hermetically sealed cases are destroyed even in one year ;

“That the soluble salts of alum are quite effective in arresting putrid fermentation ; and

“That the employment of the preparation of nux vomica, as described, perfectly preserves animal substances from the attacks of insects.”

The following papers were read :—

“Descriptions of new species of the genus *Narica*, discovered by Hugh Cuming, Esq.,” by M. Récluz.

GENRE *NARICA*, Récluz.

Nerita species, Chemnitz ; *Sigaretus* species, Lamarck ; genre *Vanicoro*, Quoy et Gaimard olim ; genre *Narica*, Récluz, in litteras ; D'Orbigny (Alcide), Moll. Cuba ; genre *Merria*, Gray in Beechey's Voyage.

Caractères génériques.—*Animal* gastéropode, dioïque, marin, globuleux, à peine spiral. *Tête* portant un muflé assez saillant, munie de deux tentacules longs, renflés au milieu et subulés à l'extrémité, ayant à leur base externe des *yeux* sessiles et fort petits. *Pied* petit, parfaitement arrondi, séparé par un sillon profond d'un appendice antérieur ou chaperon sous-buccal, alongé, concave et en manière de trompe ; deux folioles membraneuses, assez larges, partent de chaque côté du pied et remontent en pointe vers la tête. *Cavité respiratrice* grande ainsi que la *branchie* dont les folioles sont en partie libres.

Coquille semiglobuleuse, externe, souvent transparente et mince, plus ou moins vitrée ou d'un blanc azuré, souvent aussi solide, opaque, blanchâtre et rarement rosée. *Tours de spire* striés, côtelés ou treillisés. *Spire* courte et couchée du côté de l'ouverture. *Ouverture* subarrondie, presque sémilunaire, un peu creusée en arc à la columelle, à bords désunis. *Ombilic* ouvert, souvent évasé et spiral, sans trace de funicule (*funiculus* cordon ombilical) et prolongé derrière le bord interne (*labium*) en une sorte de canal.

Opercule petit, mince, papyracé, cartilagineux, sans trace de spire à son sommet et ne laissant même pas appercevoir ses élémens, fixé à la partie postérieure du pied et lui devenant perpendiculaire quand cette portion de l'animal est rentrée. Sa surface est finement rayonnée de stries.

Observations.—Ce genre comptait il y a peu de temps quelques espèces anciennement décrites par les auteurs, savoir—1°. *Nerita cancellata*, Chemnitz (*Sigaretus cancellatus*, Lamarck) ; 2°. *Nerita tuberosissima*, Montagu (*Narica tuberosissima*, nobis) ; 3°. *Narita glabrissima*, Brown (*Narica glaberrima*, nob.). Depuis quelques

auteurs en ont fait connaître d'autres, telles sont 4°. *Velutina cancellata*, Q. et G. (*Narica Quoyi*, nobis); 5°. *Natica margaritacea*, Potier (*Narica margaritacea*, nobis); 6°. *Velutina sigaretiformis*, Potier (*Narica sigaretiformis*, nobis). À ces espèces nous ajoutons deux autres découvertes par M. Alc. D'Orbigny, décrites et figurées par lui dans ses 'Mollusques de Cuba,' savoir—7°. *Narica lamellosa*; 8°. *Narica sulcata* (la *Narica striata*, D'Orb., est la même espèce que la *Natica margaritacea*, Potier, l. c.); une, 9°, par M. Le Guillou *Sigaretus helicoides*; huit autres dues aux recherches habiles de Mr. H. Cuming qui a enrichi la conchyliologie de coquilles nombreuses et précieuses dans tous les genres. Enfin quatre autres sont le produit de nos découvertes, ce qui fait un total de vingt-et-une espèces actuellement connues. C'est aux savans travaux de MM. Quoy et Gaimard sur les Mollusques recueillis dans leur voyage de circumnavigation sur la corvète l'Astrolabe que nous devons la connaissance de l'animal de ces coquilles, connaissance qui a fait cesser toute discussion sur leur classement. En effet, les uns voulaient avec Lamarck les admettre parmi les *Sigaretes*, les autres avec Mr. Sowerby les placer au nombre des Natices, tandis qu'elles doivent être séparées de ces deux genres et être intercalées entre les *Coriocytes* de M. De Blainville (*Sigaretus*, Cuvier et Gray, non Lamarck ni Sowerby) et les *Nérites*, dans une famille particulière, à laquelle nous donnons le nom de Velutinides, *Velutinidæ*. Cette famille comprendra les genres *Narica*, *Velutina*, *Fossarus*, et peut-être le genre *Neritopsis*, dont les rapports généraux sont si grands. Nous donnerons dans un autre travail des considérations étendues sur l'affinité de ces genres entr'eux. Nous eussions accepté avec plaisir le nom de *Vanicoro* imposé à ces coquilles par MM. Quoy et Gaimard, s'il n'était du nombre de ceux que la philosophie zoologique rejette comme impropres; de même que celui de *Merria*, proposé par Mr. Gray, s'il n'était postérieur à celui de *Narica* que nous avons fait connaître dans notre correspondance scientifique et publié dans une livraison des 'Mollusques de Cuba' de M. Alc. D'Orbigny, laquelle a paru par livraison avant la vente du 'Beechey's Voyage' de Mr. Gray. Ce nom de *Narica* a été employé autrefois par Théodore Gaza et Scaliger comme synonyme de *Nérita* (voyez Aldrovanda, De Testaceis, lib. ii.), et tire son étymologie de *Nar*, mot primitif qui désigne l'eau courante.

1. *NARICA CIDARIS*. *Nar. testâ orbiculato-ovatâ, ventricosâ, anticè dilatâtâ, supernè depresso-pland, solidiusculâ, lacted, plicis longitudinalibus anticè laxioribus, subregularibus, lineis elevatis transversis æquidistantibus reticulâtâ, scabriusculâ; spirâ prominulâ, semisphericâ, apice retusâ; aperturâ subrotundâ, patulâ; labio arcuato; umbilico parvo, profundo; canali oblongo, angusto et vix arcuato.*

Hab. "From the island of Masbate, Philippines; found under stones at low water." H. Cuming.

Dimensions.—Long. 16 mill.; larg. 19 mill.; convexité 13 mill. *Overture*: long. 15½ mill.; larg. 12 mill. *Spire*, hauteur 5½ mill. C'est une espèce fort élégante.

2. *NARICA LIGATA*. *Nar. testâ ventricosò-ovata, tenuiusculâ, albâ, longitudinaliter supernèque tenuiter plicatâ, lineis transversis elevatis intermediis minoribus ligatâ; spirâ prominenti, rotundatâ, radiatim plicatâ, apice obtusiusculâ; aperturâ subrotundâ, parvâ; umbilico pervio, spirali, profundo, latiusculo; canali brevi, largo; columellâ subrectâ, medio ad basim arcuatim rotundato.*

Hab. "From Catanaum, province of Tayabas, isle of Luzon; found under stones at low water." H. Cuming.

Dimensions.—Long. 12 à 16½ mill.; larg. 19 à 20 mill.; convex. 10 à 13⅓ mill. *Ouverture*: long. 11 à 13 mill.; larg. 8½ à 10½ mill. *Spire*, hauteur 7 à 8½ mill.

3. *NARICA DESHAYESIANA*. *Nar. testâ ventricosò-globosâ, tenui, fragili, subepidermide lutescente tenuissimâ exalbida sive albâ, læviter ac creberrimè transversim striatâ; anfractibus subsenis, supernè rotundatis, longitudinaliter argutè plicatis: plicis in ultimo posticè validis, remotiusculis, anticam partem versùs evanescentibus; spirâ semirobundâ, angustè plicatâ, subacutâ; aperturâ subsemilunari; umbilico magno, patulo; canali semilunari ad sinistram et internè carinato, externè radiatim profundè ac elegantè plicato; columellâ intus et ad basim sinuatâ.*

Var. β. Testâ ventricosò-ovata, subglobosâ, plicis obsoletis; infimo anfractu angustiore.

Hab. "From St. Nicholas, island of Zebu, Philippines; found under stones at low water: and var. β from Catanauan, province of Tayabas, isle of Luzon; found under stones at low water." H. Cuming.

Dimensions.—Long. 15 à 17 mill.; larg. 16 à 19 mill.; convex. 12 à 13 mill. *Ouverture*: long. 12½ à 15 mill.; larg. 8½ à 10½ mill. *Spire*, hauteur 6 à 7 mill.

La var. β a la forme de la *Nar. ligata*, mais en diffère par ses stries toujours très fines, par ses plis nuls ou très peu apparent même au côté postérieur, par sa columelle sinueuse à sa base, et par les stries profondes qui entourent le pourtour de l'ombilic, comme sur le type auquel nous la réunissons. C'est au digne successeur des Bruguière et des Lamarck, c'est à l'émule de Sowerby que nous dédions cette belle espèce de Narice.

Opercule ovalaire, très mince, presque papyracé, cartilagineux, transparent, paillé, sans élémens spiraux au sommet, mais formant un angle par la réunion en faisceau des stries longitudinales rapprochées, rayonnant du sommet à la circonférence où elles se dirigent dans un seul légèrement arqué. Des stries circulaires et obsoletes, beaucoup plus pressés, croissent les longitudinales sans former de treillis sensible à la vue.

4. *NARICA PETITIANA*. *Nar. testâ orbiculato-ovata seu semiglobosâ, crassa, albida, obliquè et crebrè plicatâ, lineis elevatis transversis, irregularibus, angustioribus et remotioribus reticulatâ; anfractibus depresso-rotundatis; spirâ semisphæricâ, obtusâ, posticè incumbente; radiatim plicatâ; aperturâ subrotundâ, dilatâtâ; labio vix arcuato, margine in senioribus externè complanato, submedio vix anguloso; umbilico parvo; canali angusto, elongato, parum arcuato et angulo angusto cincto.*

Hab. "From the island of Masbate, Philippines; found under stones at low water with *Narica cidaris*." H. Cuming.

Var. β . *Testâ tenuiore, plicis angustis regulariter dispositis, lineis transversis æquidistantibus clathratâ, scabriusculâ; umbilico magno, profundo, spiraliter contorto; canali latiusculo, profundo, falciformi.*

Dimensions.—Long. 20 à $24\frac{1}{2}$ mill.; larg. 24 à $27\frac{1}{2}$ mill.; convex. $16\frac{1}{2}$ à 20 mill. *Ouverture*: long. 18 à 23 mill.; larg. 14 à 13 mill. *Spire*, hauteur $9\frac{1}{2}$ à $10\frac{1}{2}$ mill.

5. *NARICA CUMINGIANA.* *Nar. testâ semiglobosâ, ventricosâ, tenuiusculâ, exalbidd, transversim regulariter sulcatâ, longitudinaliter ac obliquè lineatâ, cancellatâ, scabriusculâ, ad sectiones granulatâ; spirâ prominulâ, suprâ planâ, latere carinatâ, sulcis reticulatâ et punctis valdè impressâ; apice posteriori, acuto; aperturâ dilatatâ, semilunari; umbilico profundo, coarctato, canali semilunari-oblongo, extûs annulo acuto cincto; labio supernè tenui, infernè incrassato; labro intûs submarginato.*

Hab. "From Catbalonga, island of Samar, Philippines; found in coarse sand at ten fathoms." H. Cuming.

Dimensions.—Long. 13 mill.; larg. $13\frac{1}{2}$ mill.; convex. 10 mill. *Ouverture*: long. 11 mill.; larg. 8 mill. *Spire*, hauteur 5 mill.

C'est à l'infatigable voyageur, à l'auteur d'un grand nombre de découvertes de coquilles intéressantes, que nous dédions cette belle espèce de Narice, remarquable par sa spire sculptée de trous imitant ceux d'un dé à coudre.

6. *NARICA PPLICATA.* *Nar. testâ ventricosovovatâ, subglobosâ, solidâ, albâ, longitudinaliter grossè plicatâ, lineis elevatis crebrioribus costas decussantibus circumcinctâ; anfractibus supernè depresso-planiusculis; spirâ prominulâ, laterali, subacutâ; aperturâ subrotundâ; umbilico latiusculo, profundo, spirali; canali semilunari, crenulis profundis extûs cincto; columellâ arcuatâ, basi et anticè gibbosiusculâ.*

Hab. "From the island of Ticao; found under stones at low water." H. Cuming.

Dimensions.—Long. 17 mill.; larg. 19 mill.; convex. 14 mill. *Ouverture*: long. 13 mill.; larg. 10 mill. *Spire*, hauteur 7 mill.

Belle espèce voisine par sa forme de la *Narica ligata*, dont elle diffère par ses plis et son ouverture.

7. *NARICA GUERINIANA.* *Nar. testâ orbiculato-ovatâ, depressâ, subconoided, subtûs planâ, crassâ, albido-lutescente, obliquè costatâ; costis rotundatis sulcis majoribus, interdum æqualibus, lineis transversis creberrimis eleganter cinctâ; spirâ semiglobosâ, obtusiusculâ; aperturâ semilunari, patulâ; umbilico profundo, extûs dilatato, in canalem latum, semisphæricum, extûs angulatum explanato; columellâ rectâ, suprâ lined tenuiter impressâ instructâ.*

Hab. "From the island of Capul, Philippines; found under stones at low water." H. Cuming.

Dimensions.—Long. 9 à $12\frac{1}{2}$ mill.; larg. 11 à 15 mill.; convex. 7 à 9 mill. *Ouverture*: long. 9 à 11 mill.; larg. 6 à 8 mill. *Spire*, hauteur $5\frac{1}{2}$ à 6 mill.

Nous faisons hommage du nom de cette belle Narice à M. Guérin-Méneville, savant entomologiste Français, auquel la conchyliologie doit la connaissance de beaucoup de Mollusques nouveaux dont il gratifie généreusement les disciples de cette science.

8. *NARICA DISTANS*. *Nar. testá parvá, orbiculato-conicá, tenuiusculá, pellucidá, albídá, costis longitudinalibus obliquis, angustis acutis valdè remotis, regulariter radiatá, interstitiis sub lente tenuissimè et creberrimè striatis; spirá exsertiusculá, gradatá, conico-acutá; aperturá semirotondá; umbilico dilatato, profundo; canali largo, semicirculari, intùs striato, extùs angulo acuto circumdato.*

Hab. "From Jacna, isle of Bohol, Philippines; found under stones at low water." H. Cuming.

Dimensions.—Long. 7 mill.; larg. 8 mill.; convex. $5\frac{1}{2}$ mill. *Ouverture*: long. 5 mill.; larg. 4 mill. *Spire*, hauteur 3 mill.

Les côtes de cette Narice ont un demi millimètre de hauteur.

9. *NARICA ROSEA*. *Nar. testá minimá, semiglobosá, roseá, tenui, striato-cancellatá, regulariter granosá; anfractibus tribus, supernè depresso-planiusculis; spirá prominulá, apice levi, mammillatá, rubicundá; aperturá semirotondá; columellá rectiusculá, albídá, umbilico largo, extùs in canalem latiusculum, semiobicularum producto; labro intùs striato.*

Hab. Les Moluques (M. Hardouin-Michelin).

Dimensions.—Long. 3 mill.; larg. 3 mill.; convex. 2 mill. *Ouverture*: long. $2\frac{1}{3}$, larg. $2\frac{1}{2}$. *Spire*, hauteur $1\frac{1}{3}$ mill. Cabinet de M. Récluz. Sa petitesse la rend très rare.

10. *NARICA GRANULOSA*. *Nar. testá parvá, semiglobosá, tenui, subpellucidá, albá sive albido-lutescente; anfractibus supernè planulatis, ferè gradatis, transversim regulariter striato-costatis; costis angustioribus obliquè striatis ac cancellato-granosis; spirá prominulá, semiglobosá, acutá; aperturá semirotondá, vitred; columellá tenui vix arcuatá; umbilico profundo; canali latiusculo, semicirculari.*

Var. β. *Testá albo-vitred, hyalíná.*

Hab. Les Moluques et la Nouvelle Hollande.

Dimensions.—Long. 7 mill.; larg. 9 mill.; convex. 6 mill. *Ouverture*: long. 6 mill.; larg. 5 mill. *Spire*, hauteur 4 mill. Cabinet de M. Récluz. Peu commune.

11. *NARICA ORBIGNYANA*. *Nar. testá ovato-globosá, crassiusculá, lacteá, transversim cingulatá: cingulis 5–6 obtusis, majoribus, lineis longitudinalibus decussantibus, cancellato-granosá; spirá planissimá, ad peripheriam tricarinatá: carinis obtusis, infimis majoribus; apice valdè laterali, acuto, hyalino, lævissimo; aperturá ovato-rotundatá; columellá basi crassiusculá et anticè calloso-gibbá, supernè tenuissimá; umbilico minimo, subclauso; canali lineari subrecto.*

Hab. La Nouvelle Hollande, sur les côtés de l'île Maria; très rare.

Cabinet de M. Récluz. Les caractères la rendent très distincte dès *Narica Cumingiana* et *N. sulcata* (D'Orbigny).

Dimensions.—Long. 12 mill. ; larg. $12\frac{1}{2}$ mill. ; convex. 8 mill. *Ouverture* : long. 10 mill. ; larg. 7 mill. *Spire*, hauteur $5\frac{3}{4}$ mill.

12. *NARICA BLAINVILLEANA*. *Nar. testâ ovato-globosâ, anticè dilatâtâ, striis transversis inæqualibus aratâ, posticè tenuiter plicatâ : plicis anticè obsoletis ; spirâ parvulâ, semisphæricâ, regulariter plicatâ, laterali, apice fuscâ ; aperturâ subrotundâ, lacteâ ; columellâ arcuatâ, basi et intûs subcompressâ ; umbilico profundo, angusto, in canalem semilunarem producto ; labro rotundato, intûs lævissimè striato,*

Hab. Les Moluques.

Dimensions.—Long. 10 mill. ; larg. 11 mill. ; convex. $8\frac{1}{3}$ mill. *Ouverture* : long. 9 mill. ; larg. 7 mill. *Spire*, hauteur 4 mill. Cabinet de M. Récluz.

Cette espèce a beaucoup de ressemblance avec le *Narica cancellata*, nob. (*Sigaretus cancellatus*, Lamarck ; *Merria cancellata*, Gray.) Elle est toujours plus petite, moins mince et transparente, à spire plus saillante, et à dernier tour nullement treillisé ni rude au toucher. Elle est assez rare.

13. *NARICA SIGARETIFORMIS*. *Nar. testâ globoso-acutâ, tenui, exalbidd, pellucidâ, fragili ; anfractibus 5-6 transversim subtilissimè striatis ; spirâ prominenti, conico-acutâ ; apice elongato, corneofusco ; aperturâ semirotundâ ; columellâ tenuissimâ, vix rectâ ; umbilico rotundato, dilatato, profundo, spirali, in canalem subsenis oblongum producto.*

Velutina Sigaretiformis, Potier, Gal. Moll. Mus. Douai, pl. 39. f. 21, 22, *malæ*.

Hab. La Nouvelle Hollande, très rare.

Dimensions.—Long. 7 mill. ; larg. 7 mill. ; convex. $5\frac{1}{4}$ mill. *Ouverture* : long. 5 mill. ; larg. 3 mill. *Spire*, hauteur $2\frac{3}{8}$ mill.

M. Potier a donné de cette espèce une description très vague et incomplète qui ne permet pas de la reconnaître ; elle n'est pas d'ailleurs dans les formes suivies dans les sciences. Les figures que cet auteur a publiées ne montrent pas le *nucleus* allongé, cylindrique, aigü, très fin et d'un corné-brun qui caractérise cette Narice. Ces diverses considérations m'ont porté à en donner une description plus correcte. Cabinet de M. Récluz.

“Descriptions of new species of *Delphinula*, a genus of pectinibranchiate Mollusks, collected for the most part by H. Cuming, Esq. in the Philippine Islands,” by Mr. Lovell Reeve.

1. *DELPHINULA SCALARIOIDES*. *Delph. testâ globulosâ, albâ ; anfractibus rotundis, varicosis, varicibus elevatis, solidis, annuliformibus ; interstitiis transversè striatis, striis elevatis ; intus margaritacé.*

Conch. Icon. *Delphinula*, pl. 3. fig. 11, *a* and *b*.

Hab. Island of Mindanao, Philippines (under stones at low water) ; Cuming.

The whorls of this species, which is not punctured like the *Delphinula Peronii*, are encircled with solid rings about seven to the whorl, after the manner of a *Scalaria*; the shell might indeed be mistaken for one, were it not for its solidity and pearly interior.

2. DELPHINULA VARICOSA. *Delph. testá angulato-globosá, albá, foraminibus sparsim puncturatá; anfractibus supernè angulatis, fortiter varicosis, varicibus multicarinatis et elevato-striatis; intus margaritaced.*

Conch. Icon. *Delphinula*, pl. 3. fig. 12, *a* and *b*.

Hab. Island of Corregidor, Philippines (found in sandy mud); Cuming.

This species differs from the *Delphinula Peronii* in having the spire more prominent, and varices entirely across the whorls; they are also more strongly and closely set; the shell is moreover much more sparingly punctured.

3. DELPHINULA DEPRESSA. *Delph. testá plano-rotundatá; spirá valdè depressá, foraminibus puncturatá; albá; anfractibus supernè angulatis, fortiter varicosis, varicibus ad angulum acuminato-elevatis; intus margaritaced.*

Conch. Icon. *Delphinula*, pl. 3. fig. 14, *a* and *b*.

Hab. Island of Camiguin, Philippines (under stones at low water); Cuming.

No one can fail to recognize this species, by its depressed spire and by the pointed elevation of the varices on the angle of the whorls.

4. DELPHINULA DISCOIDEA. *Delph. testá discoideá; spirá plano-depressá, liris longitudinalibus et transversis, interstitiis subtiliter striatis, eximè clathratá; peripheriá carinis duabus clathratis prominentibus ornatá.*

Conch. Icon. *Delphinula*, pl. 4. fig. 15, *a* and *b*.

Hab. Cagayan, island of Mindanao, Philippines (found in coarse sand at the depth of ten fathoms); Cuming.

The latticed sculpture of this shell very much resembles the character of a figure in plate 31 of the 'Magasin de Zoologie' for 1834, under the appellation of *Delphinula adamantina*, Duclos. It differs, however, essentially from that species in form, and I regret to say the *D. adamantina*, according to the figure alluded to, is quite unknown to me, though elaborately described by Deshayes in the ninth volume of his edition of Lamarck's 'Animaux sans vertèbres.'

5. DELPHINULA EVOLUTA. *Delph. testá spiráliter discoideá, partim evolutá; anfractibus subquadratis, marginibus corrugato-crenatis.*

Conch. Icon. *Delphinula*, pl. 4. fig. 16, *a* and *b*.

Hab. Island of Corregidor, Bay of Manila (found in coarse sand at the depth of seven fathoms); Cuming.

The loose manner in which this shell is rolled, giving it the appearance of a miniature hunter's-horn, is not a casual deformity. Several specimens were collected by Mr. Cuming at the above-mentioned island.

6. DELPHINULA MURICATA. *Delph. testá turbinatá, pallidè aurantio-*

fulvá, maculis coccineis vivide aspersá; anfractibus carinis tribus prominentibus muricato-squamulosis cinctá, supra et infra subtiliter corrugato-striatis; suturis peculiariter profundis.

Conch. Icon. *Delphinula*, pl. 4. fig. 18, *a*, *b* and *c*.

Hab. East Indies; Humphreys MSS.

This is by no means a newly-discovered species, the specimens here figured having been found in the old collection of the late Mr. George Humphreys, with the name and locality above used attached to them in his handwriting.

7. *DELPHINULA CLATHRATA.* *Delph. testá subdiscoidea, anfractibus rotundatis, carinulis transversis et longitudinalibus æquidistantibus regulariter clathratis; labro incrassato, marginato; umbilico peramplo.*

Conch. Icon. *Delphinula*, pl. 5. fig. 21, *a* and *b*.

Hab. Island of Corrigidor, Bay of Manila (found in coarse sand at the depth of seven fathoms); Cuming.

A small species, with a regular latticed surface.

8. *DELPHINULA COBIJENSIS.* *Delph. testá turbinatá, minutá; anfractibus convexis, carinulis transversis et longitudinalibus, æquidistantibus regulariter clathratis; umbilico mediocri; labro simplicis.*

Conch. Icon. *Delphinula*, pl. 5. fig. 22, *a* and *b*.

Hab. Port of Cobija, Peru (found under stones in rocky places at low water); Cuming.

The sculpture of this shell, familiarly known to Mr. Cuming as his "little Cobija species," is exactly similar to that of the *D. clathrata*; it is however much less discoid in form, the whorls are not so round, the umbilicus is smaller, and the lip is not marginated.

9. *DELPHINULA SYDEREA.* *Delph. testá turbinatá, spirá plano-concavá, apice interdum rosaceo, anfractibus angulato-convexis, tuberculis muricatis, in seriebus duabus aut pluribus radiatim stellatis; labro incrassato, marginato.*

Conch. Icon. *Delphinula*, pl. 5. fig. 23, *a* and *b*.

Hab. Island of Camiguing, Philippines (found under stones at low water); Cuming.

The leading feature of this species, and which is especially prominent in young specimens, is its peculiar star-like display of tubercles; the concave flatness of the spire is also remarkable.

10. *DELPHINULA CIDARIS.* *Delph. testá subgloboso-turbinatá, solidá; anfractibus transversim et longitudinaliter tuberculato-costatis, costis longitudinalibus majoribus, prominentioribus; anfractuum parte inferiori foraminosá.*

Conch. Icon. *Delphinula*, pl. 5. fig. 27.

Hab. Calapan, island of Mindoro, Philippines (found in coarse sand at the depth of ten fathoms). This is the roundest and most solid species of the genus.

Mr. Reeve also described a fine new species of *Voluta*, collected

off the coast of New Holland, north of Swan River Settlement, in H.M.S. Beagle.

VOLUTA RETICULATA. *Vol. testâ elongato-ovatâ, lævigatâ, pallidè fulvâ, fusco vel spadiceo-fusco per totam superficiem subtilissimè trigono-reticulatâ, reticulâ bifasciatim confusâ; anfractibus flammis brevibus spadiceis longitudinalibus, prominentibus, prope suturas vividè pictis; apertura fauce spadiceo-fusca.* Long. $3\frac{1}{2}$ in.; lat. $1\frac{1}{2}$.

Hab. Coast of New Holland, north of Swan River Settlement.

This beautiful new Volute somewhat resembles the *Voluta pallida* in form, and is of nearly the same ground tint of colour; here, however, the resemblance ceases, it being entirely covered with a fine brown net-work, with two broad bands formed by a rich amalgamation of the net-work. The most striking feature of the shell is in the upper part of the whorls being vividly ornamented with a close-set row of undulating flames of rich brown running down from the sutures, and the enamelled lining of the aperture is of the same uniform rich brown. Of the two specimens just imported in H.M.S. Beagle, one is in the collection of Thos. Norris, Esq., of Redvalves; the other in that of J. Dennison, Esq., of Woolton Hill. There is a bad specimen of this Volute in the British Museum, and another in the collection of William Metcalfe, Esq.

Prof. Owen then read the second and concluding part of his memoir on the *Dinornis**.

The arrival of the second box of specimens of the bones collected by the Rev. W. Williams in Poverty Bay, New Zealand, which had been placed by Dr. Buckland in Mr. Owen's hands, had enabled him to confirm his former account of the generic characters and ordinal affinities of the apparently extinct *Dinornis*, and also to distinguish remains of five species of that genus.

The bones of the foot, and especially the tarso-metatarsal bone, established three distinct species, the largest of which the author proposed to call *Dinornis giganteus*; the next in point of size he termed *Din. struthoides*, and the third *Din. didiformis*. The common generic characters of the tarso-metatarsi of these species were first pointed out, and then their specific differences of proportion and figure. The maturity of the different-sized bones indicating the above species was demonstrated by reference to the long retention of immature characters in the same bone of existing *Struthionidæ*, and by the fact of a tarso-metatarsal bone of a half-grown *Dinornis giganteus* manifesting the same incomplete coalescence of its primitively distinct elements; showing that the *Dinornis*, like the Ostrich, had a tardy ossification of the skeleton, as compared with birds of flight. The tibiæ were next described; one of these, belonging to a mature bird, established a species smaller than the *Din. didiformis*, and which, from its similarity of stature to the great Bustard (*Otis tarda*), Prof. Owen proposed to call *Dinornis otidiformis*. The

* See Proceedings, January 1843.

largest tibia, belonging to the *Din. giganteus*, presented the extraordinary dimensions of two feet eleven inches. The shaft of a smaller tibia, about two feet long when entire, was referred to the *Din. struthoides*, and there were four entire tibiæ of the *Din. didiformis*. In the series of femora, after the description of the generic characters of the bone, the specimens were pointed out which belonged to the *Dinornithes giganteus*, *struthoides*, *didiformis*, and *otidiformis*, and two other entire femora were described and their distinctive characters shown, which indicated, unequivocally in the author's opinion, a fifth species of *Dinornis*, of the size of the Emeu, and which was, therefore, named *Din. dromæoides*.

Three pelves, more or less perfect, and portions of two others, were described, and were referred to the *Din. giganteus*, *dromæoides*, and *didiformis*. Three cervical and two dorsal vertebræ also indicated three distinct species of *Dinornis*, and all of them presented the common character of unusual strength of the spinous and transverse processes. Comparative dimensions of most of the bones exhibited were given. No part of the skull, sternum, ribs or wing-bones had been transmitted, but Prof. Owen proceeded to point out the physiological grounds for concluding that the development of the anterior extremities must have presented in the *Dinornis* an intermediate condition between that in the Emeu and that in the Apteryx.

The author then gave his calculations, from the analogies of existing Struthious birds, of the height of the different species of *Dinornis*. The largest, *Din. giganteus*, according to the proportions of the Ostrich, must have stood ten feet five inches, but according to those of the Cassowary, nine feet five inches; its average stature might be taken at ten feet. A diagram of the great extinct bird, restored according to these proportions, was exhibited.

The *Dinornis struthoides* was seven feet high, which is the average stature of the *Struthio Camelus*.

The length of the tibia and metatarsus of the *Din. dromæoides* not yet being known, the height of five feet was assigned to it as a probable one; its femur corresponds in size with that of the Emeu, whose average measurement in captivity is between five and six feet.

The height of the *Din. didiformis* was four feet; exceeding, therefore, the extinct Dodo (*Didus ineptus*), but evidently resembling it in its stouter proportions and shorter metatarsus, as compared with the other species of *Dinornis*.

Prof. Owen next proceeded to consider the evidences of tridactyle birds afforded by the impressions in the New Red Sandstone of Connecticut, called 'Ornithichnites,' and having pointed out the proportions of the tarso-metatarsal bone in existing Struthious birds to their foot-prints, indicated thereby the size of the same bone in different *Ornithichnites*, and reciprocally the sizes of the foot-prints of the different *Dinornithes*, from those of their tarso-metatarsal bones.

The two phalanges of the *Dinornis*, which were described and compared in this section of the memoir, afforded pretty clear indications of the form and proportions of the toes in the two species

(*giganteus* and *didiformis*) to which they were referred. These data showed that the trifold foot-print of the *Dinornis giganteus* must have exceeded in size the *Ornithichnites giganteus* and *O. ingens* of Prof. Hitchcock, and that the *Din. didiformis* must have left impressions as large as those called *Ornithichnites tuberosus*. The author warned his hearers against inferring identity of species or even genus between the extinct *Struthionidæ* of the alluvium of New Zealand and those of the trias of North America, on account of correspondence of size and number of toes, which the modern genera *Casuaris*, *Rhea*, &c. proved to be insufficient grounds. He concluded by a comparative review of recent and extinct *Struthionidæ*, remarking on their peculiar geographical distribution, on the conditions which favoured the former existence of so rich a development of the family in New Zealand, and on the probable causes of their extermination. Evidence of the recent character of the bones described was afforded by the great proportion of animal matter which they retained, and the details of the analysis of the earthy salts were promised for a future Meeting.

December 12, 1843.

William Yarrell, Esq., V.P., in the Chair.

A paper from Dr. J. B. Thompson was read, "On some forms of malignant disease in the Inferior Animals, with remarks on the advantage of Comparative Pathology generally."

Mr. Gould laid before the Meeting an extensive series of Toucans, and called attention to two species which had not hitherto been characterized, viz.:—

RAMPHASTOS CITREOLEMUS. *Ramp. rostro nigro, vittâ latâ basali, et culmine olivaceo-viridibus, hoc colore gradatim cum flavido apud apicem mandibulæ utriusque se commiscente; ptilose nigrâ; gulâ albâ; pectore sulphureo, vittâ splendide coccineâ cincto; tectricibus caudæ superioribus sulphureis.*

Bill black, with a very broad basal band, and the culmen of an olive-green, passing into pale yellow on the points of both mandibles, and deepening into orange at the gape; the ridge round the base of the bill black; crown of the head, back of the neck, all the upper surface, wings, tail, breast, abdomen and thighs deep black; throat white; chest sulphur-yellow, bounded below by a band of rich deep scarlet; upper tail-coverts sulphur-yellow; under tail-coverts rich deep scarlet.

Total length, 21 inches; bill, $5\frac{1}{2}$; wing, $8\frac{1}{4}$; tail, $7\frac{1}{2}$; tarsi, $1\frac{3}{4}$.

Hab. Santa Fé de Bogota.

In the collection of Prince Massena at Paris, and in my own.

PTEROGLOSSUS PÆCILOSTERNUS. *Pt. culmine rostri, strigâ angustâ ad basim mandibulæ superioris; sic et mandibulâ inferiore totâ nigerrimis; mandibulis utrisque ad basim lined prominente angustâ aurantiacâ circumdatis; mandibulæ superioris lateribus bellè aurantiacis; capite et gulâ splendide nigerrimis; dorso, alis caudâque saturatè viridi-olivaceis; corpore inferiore sulphureo, vittâ pectorali nigrâ, alterâ sanguineâ.*

Culmen, a narrow band down the base of the upper mandible and the whole of the under mandible deep black; narrow elevated ridge surrounding the base of both mandibles orange; sides of the upper mandible beautiful orange, fading into white towards the tip, which is stained with red; head and throat deep glossy black; back, wings and tail dark olive-green; rump and upper tail-coverts rich deep blood-red; all the under surface sulphur-yellow, crossed on the chest by an irregular band of black, and on the breast by another of deep blood-red; the interspaces stained with scarlet; thighs chestnut, each feather slightly fringed with sulphur-yellow.

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Total length, 18 inches; bill, $4\frac{1}{4}$; wing, 6; tail, $7\frac{1}{4}$; tarsi, $1\frac{3}{8}$.

Hab. Santa Fé de Bogota.

In the collection of Prince Massena at Paris.

Professor Owen read a communication on the Rudimental Marsupial Bones in the *Thylacinus*:—

The marsupial bones, as bones, do not exist in the Dog-headed Opossum or Hyæna of the Tasmanian colonists (*Thylacinus Harrisii*, Temm.); they are represented by two small, oblong, flattened fibro-cartilages, imbedded in the internal pillars of the abdominal rings, and appear each as a thickened part of the tendon of the external oblique abdominal muscle, which forms the above pillar. The length of the marsupial fibro-cartilage is six lines, its breadth from three to four lines, its thickness one line and a half.

This was the condition of the rudimental marsupial bones in two full-grown females and one male specimen of the *Thylacinus*: in a fourth large and old male a few particles of the bone-salts were deposited in the centre of the fibro-cartilage, occasioning a gritty feeling when cut across by the knife.

This unexpected and very remarkable modification of the most characteristic part of the skeleton of the Marsupialia, in one of the largest of that order, has many important bearings upon the physiology of the problematical ‘ossa marsupialia.’ They have been most commonly supposed to serve for the support of the marsupial pouch and young; but this pouch is well developed in the female Thylacine, and in one of the specimens which I dissected four well-developed teats, each two inches long, indicated that it had contained four young ones when, or shortly before, it was killed. The existence of the marsupial bones in the male as well as the female sex in other marsupial animals had already invalidated the above physiological explanation, and it equally opposes the idea of the use of the marsupial bones, propounded by M. de Blainville,—that they aid in the compression required to expel the embryo. Besides, it is not in the females of those animals which give birth to the smallest young that we should expect to find auxiliary bones for increasing the power of the muscles concerned in parturition. My view of the uses of the marsupial bones, as explained in the ‘Philosophical Transactions’ for 1834, is, that they relate more immediately to an increase of power in the muscles (*cremasteres*) which wind round them, than of those implanted in them: and to the extent to which the cartilaginous representatives of the ossa marsupialia in the Thylacine strengthen the pillars of the abdominal ring, they must increase the contractile force of the compressors of the mammary glands and teats, which are situated and surrounded by the *cremasteres* in the Thylacine, as in other Marsupialia. Nevertheless, the almost obsolete condition of the ossa marsupialia in the Thylacine, and their very various relative sizes in other Marsupialia, are circumstances which seem incompatible with the same kind and degree of use in all the species: they are very slender, and not above half an inch in length in the *Myrmecobius*, whilst in the Koala they nearly equal the iliac bones in size.

The so-called 'pyramidales' muscles, which derive a great proportion of their origin from the ossa marsupialia, bear a direct ratio to those bones in size; and an attentive observation of the habits and modes of locomotion of the different marsupial species is still wanting for a complete elucidation of the function of the marsupial bones. It is important to the palæontologist that the cartilaginous condition of the marsupial bones in the Thylacine should be borne in mind in regard to the evidences of the marsupial order that may be yielded by fossil remains: the fossil pelvis of the Thylacine, for example, had that species been long ago, as it soon is likely to be, extinct, would never have afforded the triumphant evidence to which Cuvier appealed in demonstration of the *Didelphys* of the gypsum quarries at Montmartre; yet the Thylacine would not therefore have been less essentially a marsupial animal. This may teach us to pause before drawing a conclusion against the marsupial character of the small Stonesfield mammalia, if their pelvises should ever be found without trace of the ossa marsupialia.

"Descriptions of new Shells, collected during the voyage of the Sulphur, and in Mr. Cuming's late visit to the Philippines," by Mr. Hinds.

Abstract of the accompanying descriptions of shells:—

The number of well-authenticated species of *Terebra* hitherto on record is about sixty. In the present paper exactly fifty more are added, all of which are presumed to have been hitherto unrecorded. Of this number sixteen are from the Indian seas, six are from the African seas, twelve are from the American seas, and five are from the Pacific; and the whole, without exception, from within the Tropics. The localities of eleven are unknown.

They most usually occur under a small incumbent pressure, generally at a depth of from five to eighteen fathoms. Some are found about low water, and with much constancy they affect situations where the floor of the ocean is composed of sandy mud.

TEREBRA, Bruguière.

TEREBRA ROBUSTA. *Ter. testâ turrito-subulatâ, solidâ, ponderosâ, albidâ, flammis longitudinalibus interruptè pictâ; anfractibus inferioribus rotundatis, indivisis, lævigatis, superioribus versùs extremitatem spiræ subplanulatis, unocinguliferis, longitrorsum plicatis; anfractu ultimo rotundato triseriatim picto, ad basin coarctato; aperturâ elongatâ; columellâ arcuatâ, subcallosâ; epidermide luteofuscâ; operculo parvo, crasso.* Axis 57 lin.

Hab. West coast of America, between 8° 57' and 21° 32' north latitude; namely at Panama, Gulf of Nicoya, Gulf of Papagayo, and San Blas: in from four to eighteen fathoms, sandy mud.

Cab. Belcher and Cuming.

TEREBRA SUCCINEA. *Ter. testâ subulatâ, acuminatâ, succinea, lævigatâ; anfractibus planulatis, lineâ impressâ divisâ, longitrorsum*

plicis obsoletis vel lineis arcuatis incrementi minutis, transversim infrà lineam impressam, leviter striatis; areá subconconi, punctis parvis fuscis distantibus biserialim cinctá, versus margines tuberculato-incrassatá. Axis 54 lin.

Hab. — ?

Cab. Cuming.

Two specimens of this elegant species are in the above collection, without any history attached to them; they have evidently been highly cleaned, but retain the appearance of having been once covered by an epidermis.

TEREBRA CONSORS. *Ter. testá gradatim subulatá, lævigatá, politá, albidá, flammeis pallidis fuscis ornatá; anfractibus subplanulatis, supernè lineá impressá divisis, areá superiore spiræ leviter tuberculatá; anfractu ultimo prope basin fasciato; aperturá infernè subeffusá; columellá breviusculá. Axis 31 lin.*

Hab. Tahiti, Society Islands.

Cab. Cuming.

Its nearest ally is *T. dimidiata*, than which it is far more gradually subulate; the upper area of the divided whorl is raised and somewhat rounded; the white is the base colour of the shell, and the last whorl is distinctly banded.

TEREBRA SPECTABILIS. *Ter. testá subulatá, lævigatá, politá; anfractibus supernè sulco impresso divisis, infrà longitrorsum plicatis, interstitiis lævigatis, medio saturatè castaneis, infernè albis; cingulo tuberculato, albido; anfractu ultimo fasciato; columellá elongatá. Axis 13½ lin.*

Hab. Guinea, on the sands: Humphrey. Sumatra, on the sands: Ellis.

Cab. Cuming.

TEREBRA BICINCTA. *Ter. testá subulatá, lævigatá, nitidá; anfractibus rotundatis, indivisis, longitrorsum plicatis, supernè areá coarctatá, transversim biserialim super plicas minutè tuberculatis; plicis tenuibus, acutis, interstitiis lævigatis; anfractu ultimo concolore. Axis 12½ lin.*

Hab. — ?

Cab. Cuming. Unique.

Remarkably and very distinctly characterized by the two rows of small tubercles which encircle the whorls. The shell is otherwise of an uniform white glassy colour, which might be attributable to its condition.

TEREBRA FATUA. *Ter. testá turrito-subulatá, albidá, lævigatá, politá; anfractibus subplanulatis, superioribus lineá impressá cinctis, maculis fuscis pallidis distantibus biserialim ornatis; spirá obsoletè plicatá; anfractu ultimo elongato, maculis exceptis, unicolore. Axis 34 lin.*

Hab. St. Christopher, West Indies; on the sand: Mr. Miller, 1799.

Cab. Cuming.

TEREBRA NIMBOSA. *Ter. testá elongatè conico-subulatá, acuminatá, lacteá, strigis longitudinalibus nubeculatá; anfractibus planulatis, lævigatis, politis, integris, infernè propè suturam albá, angustè fasciatá, ultimo fasciato; columellá lævi, truncatá.* Axis 25 lin.

Hab. — ?

Cab. Cuming.

TEREBRA COPULA. *Ter. testá elongatè turrítico-subulatá, acuminatá, lævigatá, nitidá, saturatè castaneá; anfractibus subrotundatis, supernè cingulo tuberculato cinctis, infrà plico-costatis; cingulo atro-castaneo fasciato, rarè intervallis tantùm maculato, interstitiis lævigatis; anfractu ultimo parvo, rotundato, propè basin duabus fasciis albis angustis ornato.* Axis 17 lin.

Hab. Guinea, on the sands: Humphrey.

Cab. Cuming.

TEREBRA ALVEOLATA. *Ter. testá turrítico-subulatá, attenuatè acuminatá, nitidá, fuscá; anfractibus subplanulatis, supernè cingulo tuberculato cinctis, infrà plico-costatis, interstitiis striatis; cingulo et anfractu ultimo albo fasciato, maculis quadratis rufis articulado.* Axis 16 lin.

Hab. Straits of Malacca; in seventeen fathoms, among mud.

Cab. Belcher.

The description is drawn up from a somewhat young specimen, and the mouth and last whorl have not yet attained their full development. The character of the shell is however very conspicuous. In this genus the last whorl will be found very frequently to offer decided features, and becomes a valuable aid in the diagnosis.

TEREBRA PULCHRA. *Ter. testá turritá, conico-subulatá, acuminatá, nitidá, pallidá; anfractibus subplanulatis, longitrorsum rectè plico-costatis, supernè lineá impressá cinctis, interstitiis lævigatis; anfractu ultimo pallidè lineato.* Axis 11 lin.

Hab. Marquesas; in seven fathoms.

Cab. Belcher.

Perhaps more nearly resembling *T. plicata* than any other species, from which, with a little care, the description will suffice to distinguish it. The specimens were collected at the Marquesas group of islands, which scarcely offer any particular novelty in any department of natural history; and the greatest exception will be found among *Terebra*, of which it has a few peculiar species, and also some interesting varieties of other well-known kinds. Indeed, though the group is by no means the metropolis of the genus, the species would seem to exist here under some peculiar circumstances.

TEREBRA COLUMELLARIS. *Ter. testá elongatá, subcylindraceá, turrítico-subulatá, aurantiacá albo nebulosá; anfractibus subrotundatis, longitrorsum undatè plico-costatis, supernè lineá impressá cinctis; interstitiis rufis, striatis; anfractu ultimo breviusculo, rotundato, albo fasciato.* Axis 19 lin.

Hab. — ?

Cab. Cuming.

Remarkable from its great similarity to *T. undulata*, which is itself a peculiar species. The grounds of distinction are its decidedly cylindrical shape, different distribution of the colour, and its short, abrupt, rounded and banded last whorl.

TEREBRA NITIDA. *Ter. testá obeso-subulatá, acuminatá, pallidè plumbeá, politá; anfractibus subplanulatis, rectè plico-costatis, supernè interstitiis lineá punctatá cinctis, ultimo parvo subattenuato, unicolore, plicis evanidis; labio interno producto; labro anticè sub-sinuoso.* Axis 10 lin.

Hab. Marquesas; in seven fathoms, sandy mud.

Cab. Belcher.

An excellent diagnostic character exists in this species, in the circumstance that the girdling line which traverses the upper part of each whorl does not cross the ribs, but is confined to the interstices.

TEREBRA VARICOSA. *Ter. testá elongatè conico-subulatá, acuminatá, nitidá; anfractibus subplanulatis, plico-costatis, supernè cingulo tuberculato contractato cinctis; costis subdistantibus albidis, interstitiis striatis fuscis; anfractu ultimo breviusculo, rotundato, albo fasciato; columellá contortá.* Axis 11 lin.

Hab. Gulf of Papagayo, west coast of Central America; in twenty-three fathoms, mud.

Cab. Belcher.

TEREBRA LAURINA. *Ter. testá elongatè subulatá, acuminatá, levigatá, politá, olivaceá; anfractibus planulatis, plicis tenuibus sinuosis, capillaribus, infrà evanidis, supernè lineá impressá obsoletá cinctis, ultimo unicolore, levigato; aperturá fuscá; columellá lævi, subtruncatá.* Axis 32 lin.

Hab. Western Africa; in sandy mud: Rev. W. V. Hennah.

Cab. Cuming.

The impressed line is always faint, and sometimes not at all visible. The specimens are nearly of an uniform colour, but a band of somewhat deeper colour traverses the upper portion of each whorl.

TEREBRA STYLATA. *Ter. testá subulatá, acuminatá, politá, olivaceá; anfractibus subplanulatis, integris, numerosè plicatis, infrà evanidis, propè suturam albidis maculis fuscis interruptè fasciatis, ultimo levigato, infernè albo angustè fasciato; aperturá fuscá; columellá lævi, subtruncatá.* Axis 21 lin.

Hab. Japan; Philippine Islands.

Cab. Cuming.

TEREBRA TUBEROSA. *Ter. testá turrìto-subulatá, saturatè fulvá, nitidá; anfractibus rotundatis, longitrorsum costatis, supernè cingulo numerosè tuberculato; costis brevibus; nodulosis striis decussantibus; columellá contortá.* Axis 11 lin.

Hab. Ticao, Philippines.

Cab. Cuming. Unique.

In this characteristic species the girdle consists of a number of small tubercles, superior in number to the vertical ribs.

TEREBRA CONSPERSA. *Ter. testá turríto-subulatá, nitidá, albá; anfractibus subrotundatis, plico-costatis, supernè lineá impressá, præcipuè interstitiali, cinctis, propè suturam punctis rufis rarè conspersis, interstitiis striatis; anfractu ultimo ad basin fulvo.*
Axis 10 lin.

Hab. Catbalonga, island of Samar, Philippines; eight fathoms, sandy mud.

Cab. Cuming.

A pretty little species, only known to me through the two specimens in the above collection; and it will readily be distinguished by its sparsely scattered rufous spots and orange base.

TEREBRA LINGUALIS. *Ter. testá turríto-subulatá, albidá, flammeis atro-fuscis longitudinalibus ornata; anfractibus planulatis, duabus lineis impressis divisis, infrá suturam tuberculatis; areá inferiore lævigatá; anfractu ultimo subrotundato, lævigato, fasciato; aperturá quadratá; columellá contortá.* Axis 30 lin.

Hab. Gulf of Papagayo, Bay of Montejo, west coast of America; ten to seventeen fathoms, sandy mud.

Cab. Belcher and Cuming.

The whorls, particularly those of the spire, are divided into three spaces by two girdling lines; the lower area is smooth, but the two others, particularly the most superior, is tubercled. It is a handsome species, from the deep reddish-brown flames with which it is covered.

TEREBRA LIGATA. *Ter. testá elongatè subulatá, acuminatá; anfractibus planulatis, transversim striatis, cingulis duobus tuberculatis, cingulo superiore et areá inferiore maculis quadratis fuscis transversis ornata, cingulo inferiore minore albidá concolore; anfractu ultimo parvo, biseriatim maculato.* Axis $15\frac{1}{2}$ lin.

Hab. Marquesas; in seven fathoms, sandy mud.

Cab. Belcher.

TEREBRA FUNICULATA. *Ter. testá elongatè subulatá, nitidá, fulvá; anfractibus numerosis, planulatis, supernè cingulo lævi lineá impressá diviso, infrá cingulo minore, areá inferiore transversim striatá; anfractu ultimo brevi, medio sulco unico; aperturá parvá, concolore; labio interno subcalloso, producto.* Axis 23 lin.

Hab. ———?

Cab. Belcher and Cuming.

TEREBRA FENESTRATA. *Ter. testá elongatè conico-subulatá, pallidè fulvá; anfractibus planulatis, supernè cingulo nodulifero, infrá secundo minore, infernè cancellatis; apice subpapillari; anfractu ultimo quadrato ad basin abruptè contractato; aperturá parvá; labio interno subcalloso, producto.* Axis 15 lin.

Hab. San Nicholas, island of Zebu, Philippines; sandy mud at low water.

Cab. Cuming.

TEREBRA EBURNEA. *Ter. testá iobeso-subulatá, albá; anfractibus lævigatis, nitidis, supernè lineá impressá, infernè uni- vel biseriatim*

lineis punctatis cinctis; anfractu ultimo quinque seriebus linearum punctarum; apertura elongata; columella laevi, breviuscula. Axis 16 lin.

Hab. Seychelles.

Cab. Belcher. Unique.

TEREBRA AMANDA. *Ter. testâ elongatè conico-subulatâ, nitidâ; anfractibus planulatis, supernè cingulo tuberculato margaritaceo cinctis, infrâ secundo minore concolore, infernè aurantiacis biserialim punctato-lineatis, ultimo brevi; columellâ contortâ. Axis 11 lin.*

Hab. Straits of Macassar; in eleven fathoms, coarse sand.

Cab. Belcher.

An uncommonly pretty shell, offering an elegant contrast between the row of pearly tubercles and the general orange colour.

TEREBRA VIOLASCENS. *Ter. testâ turritâ, cylindraco-subulatâ, violacèâ; anfractibus rotundatis, longitrorsum obliquè plico-costatis, supernè lineâ impressâ obsoletè cinctis; costis subconfertis, interstitiis crebrè striatis; apertura parvâ, elongatâ; labio interno producto. Axis 15 lin.*

Hab. New Guinea; in seven fathoms, mud. San Nicholas, Zebu, and Mindanao, Philippines; in twenty to thirty fathoms.

Cab. Belcher and Cuming.

The Philippine specimens are of a different colour, and disposed to be banded, but they have the appearance of dead shells. The species is very like an American fossil from Alabama, *T. venusta*, Lea.

TEREBRA ARMILLATA. *Ter. testâ turrito-subulatâ, acuminatâ, fuscâ; anfractibus planulatis, longitrorsum subdistanter plico-costatis, transversim lineis definitis impressis, supernè cingulo noduloso, atate valdè notabili; anfractu ultimo subquadrato, ad basin albo fasciato; apertura atro-fuscâ; columellâ contortâ. Axis 22 lin.*

Hab. Abundant in various localities on the west coast of America between Panama and the Bay of Magdalena in Lower California, in from five to thirteen fathoms; also at the Galapagos, in ten fathoms: chiefly in sandy situations. It was also found imbedded in the fossiliferous cliffs which surround a portion of the Bay of Magdalena.

Cab. Belcher and Cuming.

TEREBRA ASPERA. *Ter. testâ turrito-subula â, acuminatâ, pallidâ, aurantiacâ vel fuscâ; anfractibus subrotundatis, longitrorsum subconfertè plico-costatis, nodulosis liris transversis decussantibus, supernè cingulo plico-nodulifero sparsim fusco maculato; anfractu ultimo rotundato, ad basin albo fasciato; apertura colorem testæ simulante; columellâ plicatâ. Axis 23 lin.*

Hab. Panama, Monte Christi, St. Elena, west coast of America; in from six to ten fathoms, sandy mud.

Cab. Cuming.

TEREBRA TUBERCULOSA. *Ter. testâ turrito-subulatâ, acuminatâ,*

olivaced; anfractibus planulatis, lævigatis, politis, supernè cingulo tuberculato, areá inferiore triseriatim tuberculato, seriebus duabus superioribus frequenter subevanidis; anfractu ultimo subquadrato, unicolore, multiseriatim tuberculato; columellá contortá. Axis 24 lin.

Hab. Panama, Gulf of Papagayo, and San Blas; in from four to eleven fathoms.

Cab. Belcher.

TEREBRA SPECILLATA. *Ter. testá gracilè turrito-subulatá, valdè acuminatá, albá, rufo sparsim maculatá et nebulosá; anfractibus subplanulatis longitrorsum subdistanter tenuè plico-costatis, transversim leviter striatis, supernè cingulo tuberculato, interstitiis tuberculorum præcipuè pictis; anfractu ultimo fasciato; aperturá parvâ; columellá subrectá. Axis 20 lin.*

Hab. San Blas; from seven fathoms, sandy mud.

Cab. Belcher.

TEREBRA INTERTINCTA. *Ter. testá turrito-subulatá, pallidá vel cærulescente; anfractibus planulatis, politis, duabus vel tribus lineis transversis, supernè cingulo tuberculato, infernè obsolete tuberculo-plicatis, interstitiis tuberculorum fusco maculatis; anfractu ultimo subrotundato, uniseriatim tuberculato, interstitiis nebulosis; aperturá ovali. Axis 20 lin.*

Hab. Gambia; among sandy mud.

Cab. Cuming and Saul.

TEREBRA RADULA. *Ter. testá turrito-subulatá, fulvâ, nitidâ; anfractibus rotundatis, plicis tuberculatis longitudinalibus et transversis cancellatis, propè suturam serie tuberculorum majusculorum; anfractu ultimo ad basin albo angustè fasciato; aperturá oblongâ, concolore. Axis 19 lin.*

Hab. Puerto Portrero, west coast of America; in thirteen fathoms, coral sand.

Cab. Cuming. A single specimen.

TEREBRA BIFRONS. *Ter. testá turrito-subulatá, lævigatâ, fuscâ; anfractibus rotundatis, inferioribus multiseriatim tuberculatis, superioribus longitrorsum biseriatim tuberculo-plicatis; tuberculis parvis approximatis, interstitiis lævibus; aperturâ oblongâ; columellâ rectiusculâ, subtruncatâ. Axis 23 lin.*

Hab. Japan; sandy mud: Dr. Siebold.

Cab. Cuming. Unique.

TEREBRA GLAUCA. *Ter. testá turrito-subulatá, acuminatâ, glaucescente; anfractibus rotundatis, eleganter cancellatis, propè suturam cingulo albido tuberculato; anfractu ultimo elongato, pallidè fasciato; aperturâ ovali; columellâ contortâ. Axis 14 lin.*

Hab. — ?

Cab. Cuming. Unique.

TEREBRA LARVEFORMIS. *Ter. testá subcylindraceâ, turrito-subulatâ,*

fuscá, nitidá; anfractibus brevibus rotundatis, longitrorsum plicocostatis, supernè lined impressá contractatis; costis rotundatis vel varicosis, interstitiis leviter striatis; anfractu ultimo breviusculo, pallidè fasciato; aperturá pallidá. Axis 23 lin.

Hab. St. Elena, Monte Christi, west coast of America; in from six to fifteen fathoms, sandy mud.

Cab. Cuming.

I have examined a number of specimens of this shell, all of which I refer to this species, and find them vary much in the general and relative proportion of their outline and width of whorls.

TEREBRA ELATA. Ter. testá subcylindraced, elongatè turrìto-subulatá, pallidè fulvá; anfractibus ferè planulatis, longitrorsum plicatis, supernè lined impressá cinctis; plicis approximatis, interstitiis striatis, anfractu ultimo ad basin et propè suturam fusco; aperturá elongatá. Axis 12 lin.

Hab. Bay of Montijo, west coast of America; in fifteen fathoms, coarse sand.

Cab. Cuming.

TEREBRA TEXTILIS. Ter. testá turrìto-subulatá, pallidè luteá; anfractibus ferè planulatis, longitrorsum plicatis, supernè lined punctato-impressá cinctis, serie tuberculorum deindè excisá albidá; plicis approximatis, interstitiis striatis; anfractu ultimo parvo, unicolore; columellá plicatá, labio interno producto. Axis 11½ lin.

Hab. Sorsogon, Bay of Manila, Philippines; Straits of Macassar; in from six to thirteen fathoms, sand and coarse gravel.

Cab. Cuming and Belcher.

This Asiatic species very closely resembles the American just described, and furnishes another of those instances of affinity, whilst still retaining unquestionable distinctness, which occur so frequently in the shells of the tropics of the two hemispheres; and thus whilst both are enriched by similar forms, these present themselves under slight but constant differences.

TEREBRA PICTA. Ter. testá subcylindraced, turrìto-subulatá, nitidá, pallidè aurantiacd, atro-fusco longitrorsum maculatá vel nebulosá; anfractibus rotundatis, supernè cingulo tuberculato, infrà plicocostatis, interstitiis striatis; anfractu ultimo fasciato; aperturá parvâ, atro-fuscá; columellá subrectá. Axis 15 lin.

Hab. San Nicholas, island of Zebu, Philippines.

Cab. Cuming.

TEREBRA CASTA. Ter. testá turrìto-subulatá, albescente, levigatá, politá; anfractibus integris, planulatis, supernè plicatis et lacteo fasciatis, infrà levigatis, strigis longitudinalibus pallidè fuscis nebulosis; anfractu ultimo subelongato, lacteo fasciato; columellá brevi, subrectá. Axis 13 lin.

Hab. Ilo-ilo, island of Panay, Philippines, at low water.

Cab. Cuming.

TEREBRA INCONSTANS. Ter. testá obeso-subulatá, acuminatá, lividá

vel pallidá, politá; anfractibus integris, subrotundatis, longitrorsum plicatis, interstitiis lævigatis; infra suturam et ad basin anfractús ultimi pallidè fasciatá; aperturá effusá; columellá truncatá, subcallosá. Axis 16 lin.

Hab. Sandwich Islands.

Cab. Cuming.

This species has much of the general character of *T. anomala*, but the whorls are constantly entire, and the shells are more acuminate and obese.

TEREBRA PENICILLATA. *Ter. testá turritá, obeso-subulatá, lævigatá, politá, albá lineis undatis rufis longitrorsum dispositis; anfractibus integris, ultimo elongato, efasciato; spirá obsoletè plicatá; aperturá elongatá; columellá lævi. Axis 17 lin.*

Hab. Seychelles.

Cab. Belcher and Cuming.

TEREBRA VENOSA. *Ter. testá subcylindraceo-subulatá, lævigatá, politá; anfractibus integris, subplanulatis, supernè albo, infrá purpureo cinctis, strigis rufis longitudinalibus flexuosis; spirá plicatá, anfractu ultimo subrotundato, rariùs transversim fasciato vel lineato; aperturá elongatá, albá. Axis 16 lin.*

Hab. — ?

Cab. Cuming.

The only species in this now extensive genus where the fasciation of the last whorl is not to be relied on as a character.

These two species have been united by M. Kiener with *T. lanceata*, but I cannot help regarding them as most unquestionably distinct.

TEREBRA LUCTUOSA. *Ter. testá gracilè acuminatá, lævigatá, politá, atro-fuscá, rariùs castaneá vel olivacé; anfractibus subplanulatis, integris, supernè plicis parvis undatis, infrá evanidis, ultimo elongato, concolore; columellá lævi, breviusculá. Axis 17 lin.*

Hab. Gulf of Nicoya; Puerto Portrero, west coast of America; in twelve fathoms, coral sand.

Cab. Cuming and Belcher.

TEREBRA CUSPIDATA. *Ter. testá gracilè et elongatè subulatá, valdè acuminatá, lævigatá, politá, nitidá; anfractibus planulatis, integris, supernè plicatis, infrá evanidis, pallidis cæruleo angustè fasciatis; anfractu ultimo lævigato, subdiaphano, ad basin fasciá rufá ornato. Axis 13 lin.*

Hab. Cape Coast, Africa: Humphrey.

Cab. Cuming.

TEREBRA MICANS. *Ter. testá conico-subulatá, acuminatá, semiopacá, pallidè fulvá, nitidá; anfractibus planulatis, integris, longitrorsum plicis capillaribus, supernè cæruleo et ad basin anfractús ultimi fusco fasciatis; aperturá infernè effusá; columellá truncatá. Axis 13 lin.*

Hab. — ?

Cab. Cuming.

The specific name I find in use as a cabinet name, but I am ignorant who is the originator.

TEREBRA LEPIDA. *Ter. testá obeso- vel rariùs subcylindraco-subulátá, acuminatá, lævigatá, politá, albidd vel pallidè fulvá; anfractibus planulatis, integris, plicis longitudinalibus acutis, interstitiis lævigatis, supernè maculis rufis cinctis; anfractu ultimo subcylindraco, pallidè fasciato.* Axis 10 lin.

Hab. Guinea; on the sands: Humphrey.

Cab. Cuming.

TEREBRA OBESA. *Ter. testá obeso-subulatá, lævigatá, albidd, maculis fuscis longitudinalibus pallidè ornatá; anfractibus paucis, subrotundatis, integris, ultimo biseriatis maculato; spirá obsolete plicatá; aperturá oblongá; columellá truncatá.* Axis 6 lin.

Hab. — ?

Cab. Cuming. Unique.

In this singular little shell the last whorl occupies nearly one half of the entire length.

TEREBRA NASSOIDES. *Ter. testá obeso-subulatá, lævigatá, nitidd, anfractibus planulatis, integris, supernè albo, medid fusco cinctis, ultimo unicolore; aperturá infernè effusá.* Axis 6 lin.

Hab. — ?

Cab. Cuming.

TEREBRA RUSTICA. *Ter. testá obeso-subulatá, acuminatá, fuscá, nitidd, striis transversis scabrá; anfractibus subrotundatis, longitrorsum plico-costatis, supernè infra suturam luteis; plicis subdistantibus, ferè continuis; anfractu ultimo elongato, concolore; aperturá elongatá; columellá lævi, subrectá.* Axis 8 lin.

Hab. — ?

Cab. Metcalfe.

TEREBRA TENERA. *Ter. testá parvá, obeso-subulatá, lævigatá, nitidd, anfractibus plico-costatis, pallidè fulvis, supernè prope suturam rufo fasciatis, ultimo ad basin rufo; plicis continuis; columellá contortá.* Axis 4 lin.

Hab. Straits of Malacca, in seventeen fathoms; Ceylon.

Cab. Belcher.

TEREBRA MERA. *Ter. testá subcylindraco-subulatá, lævigatá, nitidd, albidd, vel pallidè rufo latè fasciatá; anfractibus subplanulatis, supernè plicis parvis numerosis obliquis, infrá evanidis; aperturá parvá, elongatá; columellá subtruncatá.* Axis $7\frac{1}{2}$ lin.

Hab. Straits of Malacca, in seventeen fathoms.

Cab. Belcher.

TEREBRA PYGMÆA. *Ter. testá purpureá, obeso-subulatá; anfractibus paucis, subrotundatis, longitrorsum minutè plico-costatis, supernè insigniter fasciá angustá atro-purpureá cinctis, ultimo propè*

basin fasciato; aperturá parvá, fuscá; labio interno subproducto.

Axis 3 lin.

Hab. Straits of Malacca, in seventeen fathoms.

Cab. Belcher.

Synopsis of the known species of *Terebra*, by Mr. Hinds.

The genus *Terebra*, as at present received, contained in the time of Linnæus several species, which were then referred to *Buccinum*. Lamarck enumerates twenty-four species; seven were described in the Tankerville Catalogue by Mr. Sowerby in 1825; twenty-one by Mr. Gray in the Zoological Proceedings for 1834; and a few additional are scattered through other publications. The list of M. Deshayes assigns the amount of recent species as forty-four, and of fossil as sixteen, at the period of its formation. M. Kiener's Monograph contains thirty-five recent species. In the following synopsis considerable care has been taken to compare the previously described species with each other, so as to correct their synonymy, and also in collecting their different habitats; for on this point our information was most deficient, since the native country of several of the Lamarckian species was unknown or only vaguely mentioned, and in those described in the Zoological Proceedings for 1834, the locality of a single species is alone given. As the authority for a habitat always increases its value, it is here inserted; and to those for which I am myself responsible, my initial is attached.

The statistical details stand thus:—Species previously described, recent 58, fossil 24; now first described 50—total 132; both recent and fossil 8.

TEREBRA, Bruguière.

Terebra, Bruguière (*nec* Adanson); *Acus*, Humphrey; *Subula*, Schumacher, Blainville; *Loxonema*, Phillips.

RECENT.

1. †TEREBRA MACULATA¹, Linnæus (sp.).

Buccinum maculatum, Linn., Gmelin, No. 130.

Terebra maculata, Lamarck, Hist. des Animaux sans Vert. vol. vii. p. 283.

Subula maculata, Schumacher, Nouv. Syst., p. 233; Blainville, Malacologie, p. 405. t. 16. f. 2.

Hab. All the groups of islands in the North and South Pacific; Indian Seas, as far as the Seychelles: H. Fossil—shores of the Red Sea: Burton. (*vide* specimen in museo Belcher.)

¹ The sign attached to this and other species is meant to represent that they are found both in a recent and fossil state. In practice I have found it highly convenient to employ certain signs, and having shown them to some who have regarded them as useful, they are here introduced. I have expressed a recent shell by the sign †; a fossil shell, ‡; and one found in both conditions, †‡. And I have found a great advantage in these signs, that they are easily converted.

2. *TEREBRA STRIGATA*, Sowerby, Tank. Cat. p. 25.
T. elongata, Wood, Index Suppl.
T. flammea, Lesson, Ill. de Zool. t. 48.
T. zebra, Kiener, Iconographie, p. 5. t. 3. f. 5.
Hab. Panama, very abundant: H.
 The Indian locality assigned in Wood's 'Index' to this species is undoubtedly incorrect. (v. s. in m. Belcher.)
3. *TEREBRA FLAMMEA*, Lamarck, l. c. vol. vii. p. 284.
Hab. Indian Seas: Kiener. (v. s. in m. Cuming.)
4. *TEREBRA SUCCINEA*, sp. n., vide antè.
5. *TEREBRA ROBUSTA*, sp. n., vide antè.
6. *TEREBRA ORNATA*, Gray, Proc. Zool. Soc. 1834, p. 62.
Hab. Gallapagos Islands; five to seven fathoms, coral sand: Cuming. Panama; seven fathoms, mud: H. (v. s. in m. Belcher.)
7. † *TEREBRA CRENULATA*, Linnæus (sp.).
Buccinum crenulatum, Linn., Gmelin, No. 132.
B. candidum, Born, Mus. p. 263. t. 10. f. 8.
Terebra maculata, Perry, t. 16. f. 2.
Hab. Marquesas Islands: H. Tahiti; Amboina. Fossil—shores of the Red Sea: Burton. (v. s. in m. Belcher.)
8. *TEREBRA DIMIDIATA*, Linnæus (sp.).
Buccinum dimidiatum, Linn., Gmelin, No. 138.
B. ferrugineum, Born, Mus. p. 263. t. 10. f. 7.
Terebra carnea, Perry, t. 16. f. 1.
Hab. Tahiti; Amboina: H. (v. s. in m. Belcher.)
 I am scarcely satisfied that Born's shell is *T. dimidiata*, though so considered by Dillwyn. The latter was known to Born, who considered it as distinct, and they are so mentioned.
9. *TEREBRA CONSORS*, sp. n., vide antè.
10. *TEREBRA ARGUS*.
T. nebulosa, Kiener, Iconographie, p. 23. t. 10. f. 22.
Hab. Tahiti, Society Islands: Cuming. Nukuhiva, Marquesas: H. (v. s. in m. Belcher.)
 The name is preoccupied in a species described by Mr. Sowerby.
11. *TEREBRA MUSCARIA*, Lamarck, l. c. vol. vii. p. 285.
Hab. Tahiti; Feejee Islands: H. (v. s. in m. Belcher.)
 The figure in the 'Encyclop. Méthod.' referred to *T. subulata*, represents this shell, an error which was subsequently corrected by Lamarck. An analogous mistake has been committed in Sowerby's 'Genera of Shells,' where *T. subulata* is represented with a reference at the foot to *T. muscaria*.
12. *TEREBRA TIGRINA*, Gmelin (sp.).
Buccinum tigrinum (bis), Gmelin, No. 135.
B. felinum, Dillwyn, vol. ii.
Terebra felina, Sowerby, Tank. Cat. p. 76.
Hab. —? (v. s. in m. Cuming.)

13. †TEREBRA DUPLICATA, Linnæus (sp.).
Buccinum duplicatum, Linn., Gmelin, No. 136.
Terebra Lamarckii, Kiener, p. 30. t. 9. f. 19.
Hab. Zanzibar; Singapore. Majambo Bay, Madagascar: H. Fossil—shores of the Red Sea: Burton. (v. s. in m. Cuming.)
T. Lamarckii seems to me only a pretty and characteristic variety.
14. TEREBRA DUSSUMIERII, Kiener, l. c. p. 31. t. 8. f. 17.
Hab. Haynan, China: Humphrey. (v. s. in m. Cuming.)
15. †TEREBRA SUBULATA, Linnæus (sp.).
Buccinum subulatum, Linn., Gmelin, No. 131.
Terebra fusca, Perry, t. 16. f. 3.
Hab. Tahiti, Society Islands; Bow Island, pale var.; Moluccas: H. Fossil—shores of the Red Sea: Burton. (v. s. in m. Belcher.)
16. TEREBRA OCLATA, Lamarck, l. c. vol. vii. p. 286.
Hab. Bow Island; Society Islands; Amboina: H.
17. TEREBRA SPECTABILIS, sp. n., vide antè.
18. TEREBRA GEMMULATA, Kiener, l. c. p. 15. t. 5. f. 11.
Hab. ———? (v. s. in m. Cuming: a single specimen.)
19. TEREBRA COPULA, sp. n., vide antè.
20. TEREBRA FATUA, sp. n., vide antè.
21. TEREBRA ALBIDA, Gray, l. c. p. 63.
Hab. New South Wales, on the sands: Humphrey. (v. s. in m. Gray.)
22. TEREBRA CLORATA, Lamarck, l. c. vol. vii. p. 288.
T. Knorrii, Gray, l. c. p. 59.
Hab. Seychelles: Dufu. (v. s. in m. Cuming.)
23. TEREBRA RAPHANULA, Lamarck, l. c. vol. vii. p. 288.
Hab. Amboina: H. (v. s. in m. Belcher.)
24. TEREBRA CERITHINA, Lamarck, l. c. vol. vii. p. 288.
Hab. Philippine Islands: Cuming. Bow Island; Society Islands; Feejee Islands: H. (v. s. in m. Belcher.)
25. TEREBRA CÆRULESCENS, Lamarck, l. c. vol. vii. p. 288.
Hab. New Holland: Lamarck. Society Islands; Feejee Islands: H. (v. s. in m. Cuming.)
26. TEREBRA NIMBOSA, sp. n., vide antè.
27. TEREBRA SENEGALENSIS, Lamarck, l. c. vol. vii. p. 287.
T. striatula, Lamarck, l. c. vol. vii. p. 288.
Hab. Gambia and other localities on the west coast of Africa. (v. s. in m. Belcher.)
 Kiener's figure at t. 9. f. 18. represents *T. strigilata*. It is the *faval* of Adanson.
28. TEREBRA FUSCO-MACULATA, Sowerby, Tank. Cat. p. 23.
Hab. Senegal: Sowerby.
 I cannot identify this shell, but there is much probability that

it may be one of the varieties of *T. senegalensis*, Lamarck; a shell not so well known twenty years since as at present.

29. *TEREBRA CINGULA*, Kiener, l. c. p. 28. t. 8. f. 16.

Hab. —? (v. s. in m. Cuming.)

30. *TEREBRA LAURINA*, sp. n., vide antè.

31. *TEREBRA STYLATA*, sp. n., vide antè.

32. *TEREBRA CASTANEA*, Kiener, l. c. p. 19. t. 7. f. 14.

Hab. Mauritius: Kiener. Guinea: Humphrey. (v. s. in m. Cuming.)

I feel tolerably certain that I have referred the right shell to Kiener's description and figure. With the latter it agrees sufficiently well, but the whorls are decidedly divided. His description and figures widely differ.

33. †*TEREBRA PERTUSA*, Born (sp.).

Buccinum pertusum, Born, Mus. p. 267. t. 10. f. 13.

Terebra undata, DeFrance, Dict. des Scien. Nat.

Hab. —? Fossil—Bordeaux: Basterot. South of Europe: Bronn. (v. s. in m. Cuming.)

The shells represented in Kiener's 'Iconographie' by t. 11. f. 24 *b.* and 24 *c.* as varieties, are respectively *T. affinis*, Gray, and *T. undulata*, Gray.

34. *TEREBRA NUBECULATA*, Sowerby, Tank. Cat. p. 25.

Hab. —?

This shell I am unable to identify.

35. *TEREBRA NEBULOSA*, Sowerby, l. c. p. 25.

Hab. —? (v. s. in m. Cuming.)

36. *TEREBRA ALVEOLATA*, sp. n., vide antè.

37. *TEREBRA SPECILLATA*, sp. n., vide antè.

38. *TEREBRA CONSPERSA*, sp. n., vide antè.

39. *TEREBRA VARICOSA*, sp. n., vide antè.

40. *TEREBRA FRIGATA*.

T. gracilis, Gray, l. c. p. 61.

Hab. Africa: Gray. Gallapagos Islands; in six fathoms, coral sand: Cuming. (v. s. in m. Gray.)

A fossil species has priority of name.

41. *TEREBRA PLUMBEA*, Quoy, Voy. de l'Astrolabe, p. 470. t. 36. f. 29, 30.

Hab. Moluccas: Quoy and Gaimard. Cagayan, island of Misamis, Philippines: Cuming. (v. s. in m. Cuming.)

42. *TEREBRA NITIDA*, sp. n., vide antè.

43. *TEREBRA HASTATA*, Gmelin (sp.).

Buccinum hastatum, Gmelin.

Terebra costata, Menke, Syn. Mus., p. 84.

Hab. —? (v. s. in m. Cuming.)

44. *TEREBRA CASTA*, sp. n., vide antè.

45. *TEREBRA RUDIS*, Gray, l. c. p. 60.

Terebra Petitii, Kiener, l. c. p. 37. t. 13. f. 32.

Hab. Shores of New York and Philadelphia: Kiener. (v. s. in m. Gray.)

46. *TEREBRA PPLICATA*, Gray, l. c. p. 61.

Hab. Guayaquil; in twelve fathoms, sandy mud: Cuming.

47. *TEREBRA EBURNEA*, sp. n., vide antè.

48. *TEREBRA AMANDA*, sp. n., vide antè.

49. *TEREBRA TESSELLATA*, Gray, l. c. p. 61.

Hab. ———? (v. s. in m. Britannico.)

50. *TEREBRA LIGATA*, sp. n., vide antè.

51. *TEREBRA LINGUALIS*, sp. n., vide antè.

52. *TEREBRA CORRUGATA*, Lamarck, l. c. vol. vii. p. 287.

T. punctata, Gray, l. c. p. 61.

Hab. ———? (v. s. in m. Gray.)

53. *TEREBRA FUNICULATA*, sp. n., vide antè.

54. *TEREBRA TRICOLOR*, Sowerby, Tank. Cat. p. 24.

T. taniolata, Quoy, Voy. de l'Astrolabe, p. 466. t. 36. f. 25, 26.

Hab. Tongatabu: Quoy and Gaimard. Island of St. Thomas: Sowerby. (v. s. in m. Cuming.)

There is most probably some error in one of these localities.

55. *TEREBRA MONILIS*, Quoy, Voy. de l'Astrolabe, p. 467. t. 36. f. 21, 22.

Hab. ———? (v. s. in m. Cuming.)

56. *TEREBRA CINGULIFERA*, Lamarck, l. c. vol. vii. p. 289.

T. punctulata, Sowerby, Tank. Cat. p. 24.

T. punctatostrata, Gray, l. c. p. 61.

Hab. New Holland: Kiener. Annaa, South Pacific; Ilo-ilo, island of Panay, and island of Burias, Philippines: Cuming. Tahiti: H. (v. s. in m. Gray.)

57. *TEREBRA BABYLONIA*, Lamarck, l. c. vol. vii. p. 287.

T. striata, Gray, l. c. p. 60.

Hab. Haynan, China: Schröter. Bow Island; Tahiti; Feejee Islands: H. (v. s. in m. Gray.)

58. *TEREBRA STRAMINEA*, Gray, l. c. p. 62.

Hab. Haynan, China; Tranquebar: Schröter.

59. *TEREBRA PRETIOSA*, Reeve, Proc. Zool. Soc. 1842, p. 200.

Hab. China. (v. s. in m. Cuming.)

Two specimens only of this fine shell appear to be known.

60. † *TEREBRA COMMACULATA*, Gmelin (sp.).

Buccinum strigilatum, Gmelin (*nec* Linn.).

B. commaculatum, Gmelin, No. 143.

Terebra myuros, Lamarck, l. c. vol. vii. p. 289.

T. scabrella, Lamarck, l. c. vol. vii. p. 289.

Hab. New Guinea : H. Fossil—shores of the Red Sea : Burton.
(v. s. in m. Belcher.)

An impression seems to exist that this may be *Buccinum murinum*, Linnæus, but the brief description does not appear to me to favour this view.

61. *TEREBRA TRISERIATA*, Gray, l. c. p. 61.

Hab. Island of Ticao, Philippines; six fathoms, sand : Cuming.
China Sea; twenty-two fathoms : H. (v. s. in m. Gray.)

62. *TEREBRA LÆVIGATA*, Gray, l. c. p. 61.

Hab. Ceylon : H.

63. *TEREBRA LÆVIS*, Gray, l. c. p. 61.

Hab. ———? (v. s. in m. Gray.)

At first I was somewhat struck with the peculiar appearance of the specimen, but after repeated examination and comparison I feel satisfied that it is the worn apex of either *T. muscaria* or *T. oculata*, which are in this state much alike.

64. *TEREBRA COLUMELLARIS*, sp. n., vide antè.

65. *TEREBRA UNDULATA*, Gray, l. c. p. 60.

T. pertusa, Kiener, Iconographie, var. t. 11. f. 24 c.

Hab. Bow Island; New Guinea; Straits of Malacca : H. (v. s. in m. Gray.)

66. *TEREBRA AFFINIS*, Gray, l. c. p. 60.

T. striata, Quoy, Voy. de l'Astrolabe, p. 468. t. 36. f. 23, 24.

Hab. Feejee Islands; Seychelles : H. (v. s. in m. Gray.)

This species varies much in the size of its shells. The robust specimens are M. Quoy's species; his name, though having a short priority, is previously occupied.

67. *TEREBRA VARIEGATA*, Gray, l. c. p. 61.

T. africana, Gray, Griffith's Cuvier, t. 23. f. 5.

Hab. Guaymas, Gulf of California; ten to twelve fathoms, sandy mud : Cuming. (v. s. in m. Gray.)

I can scarcely discover the priority of these names, but the second is obviously objectionable.

68. *TEREBRA INTERTINCTA*, sp. n., vide antè.

69. *TEREBRA ARMILLATA*, sp. n., vide antè.

70. *TEREBRA ASPERA*, sp. n., vide antè.

71. *TEREBRA RADULA*, sp. n., vide antè.

72. *TEREBRA BIFRONS*, sp. n., vide antè.

73. *TEREBRA GLAÛCA*, sp. n., vide antè.

74. *TEREBRA BICINCTA*, sp. n., vide antè.

75. *TEREBRA TUBERCULOSA*, sp. n., vide antè.

76. *TEREBRA LARVÆFORMIS*, sp. n., vide antè.

77. *TEREBRA FENESTRATA*, sp. n., vide antè.

78. *TEREBRA PICTA*, sp. n., vide antè.

79. *TEREBRA VIOLASCENS*, sp. n., vide antè.
80. *TEREBRA ALBA*, Gray, l. c. p. 60.
Hab. —? (v. s. in m. Gray.)
81. *TEREBRA FLAVA*, Gray, l. c. p. 60.
Hab. —? (v. s. in m. Gray.)
82. *TEREBRA ELATA*, sp. n., vide antè.
83. *TEREBRA TEXTILIS*, sp. n., vide antè.
84. *TEREBRA CANCELLATA*, Quoy, Voy. de l' Astrolabe, p. 471. t. 36. f. 27, 28.
Hab. Moluccas : Quoy and Gaimard. (v. s. in m. Cuming.)
85. *TEREBRA CANCELLATA*, Gray, l. c. p. 62.
Hab. —?
 This species I have not seen. The name, being preoccupied, requires to be changed.
86. *TEREBRA PULCHRA*, sp. n., vide antè.
87. *TEREBRA EBURNEA*, sp. n., vide antè.
88. *TEREBRA LANCEATA*, Gmelin (sp.).
Buccinum lanceatum, Gmelin, No. 137.
Hab. Tahiti ; Mauritius : Cuming. Amboina : H. (v. s. in m. Belcher.)
89. *TEREBRA PENICILLATA*, sp. n., vide antè.
90. *TEREBRA VENOSA*, sp. n., vide antè.
91. *TEREBRA INCONSTANS*, sp. n., vide antè.
92. *TEREBRA ANOMALA*, Gray, l. c. p. 62.
Hab. Singapore ; in seven fathoms : Cuming. (v. s. in m. Gray.)
93. † *TEREBRA CINEREA*, Born (sp.).
Buccinum cinereum, Born, Mus. p. 267. t. 10. f. 11, 12.
Terebra aciculina, Lamarck, l. c. vol. vii. p. 290.
Hab. Manila, on the sand : Cuming. Fossil—Bordeaux : Basterot. (v. s. in m. Cuming.)
94. *TEREBRA STRIGILATA*, Linnæus (sp.).
Buccinum strigilatum, Linn., Syst. Nat. no. 484.
Hab. New Guinea ; Straits of Macassar : H. Philippine Islands : Cuming. (v. s. in m. Belcher.)
 At p. 29 of the 'Iconographie' M. Kiener describes this shell, and t. 9. f. 19. represents it ; but the reference at the foot is to *T. striatula*, Lamarck.
95. *TEREBRA LUCTUOSA*, sp. n., vide antè.
96. *TEREBRA CUSPIDATA*, sp. n., vide antè.
97. *TEREBRA MICANS*, sp. n., vide antè.
98. *TEREBRA LEPIDA*, sp. n., vide antè.
99. *TEREBRA ALBULA*, Menke, Moll. Nov. Holland. p. 30.
Hab. West coast of New Holland : Menke.

100. *TEREBRA OBESA*, sp. n., vide antè.
 101. *TEREBRA NASSOIDES*, sp. n., vide antè.
 102. *TEREBRA TUBEROSA*, sp. n., vide antè.
 103. *TEREBRA RUSTICA*, sp. n., vide antè.
 104. *TEREBRA ACICULATA*, Lamarck (sp.).
Buccinum aciculatum, Lamarck, l. c. vol. vii. p. 274.
Hab. Acapulco; Sonsonati; Xipixapi: Cuming. (v. s. in m. Cuming.)
 105. *TEREBRA COSENTINI*, Philippi, p. 227. t. 11. f. 29.
Hab. Naples: Philippi. (v. s. in m. Cuming.)
 106. *TEREBRA TENERA*, sp. n., vide antè.
 107. *TEREBRA MERA*, sp. n., vide antè.
 108. *TEREBRA PYGMÆA*, sp. n., vide antè.

FOSSIL.

109. *TEREBRA PLICATULA*, Brocchi (sp.).
Buccinum plicatum, Brocchi, Conchiologia.
Hab. Paris: Deshayes. Bordeaux; Siebenbürgen: Bronn.
 110. *TEREBRA GRANULATA*, Phillips, Geol. York. vol. i. t. 7. f. 16.
Hab. Scarborough: Phillips.
 111. *TEREBRA MELANOIDES*, Phillips, l. c. vol. i. t. 4. f. 13.
Hab. Yorkshire: Phillips.
 112. *TEREBRA VETUSTA*, Phillips, l. c. vol. i. t. 9. f. 25.
Hab. Yorkshire: Phillips.
 113. *TEREBRA VITTATA*, Phillips, l. c. vol. i. t. vii. f. 15.
Hab. Scarborough: Phillips.
 114. *TEREBRA FUSCATA*, Brocchi (sp.).
Buccinum fuscatum, Brocchi, Conchiol. vol. ii. p. 344.
Terebra plicaria, Basterot, Mém. d'Hist. Naturelle, 1825.
T. striolata, Risso, Histoire de Nice, f. 74.
Hab. Bordeaux: Basterot. Nice: Risso.
 115. *TEREBRA STRIATA*, Basterot, Mémoire, 1825.
Hab. Bordeaux: Basterot.
 Four different shells have received this specific name, of which the above claims the priority. It is not always easy so to adjust and apply the nomenclature, that a designation once used should not be adopted again; but in cases like the present it is difficult to believe that a little reference would not have avoided the frequent repetition of the same name, whereby not only some confusion would have been avoided, but those who come after would have been saved the unpleasant and ungracious duty of substituting new names.
 116. *TEREBRA CONSTRICTA*, Sowerby, Min. Conch. vol. iii. p. 218.
Hab. Yorkshire: Phillips.
 117. *TEREBRA LINEATA*, Sowerby, Min. Conch. vol. iii. p. 218.
Hab. England: Sowerby.

118. *TEREBRA PORTLANDICA*, Sowerby, Geol. Trans. 2nd Ser. vol. iv. t. 23. f. 6.
Hab. Portland.
119. *TEREBRA HEUNAHIANA*, Sowerby, Geol. Trans. 2nd Ser. vol. v. t. 57. f. 22.
Loxonema —, Phillips.
Hab. Plymouth.
120. *TEREBRA NEXILIS*, Sowerby, l. c.
Melania arcuata.
Hab. — ?
121. *TEREBRA SINUOSA*, Sowerby, Sil. Syst.
Hab. — ?
122. *TEREBRA STRIATA*, Lonsdale, Geol. Tr. 2nd Ser. vol. iii. p. 275.
Melania —, Sowerby, Min. Conch.
Hab. England.
The specific name is preoccupied.
123. *TEREBRA HEDDINGTONENSIS*, Lonsdale, l. c. 2nd Ser.
Melania —, Sowerby, Min. Conch.
Hab. Weymouth.
124. *TEREBRA GRACILIS*, Lea, Contr. to Geology, p. 166. t. 5. f. 171.
Hab. Alabama: Lea.
See No. 40.
125. *TEREBRA COSTATA*, Lea, l. c. p. 166. t. 5. f. 172.
Hab. Alabama: Lea.
126. *TEREBRA VENUSTA*, Lea, l. c. p. 167. t. 5. f. 173.
Hab. Alabama: Lea.
127. *TEREBRA POLYGYRA*, Conrad, 1834.
Hab. United States.
128. *TEREBRA SIMPLEX*, Conrad.
Hab. United States.
129. *TEREBRA INVERSA*, Nyst, Coq. Foss. d'Anvers, p. 34. t. 5. f. 49.
Hab. Antwerp: Nyst.
Three specimens only, in an indifferent state, of this singular little shell were known to M. Nyst.
130. *TEREBRA VULCANI*, Brongniart, Mém. du Vicentin, p. 67.
Muricites costatus, Schlotheim, Petrefactenkunde, p. 146.
Hab. South of France.
Schlotheim's shell has I believe the priority, and by several years, over No. 126.
131. *TEREBRA CANALIS*, S. Wood, Ann. Nat. Hist. vol. ix. p. 540.
Hab. Gedgrave, England; coral crag: S. Wood.
132. *TEREBRA HETEROSTROPHA*, S. Wood, Ann. Nat. Hist. vol. ix. p. 540.
Hab. Gedgrave and Sutton, England; red and coral crag: S. Wood.
This is not unlikely to be *T. inversa*, Nyst. Both species are unaccompanied by descriptions.

Mihi ignota.

133. TEREBRA SANDWIZENSIS, — ?

Excludendæ.

134. TEREBRA VITTATA.

Buccinum vittatum, Linnæus.*Eburna monilis*, Schumacher.*Terebra buccinoidea*, Blainville.*Bullia vittata*, Gray.*Leiodomus vittata*, Swainson.

135. TEREBRA GRANULOSA, Lamarck.

136. † TEREBRA SCALARINA, Lamarck.

Buccinum scalarinum, Sowerby.*Fusus scalarinus*, Deshayes.

137. TEREBRA LINEOLATA, Sowerby, Tank. Cat.

Buccinum lineolatum, Wood, Index, Suppl.*B. Bellangeri*, Kiener.

138. TEREBRA TAHITENSIS, Gray, Proceed. Zool. Soc. 1834, p. 63.

Buccinum tahitense, Gmelin.*B. australe*, Sowerby.

139. TEREBRA POLITA, Gray, Proceed. Zool. Soc. 1834, p. 63.

Buccinum politum, Lamarck.

There still remain to notice the following species, which were referred by the old authors to that section of *Buccinum* which is now regarded as synonymous with *Terebra*, but which there is much difficulty and doubt in referring to any shells at the present time in our collections:—*Buccinum murinum*, Linn.; *B. acus*, Chemnitz; *B. hecticum*, Gmelin; *B. bifasciatum*, Petiver; *B. concinnum*, Gualtier; *B. succinctum*, Chemnitz; *B. geminum*, Linn.; *B. proximum*, Linn.; *B. monile*, Linn.; *B. sinuatum*, Linn.; and *B. phallus*, Chemnitz, is since known as *Pleurotoma buccinoides*.

“Descriptions of new species of Shells figured in the ‘Conchologia Iconica,’” by Mr. Lovell Reeve.

Genus CONUS.

CONUS DESHAYESII. *Con. testâ cylindraceo-ovatâ, tenuiculâ, inflatâ, pallidè olivaceo-fulvâ, profusè rubido-puncticulatâ, maculis albis grandibus, perpaucis, sparsim et irregulariter nebulosâ; spirâ depresso-pland, apice mucronato; aperturâ dehiscente, fauce, quasi politâ, nitente.*

Conch. Icon., *Conus*, pl. 5. f. 28; *Conus cervus*, Sowerby, Conch. Illus., f. 94.

Hab. Swan River.

Only a few specimens of this very characteristic species, which may be readily recognised by its peculiar buff-tinted colour and light inflated growth, are at present known. It has been supposed hitherto to be the *Conus cervus*, but having lately examined, in the collection of M. Delessert, the identical shell described under that title by Lamarck, with the description of that illustrious author attached to it

in his own handwriting, I am enabled to rectify an error which has unfortunately gained considerable circulation.

By the title now substituted for *cervus* in reference to the species under consideration, I wish to honour my kind and amiable friend M. Deshayes, now zealously occupied in completing the conchological portion of the new edition of Lamarck's 'Histoire des animaux sans vertèbres,' the publication of which has been long anxiously looked for.

CONUS VIDUA. *Con. testâ turbinatâ, albâ, fusco subtilissimè reticulatâ, reticulis ruptis, subsparsis; fasciis binis nigerrimo-fuscis, maculis albis sparsis, irregulariter punctatis, cinctâ; spirâ concavo-depressâ, coronatâ, apice subobtusâ.*

Conch. Icon., *Conus*, pl. 8. f. 45.

Hab. Island of Capul, Philippines (on the reefs); Cuming.

This curiously mottled Cone presents a very different style of painting from any hitherto described species. Several specimens were collected by Mr. Cuming.

CONUS PICTUS. *Con. testâ oblongo-turbinatâ, tenuiculâ, subventricosâ, puniceo brunneove et albo alternatim fasciatâ, fasciis interstitiisque fusco alboque identidem tæniatis et variegatis; spirâ convexo-clatâ, ad marginem peculiariter strigatâ, aperturâ subinflatâ.*

Conch. Icon., *Conus*, pl. 18. f. 98.

Hab. — ?

The painting of this pretty shell is of very peculiar character, and I know of no other species with which any comparison can well be instituted. The most characteristic of two specimens now before me exhibits three broad pale scarlet bands, the lower being ornamented with two articulated fillets of brown and white, the middle with one only, whilst in the upper band the fillet is altogether wanting. The spaces between the bands are curiously variegated with brown (scarlet-brown), and the base and upper edge of the shell are obliquely streaked with the same colour; the latter part in such a manner as to leave a neat spiral necklace of short streaks upon the surface of the spire. In some specimens the articulated fillets are more confused, though the necklace of short streaks is still clearly defined around the edge of the spire.

CONUS MAHOGANI. *Con. testâ elongato-turbinatâ, subcylindraceâ, basim versus sulcatâ; albidd, spadiceo profusè tinctâ, tæniis frequentibus spadiceo alboque articulatis cinctâ; spirâ valdè clatâ; aperturæ fauce albâ.*

Conch. Icon., *Conus*, pl. 22. f. 126.

Hab. Salango, West Columbia (found in sandy mud); Cuming.

This species differs from the *Conus interruptus* in having the spire narrower and much more elevated; it is always more strongly and fully stained with the dark reddish-brown, and the interior of the shell exhibits no indication of any purple.

CONUS INTERMEDIUS. *Con. testâ elongato-turbinatâ, subcylindraceâ,*

lavi, columellâ basim versus subtiliter sulcatâ; puniceo-rosâ, maculis grandibus fusciscentibus reticulatis, interruptè bibalteatâ, interstitiis plus minusve pallidè reticulatis; spirâ convexo-elatâ, spiraliter striatâ; aperturâ patente, fauce pallidè violacêâ.

Conch. Icon., *Conus*, pl. 23. f. 129; *Conus geographus*, var., Broderip; Sowerby, Conch. Illus., f. 33.

Hab. Island of Annaa, Pacific Ocean (found on the reefs); Cuming.

I have long suspected this shell to be distinct from the *Conus geographus*; it differs constantly in form, in colour, and in the general distribution of the brown reticulated painting. These differences are unimportant however compared with a character which it has in common with the *Conus tulipa*, namely that of having the lower portion delicately grooved. The base of the *Conus geographus* does not present the slightest indication of this grooving, nor indeed any inequality of surface beyond the ordinary striæ of growth, which pass in the contrary direction. I notice this character in the *Conus intermedius* merely to show that it cannot be a variety of the *Conus geographus*; the grooving must not be regarded as a specific peculiarity, because, as already observed, it is common to the *Conus tulipa*, as well as to another closely allied species, the *Conus obscurus*.

CONUS ORBITATUS. *Con. testâ oblongo-turbinatâ, tenuiculâ, transversim liratâ, liris planis, interstitiis striato-pertusis; albidd, ustulato-fusco variegatâ; spirâ acuminatâ, apice elato, acuto.*

Conch. Icon., *Conus*, pl. 27. fig. 156.

Hab. — ?

I kindly thank M. Deshayes for the use of this interesting little shell, which at first sight I thought to be a young specimen of the *Conus sulcatus*.

CONUS ELONGATUS. *Con. testâ elongato-turbinatâ, lavi, luteo-olivacêâ, supernè cæruleo-albâ, fasciâ interruptâ subindistinctâ deorsum cingulatâ; spirâ convexâ, cæruleo-albâ, subtilissimè coronatâ, apice rosaceo; basi et aperturæ fauce vividè violaceis.*

Conch. Icon., *Conus*, pl. 27. f. 157.

Hab. — ?

I adopt the Rev. Mr. Stainforth's manuscript name for this elegant little shell, believing that it may with great propriety be regarded as a new species.

CONUS IODOSTOMA. *Con. testâ subelongato-turbinatâ, tenui, leviter inflatâ; albidâ, purpureo pallidissimè tinctâ, luteo-fuscescente sparsim et irregulariter punctatâ et maculatâ; spirâ subtilissimè sulcatâ, apice elato, acuto; aperturâ latiusculâ, fauce violaceo-purpureâ.*

Conch. Icon., *Conus*, pl. 28. f. 159.

Hab. — ?

This shell has been supposed to have some considerable affinity with the *Conus Janus*; it does not however, in my opinion, exhibit any characters in common with that species, and may at once be distinguished by its tenuity, by its spotted peculiarity of painting, and by its violet-stained mouth.

CONUS INSCRIPTUS. *Con. testá turbinatá, solidiusculá, lævi, basim versus sulcatá, sulcis latis, striatis; cæruleo-albidá, maculis grandibus fuscescentibus, literis Sinensibus simillimis, trifasciatim inscriptá, interstitiis macularum minorum serie unicá cingulatis; spirá mediocri, spiraliter striatá, fuscescente variegatá, apice acuto; aperturæ fauce violaceo-carneolatá.*

Conch. Icon., *Conus*, pl. 29. f. 164; *Conus leo scandens*? Chemnitz, Conch. Cab., vol. x. pl. 140. f. 1300.

Hab. — ?

This appears to me to be a well-characterized species, and clearly distinct from that variety of the *Conus Proteus* to which it so closely approximates in the style of painting. I much question whether the figure described by Chemnitz under the title of "*Leo scandens*," from an imagined resemblance of the hieroglyphical spots to the common heraldic device of the climbing lion, is not a representation of this shell, and that Lamarck, Pfeiffer, and others have somewhat erred in quoting it as the well-known similarly marked variety of *C. Proteus*.

CONUS BULBUS. *Con. testá subobeso-turbinatá, solidá, supernè rotundatá; albá, fusco longitudinaliter strigatá, strigis irregularibus, obliquè undulatis, supernè et infernè diffusis; spirá brevi, apice mucronato.*

Var. β . *Testa omninè fusca.*

Conch. Icon., *Conus*, pl. 30. f. 169.

Hab. Cabenda, west coast of Africa (found at the depth of five fathoms in soft mud, washed down by the waters of the Congo); Hankey.

Four specimens of this very interesting species were collected at the above-named locality by Lieut. Hankey. It is a very solid shell, having the appearance of a small bulb-root.

CONUS APLUSTRE. *Con. testá subobeso-turbinatá, tenui, subinflatá, lævi, basim versus lirátá; rubido-fusco et cæruleo pallidè et sub-irregulariter zonatá, tenuis fusco-articulatis angustis numerosis subtilibus ornatá; spirá depresso-convexá, apice mucronato.*

Conch. Icon., *Conus*, pl. 30. f. 170.

Hab. — ?

This is another new species, and will be recognised as being very distinct from any hitherto described.

CONUS METCALFII. *Con. testá elongato-ovatá, per totam superficiem granulosa, granulis subtilibus, seriatim digestis; albida, aurantio-fusco irregulariter inquinatá, balteá albidá angustá in medio cingulatá; spirá subæsertá, aurantio-fusco maculatá, apice acuminato.*

Conch. Icon., *Conus*, pl. 36. f. 192.

Hab. — ?

I have much pleasure in naming this interesting species, at the desire of the Rev. Mr. Stainforth, in honour of William Metcalfe, Esq., a gentleman whose zeal for collecting and identifying the more

minute and less attractive species of shells is highly serviceable to science.

CONUS VICTORIÆ. *Con. testâ ovato-turbinatâ, tenui, subinflatâ, transversim striatâ; albidd, cæsiò longitudinaliter inquinatâ, maculis grandibus, subsolitariis, aurantiis, fusco undulato-virgatis, trifasciatim ornatâ, interstitiis aurantio-fusco subtilissimè reticulatis; spirâ elevato-cæsertâ, apice acutissimo; aperturâ latiusculâ, fauce pallidè cæsiâ.*

Var. β . *Testa maculis aurantiis majoribus, trifasciatim coalescentibus; strigis fuscis longitudinalibus prominentioribus.*

Conch. Icon., *Conus*, pl. 37. f. 202.

Hab. Mouth of the Victoria River, New Holland; H.M.S. *Beagle*.

This highly interesting species must be seen to be appreciated, it being quite impossible to do justice either by drawing or description to its elaborate configuration. It is perhaps next allied to the *Conus canonicus*, but is of much lighter and more inflated growth; the three rows of brown-striped orange blotches are peculiar to it; the net-work is finer, and of a much more delicate and tremulous character, and the interior of the aperture, instead of being pink, is of the same greyish blue colour which characterizes the outer surface.

I take the liberty of attaching Her Majesty's name to this beautiful shell, from the circumstance of its having been lately discovered in a locality dedicated in like manner to the same fair patroness of the sciences.

The two specimens here figured, recently in my possession, were collected during the late surveying expedition of H.M.S. *Beagle*. Mr. Cuming and the Rev. Mr. Stainforth each possess several examples.

CONUS SCALPTUS. *Con. testâ turbinatâ, solidiusculâ, politâ, basim versus sulcatâ; albidd, filis rubidis numerosis, rariter interruptis, cinctâ; spirâ elevatâ, spiraliter striatâ, rubro variegatâ, apice acuto.*

Conch. Icon., *Conus*, pl. 37. f. 203.

Hab. — ?

This is a new and very distinct species; the transverse lines exhibit the appearance of scratches and are very characteristic. M. Chenu of Paris proposed describing this shell under the title of *C. radiatus*, but that name has been applied to another species by Gmelin, though not acknowledged.

CONUS MUCRONATUS. *Con. testâ acuminato-turbinatâ, basim versus attenuatâ, transversim sulcatâ, sulcis striis longitudinalibus cancellatis; albidd, fusco pallidè tinctâ et variegatâ; spirâ elato-cæsertâ, fusco pallidè maculatâ, apice mucronato, acuto.*

Conch. Icon., *Conus*, pl. 37. f. 204.

Hab. Islands of Burias, Siquijor, Penay, &c., Philippines; Cuming.

Several examples of this species have been collected by Mr. Cuming, varying remarkably in their general appearance; most of them

are obsoletely coronated, and all have the grooves more or less strongly developed, with the apex remarkably sharp-pointed. *Coni sulcatus* and *orbitatus* are the nearest allied species.

CONUS CUNEOLUS. *Con. testâ abbreviato-turbinatâ, supernè obesâ, subinflatâ; fuscâ, maculis albidis paucis parvis, irregularibus, subtrigonis, fasciatim aspersâ, fasciâ albidâ, fusco pallidè strigatâ, interdum subobsoletâ, infrâ medium ornatâ; spirâ convexo-obtusâ.*

Conch. Icon., *Conus*, pl. 37. f. 205.

Hab. — ?

This apparently variable species approximates in some degree to the *Conus mercator*.

CONUS VERRICULUM. *Con. testâ cylindracco-turbinatâ, ventricosâ, subrotundatâ, lævi, basim versus striatâ; albidâ, maculis aurantiis irregularibus bifasciatim cinctâ, aurantio-fusco aliter latissimè reticulatâ; maculis lineis undulatis nunc transversim, nunc longitudinaliter strigatis; spirâ concavo-acuminatâ.*

Conch. Icon., *Conus*, pl. 38. f. 208.

Conus textile, var. *l*, Lamarck.

Hab. Ceylon, &c.

Many persons will no doubt cavil at my attaching a new specific name to this long-established variety of the *Conus textile*, but how can Lamarck's *Conus vicarius* stand, unless this shell be elevated to the same rank? Its inflated growth and the wide open character of the net-work are somewhat constant, and it may as well be noticed that the *Conus verriculum* has long been erroneously set apart by collectors for the *Conus archiepiscopus*, a very different shell, and one of much greater rarity. Either the *Conus verriculum* must be adopted, or the *Conus vicarius* must be rejected, and both considered as varieties of the *Conus textile*.

There can be no law for the adjudication of species, whilst a species remains to be defined. If the *Coni vicarius* and *verriculum* be discarded, hundreds of species may be banished in like manner from the nomenclature, as the links in the grand chain of affinity between the *Aspergillum* and the *Argonaut* become gradually revealed to observation.

CONUS MARTINIANUS. *Con. testâ cylindraceo-turbinatâ, fuscâ, vel leucolo-fuscâ, ad basim, et per spirâ marginem, albidâ; lævi, infrâ medium sulcatâ, sulcis latiusculis, subdistantibus, strâis prominentibus, cancellatis; spirâ convexâ, spiraliter sulcatâ, sulcis numerosis, angustis, apice èlato, acuto.*

Conch. Icon., *Conus*, pl. 40. f. 217.

Conus teres lævis, Martini, Conch. Cab., vol. ii. p. 233. pl. 53. f. 584; *Conus lacteus*, var. ? Lamarck.

Hab. Putao, province of Albay, island of Luzon, Philippines (found under stones at low water); Cuming.

This species has been either injudiciously confounded by Lamarck with the *Conus lacteus*, or it has been altogether neglected. Martini has given a very accurate figure of it, but his irregular style of

nomenclature precludes the possibility of our following the title by which he distinguished it. The *Conus spectrum* is described by that author under the name of *Conus teres*, and this immediately follows under that of *Conus teres levis*; the former is however a shell of a more inflated growth, and distinguished moreover by markings of which the *Conus Martinianus* is entirely destitute. Most specimens exhibit a longitudinal white streak here and there, running parallel with the lines of growth.

CONUS INCARNATUS. *Con. testá turbinatá, vix pyriformi, basim versus subtilissimè liratá, liris numerosis, confertis; albá, fasciis duabus latissimis, pallidè incarnatis, cinctá; spirá convexiusculá, spiraliter incisá, maculis incarnatis arcuatis pallidè variegatá, apice mucronato, elato.*

Conch. Icon., *Conus*, pl. 41. f. 221.

Hab. Malacca (found on mud-banks); Cuming.

Although the specimen above described is in the best state of preservation, I should have judged it, from its simple style of colouring, to be a shell of immature growth, were it not that Mr. Cuming collected several specimens of them at Malacca on the mud-banks, all exhibiting the same uniformity of external character.

CONUS BÆTICUS. *Con. testá turbinatá, solidiusculá, lævi, basim versus granulosá; albá, punctis maculisque grandibus, bæticis, vividè pictá; spirá subobtusò-convexá, obsoletè coronatá, spiraliter sulcatá, sulcis striato-cancellatis.*

Conch. Icon., *Conus*, pl. 42. f. 226.

Hab. Philippine Islands; Cuming.

The *Conicus bæticus* exhibits no other colour but that of the dots and blotches, which are of very dark chocolate-brown upon a white ground.

CONUS EPISTOMIUM. *Con. testá elongato-turbinatá, rectá, tenuiculá, albá, maculis aurantio-fuscis, peculiariter fluentibus, bifasciatim cinctá, maculis albo subobsoletè transversim punctato-lineatis; spirá depressiusculá, fuscescente maculatá.*

Conch. Icon., *Conus*, pl. 42. f. 227.

Hab. Mauritius.

This shell is of a peculiarly straight form, and reminds one very forcibly of the spigot or faucet-stop of a barrel; the very faint white dotted transverse lines are exceedingly regular, and of quite a different character to those of the brocade species.

CONUS COCCEUS. *Con. testá turbinatá, supernè obesiusculá, subrotundatá, transversim subtilissimè liratá, interstitiis leviter pertusis; albá, liris maculis parvis irregularibus, pallidè cocceis, eximie tæniatis; spirá obtusò-convexá.*

Conch. Icon., *Conus*, pl. 42. f. 228.

Hab. New Holland.

Mr. Cuming possesses three specimens of this delicately marked Cone, the entire surface of which is covered with faintly articulated fillets of white and scarlet.

CONUS CLERII. *Con. testá turbinatá, supernè acutangulá, tenuiculá, per totam superficiem subtilissimè liratá; albá, strigis fusciscentibus, longitudinaliter undatis, subirregulariter variegatá; spirá depressiusculá, leviter canaliculatá, apice elato, mucronato.*

Conch. Icon., *Conus*, pl. 43. f. 229.

Hab. Cape St. Thomas, Brazils (found in sandy mud at the depth of thirty-five fathoms); Clery.

I have much pleasure in adopting the name of an intelligent French naval commander, to whom we are indebted for this, and many new and interesting species of shells.

CONUS PIPERATUS. *Con. testá subabbreviato-turbinatá, basim versùs sulcatá; albá, maculis fuscis parvis sparsis irregulariter ornatá; spirá convexá, spiraliter striatá, apice mucronato, elato; aperturae fauce fusciscente tinctá.*

Conch. Icon., *Conus*, pl. 43. f. 230.

Hab. — ?

The *Conus erythrænsis* is perhaps the nearest allied species to this, well characterized by the stained interior, and the more dotted style of the external painting.

CONUS GRÜNERI. *Con. testá turbinatá, supernè levi, infrá transversim sulcatá, sulcis prominentibus; albá, maculis subquadratis rubris trifasciatim teniatá, intervallis punctis rubris minutissimis aspersis; spirá depresso-pland, spiraliter canaliculatá, basi intus extusque nigricante-violaceo tinctá.*

Conch. Icon., *Conus*, pl. 43. f. 231.

Hab. Island of Java.

This is a beautiful little species, very distinct from any hitherto described. At the request of Mr. Cuming I have named it after M. Grüner of Bremen, a very zealous collector, whom I thank most cordially, not only for the loan of the shell, but for setting an example which I trust continental amateurs will not fail to profit by.

There is another specimen, of rather larger size, in the cabinet of Mr. J. E. Gray of the British Museum.

CONUS SINDON. *Con. testá subventricoso-turbinatá, leviusculá; albidá, lineis rubido-fuscis subtilissimis densissimè bifasciatim decussatá; spirá subobtusos-convexá, apice rosaceo.*

Conch. Icon., *Conus*, pl. 43. f. 233.

Hab. — ?

This interesting shell, for the loan of which I am indebted to the zeal of Mr. Adamson of Newcastle, is very distinct from any hitherto described species. The painting viewed through an ordinary lens suggests the appearance of very fine lawn or cambric linen, and is of quite a novel character.

CONUS PARIUS. *Con. testá turbinatá, solidá, supernè obesa, basim versus sulcatá, sulcis distantibus latiusculis, densissimè striato-cancellatis; marmoreo-albá; spirá plano-convexá, lævi, apice mucronato, fusciscente.*

Conch. Icon., *Conus*, pl. 43. f. 235.

Conus spectrum album, Chemnitz, Conch. Cab., vol. x. pl. 140. f. 1304; *Conus columba*, var. c, Lamarck, Enc. Méth., pl. 331. f. 3.

Hab. — ?

This shell, which is of a solid, shining white (like the celebrated marble of Paros), has been evidently confounded with the *Conus columba*; it requires however no very great exercise of critical discrimination to perceive that it differs materially both from that and the preceding species.

CONUS EXARATUS. *Con. testá turbinatá, subangustá, per totam superficiem sulcatá, sulcis regularibus, latiusculis, interstitiis subtilissimè striato-cancellatis; pallidè cæruleo-purpureá, maculis ferruginosis albinubeculatis, perpaucis, parcis, sparsim ornatá; spirá acuminatá.*

Conch. Icon., *Conus*, pl. 44. f. 238.

Hab. — ?

This is a very distinct species, remarkable for the regularity with which it is grooved.

CONUS USTULATUS. *Con. testá subelongato-turbinatá, supernè tumidiusculá, margine rotundatá, transversim subtilissimè liratá; pallidè ustulato-rubidá, balted albidá angustá in medio cinctá; spirá convexá, spiraliter striatá, maculis perpaucis sparsis purpureo-rubris ad marginem superiorem ornatá; apice mucronato.*

Conch. Icon., *Conus*, pl. 44. f. 239.

Hab. New Holland.

There is no trace of any purple-red spots or other dark character on the body of the shell.

CONUS ACULEIFORMIS. *Con. testá elongato-turbinatá, subfusiformi, undiquè sulcatá, sulcis subtilissimè striato-cancellatis, nunc angustis, liris intermediis planis latiusculis, nunc latioribus, liris intermediis rotundatis angustis; albidá, fuscescente punctatá, maculis fuscescentibus biseriatis cinctá; spirá acuminatá, apice eluto, acuto.*

Conch. Icon., *Conus*, pl. 44. f. 240.

Hab. Cagayan, island of Mindanao, Philippines (dredged from sandy mud at the depth of from twenty-five to thirty fathoms); Cuming.

The specimens collected by Mr. Cuming at the above-mentioned island are mostly smaller than those here figured.

CONUS VIOLACEUS. *Con. testá elongato-turbinatá, cylindraced, tenui, nitidá; violaceá, transversim obsoletè fuscescente punctato-lineatá, fuscescente longitudinaliter strigatá, aut sparsim maculatá; strigis subdistantibus, lineis brevibus fuscescentibus, exiliter albiarticulatis, ornatis; spirá rotundato-obtusá, spiraliter striatá.*

Conch. Icon., *Conus*, pl. 44. f. 241.

Hab. Matnog, island of Luzon, Philippines (found on the reefs); Cuming.

This is a very interesting species; the faint dotted lines with which the entire shell is encircled are scarcely visible on the violet ground

without the assistance of an ordinary lens, but in passing over the longitudinal streaks of light brown they present a more decided appearance.

CONUS TABIDUS. *Con. testá turbinatá, leviter pyriformi, tenui, undiquè sulcatá, sulcis basalibus latioribus, profundis, alteris irregularibus, subtilissimis, undulatis; albá, totá superficie striis longitudinalibus elevatis peculiariter sculptá; spirá subobtusó-convexá, obsoletè coronatá.*

Conch. Icon., *Conus*, pl. 44. f. 243.

Hab. — ?

I am not aware that the raised longitudinal striæ with which this shell is so delicately sculptured are to be found in any other species of the genus.

CONUS AMBIGUUS. *Con. testá turbinatá, lævi, basim versus liratá, lineis subtilissimis, undatis, longitudinalibus, subobsoletè incisis; albá, pallidè fuscéscente tinctá; spirá obtusó-convexá, leviter canaliculatá, maculis arcuatis fuscéscentibus ornatá, apice mucronato, elato.*

Conch. Icon., *Conus*, pl. 44. f. 244.

Hab. — ?

There is always a doubtful character about shells exhibiting faint indications of colour; I have not, however, succeeded in referring this to any species hitherto described.

CONUS LENTIGINOSUS. *Con. testá fusiformi-turbinatá, tenuiculá, lævi, basim versus sulcatá, sulcis latiusculis, profundis; albidá, fuscéscente lentiginosá et punctatá; spirá elatá, anfractibus acutangulis, marginibus fuscéscente maculatis, maculis subdistantibus; labro subexpansó, juxta spiram emarginato.*

Conch. Icon., *Conus*, pl. 44. f. 245.

Hab. — ?

This is an interesting and important species, of which there is a fainter specimen, of more elongated growth, in the collection of Mr. Adamson of Newcastle.

CONUS TROCHULUS. *Con. testá abbreviato-turbinatá, obesá, solidá, lævigatá, basim versus sulcatá; albá, aperturae fauce rubido-violaceo tinctá; spirá obtusó-convexá, lævigatá.*

Conch. Icon., *Conus*, pl. 45. f. 246.

Hab. — ?

This species, of which there are several examples in the British Museum, all with the violet-tinged aperture, exhibits the same contrast of colour as a very peculiar white variety of the *Conus nivosus*.

CONUS SUGILLATUS. *Con. testá turbinatá, solidiusculá, lævigatá, basim versus subobsoletè noduloso-liratá; albidá, fasciis duabus latissimis livido-olivaceis, lineisque exilibus fuscéscente-punctatis, cinctá; spirá plano-convexá, canaliculatá, apice mucronato, elato, anfractuum marginibus subtilissimè obliquè nodulosis; basi et aperturae fauce violaceo tinctá.*

Conch. Icon., *Conus*, pl. 45. f. 247.

Hab. — ?

This shell may probably have been confounded with the *Conus lividus*; it is, however, quite distinct from that species both in the detail of the painting and in the structure of the spire. The spire is canalculated, and very peculiarly beaded with fine oblique nodules, the canalculated surface being of an olive-brown colour, whilst the nodules are white.

CONUS SUTURATUS. *Con. testá subabbreviato-turbinatá, solidiusculá, lævigatá, basim versus sulcatá, sulcis latiusculis, distantibus; albá, basi pallidè rosaceá; spirá plano-convexá, profundè suturatá, spiráliter liratá et striatá, apice minuto, acuto.*

Conch. Icon., *Conus*, pl. 45. f. 250.

Hab. — ?

There is a very peculiar character on the spire of this shell; the sutures have an unusually decided appearance, in consequence of a small ridge which each whorl throws up at its junction with the preceding.

CONUS CREPUSCULUM. *Con. testá turbinatá, tenuiculá, supernè lævi, infrá exiliter granulatá, granulis seriatim digestis, basim versus gradatim majoribus; luteolá, basi violaceá; spirá convexá, apice mucronato, elato, anfractuum marginibus subtilissimè obsoletè nodulosis.*

Conch. Icon., *Conus*, pl. 45. f. 251.

Hab. — ?

This shell is allied in some measure to the *Conus lividus*; it is, however, of much lighter growth, there is no indication of any colour in the aperture, and the spire is obsoletely very finely beaded.

CONUS TRISTIS. *Con. testá turbinatá, subfusiformi, lævigatá, basim versus sulcatá; albá; spirá convexo-elatá, spiráliter striatá, anfractuum marginibus subtilissimè nodulosis, anfractús ultimi nodulis obsoletis, apice mucronato.*

Conch. Icon., *Conus*, pl. 45. f. 252.

Hab. — ?

There is no indication of any colour in this shell; it is of rather light structure.

CONUS PLUMBEUS. *Con. testá turbinatá, subpyriformi, irregulariter rugulosá et granosá, cæruleo-albá, olivaceo- aut violaceo-plumbeo fasciatá et strigatá; spirá convexá, nodulis subtilibus coronatá, albá, apice obtuso, rosaceo; basi et aperturæ fauce vividè violaceá.*

Conch. Icon., *Conus*, pl. 46. f. 253.

Hab. — ?

The wrinkles and irregular granules which cover the greater portion of this specimen may not belong to the species, which is introduced upon independent grounds; namely, on account of the cross-blotched style of painting characteristically exhibited on the under side of the shell, the deep violet lining of the aperture, and the rose-tinted apex upon a neatly coronated white spire.

CONUS BRODERIPII. *Con. testâ tenuiculâ, subinflatâ, transversim sulcatâ, sulcis basim versus distinctioribus, subtilissimè pertusis; pallidissimè incarnato-albâ, maculis aurantio-fuscescentibus inter sulcos ornatâ; spirâ planiusculâ, spiraliter sulcatâ, apice elato, mucronato; basi et aperturæ fauce pallidè incarnato-rosed.*

Conch. Icon., *Conus*, pl. 46. f. 254.

Hab. — ?

I have much pleasure in dedicating this very chaste and beautiful species to W. J. Broderip, Esq., F.R.S., a gentleman well known in the conchological world, to whose zeal the country is much indebted for this and many other valuable shells which adorn our national collection.

CONUS LAUTUS. *Con. testâ turbinatâ, tenuiculâ, lævigatâ; luteâ, punctis grandibus fuscis, trifasciatim confusis, seriatim cinctâ; spirâ obtuso-convexâ, strigis fuscis arcuatis ornatâ.*

Conch. Icon., *Conus*, pl. 46. f. 255.

Hab. — ?

I am unable to connect this with any hitherto described species; it exhibits a bright display of colour, and must be a striking shell in finer condition.

CONUS ÆMULUS. *Con. testâ turbinatâ, supernè tumidiusculâ, lævigatâ, olivaceo-cæruleâ, olivaceo-fusco variegatâ, tæniatâ, et maculatâ; spirâ subobtusio-elatâ, suturis rudibus; aperturæ fauce olivaceo-fusco tinctâ.*

Conch. Icon., *Conus*, pl. 46. f. 256.

Hab. — ?

This is another very richly coloured shell allied in some measure to the *Conus Guinaicus*, but presenting a very different style of painting.

CONUS GRAYI. *Con. testâ turbinatâ, supernè obesâ, subpyriformi, solidâ, lævigatâ, basim versus lirâtâ; cæsiâ, aut cinereo-cæruleâ, maculis grandibus nigricantibus, undatis, sæpissimè bifasciatim digestis, ornatâ; spirâ convexâ, apice mucronato.*

Conch. Icon., *Conus*, pl. 46. f. 258.

Hab. — ?

As our national Museum is indebted to Mr. Gray for this very interesting new species, I have much pleasure in naming it after him.

CONUS MINUTUS. *Con. testâ oblongo-turbinatâ, pyramidali, lævigatâ; incarnatâ, fasciis duabus rubidis latissimis cinctâ; spirâ elatâ, anfractuum marginibus rubido-fusco maculatis.*

Conch. Icon., *Conus*, pl. 47. f. 259.

Hab. Island of St. Vincent, West Indies; Guilding.

This is the smallest species of the genus, and quite peculiar in its characters.

CONUS PYGMÆUS. *Con. testâ subabbreviato-turbinatâ, lævi, infernè sulcatâ, sulcis prominentibus, subdistantibus; pallidè violaceo-albâ, strigis fuscis longitudinalibus, latis, undatis, punctorumque seriebus*

transversis ornatá; spirá quasi gradatim elatá, lævi; aperturæ fauce rubido-violaced.

Conch. Icon., *Conus*, pl. 47. f. 260.

Hab. — ?

The dark zigzag streaks in this little shell pass over the edges of the whorls, leaving their ends visible on the spire.

CONUS CONSPERSUS. *Con. testá turbinatá, leviter inflatá, lævi, basim versus sulcatá; pallidè luteolá, maculis aurantio-fuscis variisque irregulariter conspersis, lineis capillaribus confertis, undique cinctá; spirá convexá, aurantio-fusco maculatá.*

Conch. Icon., *Conus*, pl. 47. f. 262.

Hab. — ?

This species may be recognized by the fine hair lines with which its entire surface is ornamented.

CONUS ATTENUATUS. *Con. testá gracilè turbinatá, basim versus attenuatá, lævi; luted vel aurantio-fuscescente, strigis albidis perpaucais latis undatis longitudinaliter ornatá; spirá depressá, acutangulá, aurantio-fuscescente alboque tessellatá, apice acutissimo, elato.*

Conch. Icon., *Conus*, pl. 47. f. 263.

Hab. — ?

The long, slender, sugar-loaf form of this shell is rather peculiar, and it exhibits a style of painting which I do not remember to have observed in varieties of any other species.

CONUS BUXEUS. *Con. testá elongato-turbinatá, subcylindraced, lævi, basim versus subtiliter lirátá; luteo-fuscescente, filis fusco-punctatis numerosis, confertis, cinctá; spirá elatá, anfractuum marginibus subtilissimè nodulosis, apice mucronato.*

Conch. Icon., *Conus*, pl. 47. f. 265.

Hab. — ?

The *Conus buxeus* is very closely allied to the *Conus lignarius*; it differs chiefly in being of a more elongated or fusiform shape, whilst the spire is distinctly beaded and not canaliculated.

CONUS NITIDUS. *Con. testá turbinatá, lævi, nitidá, prope basim subtilissimè lirátá; aurantio-fuscescente, supernè et medianè exiliter albimaculatá, lineis fuscis interruptis subdistantibus undique cinctá; spirá subelatá, spiraliter striatá, apice pallidè rosaceo.*

Conch. Icon., *Conus*, pl. 47. f. 266.

Hab. — ?

The lines which encircle the entire surface of this delicate little Cone are more particularly interrupted in passing over the faint spots round the middle and upper part of the shell. The pink apex is very characteristic.

CONUS CASTUS. *Con. testá turbinatá, subinflatá, lævi; luted, lineis perpaucais exilibus, subtilissimè nigricante-punctatis, irregulariter distantibus, cinctá; spirá lævi, apice rosaceo.*

Conch. Icon., *Conus*, pl. 47. f. 267.

Hab. — ?

This is another very chaste and characteristic species, allied to the *Conus daucus*.

CONUS LIRATUS. *Con. testâ subabbreviato-turbinatâ, liris subprominulis undique circumdatâ; albâ, maculis paucis aurantio-fuscis longitudinaliter confluentibus biseriatis cinctâ; spirâ exsertâ, noduliferâ, apice pallidè rosaceo; basi et aperturæ fauce vividè violaceo-roseâ.*

Conch. Icon., *Conus*, pl. 47. f. 268.

Hab. ———?

A very curious well-marked species, in excellent condition, which, I believe, is at present unique in the unrivalled Cone-collection of the Rev. F. J. Stainforth.

GENUS PLEUROTOMA.

PLEUROTOMA PICA. *Pleur. testâ crassâ, obtuso-pyramidali, albâ, maculis fuscis, paucis, grandibus, subquadratis, irregulariter variegatâ; anfractibus eleganter semicostatis, costis angustis, numerosis; supernè lævibus, concavis; sinu lato.*

Conch. Icon., *Pleurotoma*, pl. 8. f. 61.

Hab. Island of Capul, Philippines; Cuming.

A very solid white shell, pied here and there with dark brown blotches.

PLEUROTOMA ALABASTER. *Pleur. testâ turritâ, intùs extùsque niveâ, roseo interdum leviter tinctâ, transversim subtilissimè sulcatâ et striatâ; anfractibus longitudinaliter costatis, supernè subdepressis; sinu lato.*

Conch. Icon., *Pleurotoma*, pl. 8. f. 65.

Hab. Island of Siquijor, Philippines (found in loose coral sand on the reefs at low water); Cuming.

The sculpture of this shell is exceedingly delicate, the cross grooves looking as if they had been graved with an etching-point.

PLEUROTOMA VENUSTA. *Pleur. testâ obeso-fusiformi, flavicante, fusco-maculatâ; anfractibus rotundatis, transversim multicostatis, obliquè maculatis, supernè depressis, maculis majoribus vividè pictis; canali elongato.*

Conch. Icon., *Pleurotoma*, pl. 9. f. 79.

Hab. Island of Siquijor, Philippines (found in coral sand on the reefs at low water); Cuming.

This highly interesting shell, which is at present unique in Mr. Cuming's collection, differs materially, both in form and in the colour and character of the marking, from any of its congeners.

PLEUROTOMA EXIMIA. *Pleur. testâ gracilè fusiformi, albâ, anfractibus convexis, costis angustis longitudinalibus, striisque transversis elevatis, eximè cancellatâ; sinu subindistincto; canali mediocri, leviter tortuoso.*

Conch. Icon., *Pleurotoma*, pl. 10. f. 82.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

The canal of this Muriciform species, though somewhat indistinct, fully entitles it to a place amongst the *Pleurotomæ*.

PLEUROTOMA ALBIBALTEATA. *Pleur. testá ovato-oblongá, luteá, albibalteatá, anfractibus convexis, transversè lineatis, longitudinaliter noduloso-costatis; labro incrassato, sinu parvo; canali brevi, recurvo.*

Conch. Icon., *Pleurotoma*, pl. 10. f. 84.

Hab. Island of Ticao, Philippines (found in sand at the depth of six fathoms); Cuming.

The white belt which passes round each of the whorls of this shell is of a peculiarly opaque nature. The ribs are more distant from each other in some specimens than in others, and the lower part of the last whorl is occasionally stained with dark brown.

PLEUROTOMA TRITONOIDES. *Pleur. testá subovali, apice acuto, fulvá, pallidè albifasciatá; anfractibus convexis, costis longitudinalibus, subtilissimè nodulosis, lineis transversis elevatis eximie cancellatis; labro incrassato, sinu parvo; canali brevi, subrecurvo.*

Conch. Icon., *Pleurotoma*, pl. 10. f. 85.

Hab. Bais, island of Negros, Philippines (found in coral sand at the depth of seven fathoms); Cuming.

This shell is of a duller and more uniform colour than the preceding; the last whorl is more ventricose, and the longitudinal ribs are finer and more numerous.

PLEUROTOMA ABBREVIATA. *Pleur. testá abbreviato-fusiforimi, cæruleo-albá, nigro maculatá et punctatá; anfractibus medio angulato-carinatis, carinâ medio partitâ, supernè depressis, funiculo maximo nigro-maculato cingulatis, infernè multifuniculatis, funiculis minoribus nigro lineatis et punctatis; canali vix elongato.*

Conch. Icon., *Pleurotoma*, pl. 10. f. 86.

Hab. Island of Masbate, Philippines (found on the reefs at low water); Cuming.

A very interesting species, which looks at first sight like a broken portion of the *Pl. tigrina*. A number of specimens were collected by Mr. Cuming at the above-mentioned island.

PLEUROTOMA BIJUBATA. *Pleur. testá cylindræo-pyramidalis, fuscá, fuscescente carinatá; anfractibus convexis, æquidistanter carinatis, carinis duabus centralibus jubatis; aperturâ brevi; canali brevissimo.*

Conch. Icon., *Pleurotoma*, pl. 10. f. 87.

Hab. Island of Burias, Philippines (found under stones at low water); Cuming.

Of the two crested keels which encircle this very characteristic species, the upper one is the more faintly developed.

PLEUROTOMA PLANILABRUM. *Pleur. testá ovato-oblongá, apice acuto; rubido-fuscá; anfractibus convexis, transversè lineatis, longitudinaliter costatis, costis ferè obsoletis; aperturâ oblongâ, labro plano, rubido, intus denticulato; canali brevissimo.*

Conch. Icon., *Pleurotoma*, pl. 10. f. 88.

Hab. Sibonga, island of Zebu, Philippines (found under stones at low water); Cuming.

The posterior extremity of the lip in this shell is acuminate to a sharp point.

PLEUROTOMA CORUSCA. *Pleur. testá subpyramidali, valdè politá; anfractibus supernè planis, fusco alboque nebulosis, infernè leviter prominentioribus, punctis fuscis irregularibus cingulatis, anfractu ultimo punctorum seriebus duabus cingulato; aperturá brevi; canali brevissimo.*

Conch. Icon., *Pleurotoma*, pl. 10. f. 89.

Hab. Island of Capul, Philippines; Cuming.

Two specimens only of this shell were found by Mr. Cuming on the reefs at the above-mentioned island.

PLEUROTOMA HARFORDIANA. *Pleur. testá obeso-pyramidali; anfractibus nigerrimis, in medio luteo-balteatis, convexis, transversim subtilissimè striatis, supernè depressiusculis, serie unicá nodulorum ornatis, infrà noduloso-costatis; aperturá breviusculá; sinu parvo, rotundato.*

Conch. Icon., *Pleurotoma*, pl. 11. f. 93.

Hab. — ?

I have much pleasure in dedicating this species to its possessor, an intelligent conchologist, and one highly worthy of remembrance. The yellow belt which passes round the middle of each whorl has a strikingly neat appearance.

PLEUROTOMA PERRONII. *Pleur. testá fusiformi, turrítá, leviusculá, pallidè luteá; anfractibus planis, supernè leviter angulatis, ultimo infernè coarctato, transversim lirato, liris regularibus, subdistantibus; sinu subcentrali; canali subelongato, recto.*

Conch. Icon., *Pleurotoma*, pl. 11. f. 94.

Murex Perron, Chemnitz, Conch., vol. x. pl. 164. f. 1573.

Hab. — ?

This interesting shell has been confounded by Lamarck with the *P. spirata*. It differs from that species in being more erect and fusiform, in the sutures of the whorls being less deeply channeled, and in the lower portion of the last whorl being crossed with about four or five narrow, well-developed ridges.

PLEUROTOMA PLUTEATA. *Pleur. testá fusiformi, gracili, fulvá; anfractibus convexis, pluteo supernè ornatis, medio nodulis albidis catenulatis, infrà subtilissimè sulcatis; sinu lato; canali elongato.*

Conch. Icon., *Pleurotoma*, pl. 12. f. 101.

Hab. — ?

The shelf which passes round the upper portion of the whorls is not less characteristic of this species than the delicate chain of white nodules which encompass the centre.

PLEUROTOMA MYSTICA. *Pleur. testá abbreviato-fusiformi, rubido-fusá; anfractibus supernè concavis, striatis, infrà angulatis, tu-*

berculis albis, connatis, ad angulum acutè carinatis; anfractu ultimo infernè nodulorum seriebus plurimis cingulato.

Conch. Icon., *Pleurotoma*, pl. 12. f. 107.

Hab. — ?

Chiefly distinguished by the white turreted keel.

PLEUROTOMA PHILIPPINENSIS. *Pleur. testâ ovato-turritâ, ventricosâ, subpellucidâ, albidâ; anfractibus sex septemve, longitudinaliter costatis, costis eximie, subcompressis, subdistantibus, nigro aut fusco alboque variè pictâ; transversim liratis, liris minutis, subcontiguis, numerosis; columellâ subtortuosâ; aperturâ ovatâ, amplâ; canali brevissimo.*

Conch. Icon., *Pleurotoma*, pl. 13. f. 109.

Hab. Islands of Masbate and Luzon, Philippines (found under stones at low water); Cuming.

It is impossible to do justice, either by figure or description, to this very delicate and beautiful species, the chief peculiarity of which is the black and opaque white irregularly-variegated blotching of the ribs. Several specimens were collected by Mr. Cuming at the above-mentioned islands, varying more or less in the number and proximity of their ribs: one or two specimens have as many as sixteen ribs on the last whorl,—twelve to fourteen is the average number.

PLEUROTOMA RISSOIDES. *Pleur. testâ elongato-ovali, lævi, nitente, semipellucidâ, albicante, fulvo pallidissimè nebulosè strigatâ; anfractibus septem, tribus longitudinaliter plicatis; apice rubello; columellâ spiraliter tortuosâ; canali brevissimo, leviter recurvo; labro subincrassato, intùs eximie denticulato, sinu parvo, distincto.*

Conch. Icon., *Pleurotoma*, pl. 13. f. 111.

Hab. — ?

This species reminds me somewhat of the *Rissoa deformis*; the first whorl or two are plaited as in that shell, the surface is moreover smooth and shining, and they bear a general resemblance to each other in size. The apex of this shell is peculiar in being pink, whilst there is not the least indication of that colour in any other part.

PLEUROTOMA BOHOLENSIS. *Pleur. testâ subelongatâ, tenui, subpellucidâ, albidâ, fulvo subindistinctè virgatâ; anfractibus octo, transversim lineatis et liratis, striis quoque subtilissimè reticulatis; columellâ spiraliter tortuosâ; canali brevissimo, paululum recurvo; labro simplici, acuto, sinu parvo.*

Conch. Icon., *Pleurotoma*, pl. 13. f. 112.

Hab. Island of Bohol, Philippines (found under stones on the reefs at low water); Cuming.

This shell, which is of a much thinner and slighter composition than either of the two preceding ones, is very finely reticulated over with striæ; and it has a number of lines and ridges running transversely across the whorls, but none longitudinally.

PLEUROTOMA GRACILENTA. *Pleur. testâ gracillimè fusiformi, fulvâ, anfractibus convexis, longitudinaliter costellatis, costellis leviter nodulosis, striis elevatiusculis transversis decussatis; labro subflexuoso, sinu lato; canali breviusculo.*

Conch. Icon., *Pleurotoma*, pl. 14. f. 114.

Hab. Loay, island of Bohol, Philippines (dredged from sandy mud at the depth of seventeen fathoms); Cuming.

A shell of simple character, unlike any hitherto-described species, though not presenting any very striking peculiarity.

PLEUROTOMA PESSULATA. *Pleur. testá subacuto-fusiforimi, fulvá vel cinereá, anfractibus leviter convexis, longitudinaliter costatis, costis subdistantibus, striis transversis subobsoletis decussatis; labro tenui, sinu parvo; canali breviusculo, subrecurvo.*

Conch. Icon., *Pleurotoma*, pl. 14. f. 115.

Hab. Bolinao, island of Luzon, Philippines (dredged from sandy mud at the depth of ten fathoms); Cuming.

Although the ribs in this species are comparatively distant from each other, they vary considerably in this respect in different individuals; the more elongated the shell, the closer the ribs, as shown by the specimens figured.

PLEUROTOMA CONTRACTA. *Pleur. testá elongato-ovata, albidá; anfractibus plano-convexis, supernè contractis, costellis longitudinalibus numerosis, striisque transversis elevatis eximie reticulatis; sinu lato, canali brevi.*

Conch. Icon., *Pleurotoma*, pl. 14. f. 116.

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (dredged from sandy mud at the depth of twenty-five fathoms); Cuming.

This species may be recognized by the peculiar contraction of the whorls near the suture; the sculpture is not much unlike that of the *C. gracilentá*.

PLEUROTOMA CEDO-NULLI. *Pleur. testá lanceolato-fusiforimi, eximie turritá, apice acuto; griseo-albicante; anfractibus in medio valde carinatis, carinâ compressá, pereleganter diademata; sinu amplo, canali longissimo.*

Conch. Icon., *Pleurotoma*, pl. 14. f. 117.

Hab. Bay of Panama (found in sandy mud at the depth of ten fathoms); Cuming.

Although this beautiful little shell has not reached its mature growth, I do not hesitate to publish it as a new species; the curious diadem of sharp flattened processes, which forms so striking a peculiarity, is somewhat like that of the *Fusus pagodus*, Lesson, figured by Kiener, pl. 5. f. 2. The sinus is rather large, and the sinuated striæ on the upper part of the whorls distinctly exhibit the traces of its earlier formation throughout their several volutions.

PLEUROTOMA CRASSILABRUM. *Pleur. testá ovato-turritá, flavicante, fusco cæruleoque variè zonata; anfractibus convexis, superne lævibus, infrâ tuberculato-costatis, costis striis transversis elevatiusculis decussatis; aperturâ brevi, subrotundatâ; canali brevi, subtortuoso; labro valde incrassato, varicoso, intus acuto, sinu rotundato.*

Conch. Icon., *Pleurotoma*, pl. 14. f. 118 *b* & *c*.

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

Var. β . *Testa incolorata, striis transversis ferè obsoletis.*

Conch. Icon., *Pleurotoma*, pl. 14. f. 118 *a*.

Hab. Island of Masbate, Philippines (dredged from sandy mud at the depth of seven fathoms); Cuming.

The blue and brown colouring of the first variety is very conspicuous between the ribs. The var. β , which is colourless, seems to have a thin epidermis upon it.

PLEUROTOMA HINDSII. *Pleur. testá ovatá, subinflatá, albidd, fuscescente pallidè variegatá; anfractibus costis duabus, ultimo costis quatuor, distantibus, cingulatis, costellis numerosis, compressis, eximie cancellatis; aperturá ovatá; canali brevi.*

Conch. Icon., *Pleurotoma*, pl. 14. f. 119.

Hab. Baclayon, island of Bohol, Philippines (found under stones on the reefs at low water); Cuming.

This beautifully cancellated shell is closely allied to the *P. tricosata*; the ribs, however, are more in number and less prominent. Each whorl exhibits four transverse ribs on its formation, the two lower being concealed in all but the last whorl by the lodgement of one whorl upon the other. The cancellated spaces formed over the surface of the shell by the longitudinal ribs crossing the transverse ones seem slightly concave, and have a very characteristic appearance.

By the above title I wish to honour and keep in remembrance the name of my liberal friend Richard Brinsley Hinds, Esq., R.N., on account of the services he is at this moment rendering to conchological science by his cautious examination and description of the new shells collected by Capt. Sir Edward Belcher and himself during the late prolific expedition of H.M.S. *Sulphur*.

PLEUROTOMA LACTEA. *Pleur. testá ovato-oblongá, tenui, subinflatá, lacted, costis carinisve rotundatis striisque exilibus cinctá; labro simplici, acuto; sinu parvo; aperturá ovatá, canali brevissimo.*

Conch. Icon., *Pleurotoma*, pl. 15. f. 123.

Hab. Bolinao, island of Luzon, and Gindulman, island of Bohol, Philippines (found under stones at low water); Cuming.

PLEUROTOMA BREVICAUDATA. *Pleur. testá abbreviato-fusiforimi, solidá, luteolá, apice basique fuscescentibus; anfractibus convexis, supernè unicarinatis, infrá bicarinatis, anfractu ultimo multicarinato; labro simplici, acuto; sinu amplo; aperturá parvâ, brevi, canali breviusculo.*

Conch. Icon., *Pleurotoma*, pl. 15. f. 126.

Hab. Island of Ticao (found on the reefs); Cuming.

This shell reminds one somewhat of the *P. jubata*, but has no indication of the pretty beaded crest which distinguishes that species.

PLEUROTOMA DIGITALE. *Pleur. testá obeso-oblongá, nigerrimo-fuscescente, apicem versus incoloratá; anfractibus convexis, tuber-*

culis albidis minutis seriatim clathratis; apertura breviusculâ, sinu lato.

Conch. Icon., *Pleurotoma*, pl. 17. f. 138.

Hab. Island of Burias, Philippines (found under stones at low water); Cuming.

The sculpture of this shell reminds one of the pimpled surface of a thimble.

PLEUROTOMA HASTULA. *Pleur. testâ elongato-fusiforâ, solidiusculâ, albidâ, fuscâ sparsim maculatâ; anfractibus liris subtilissimis numerosis cinctis, lirâ centrali lirisque superis majoribus, prominentibus; canali gracili, fissurâ profundâ.*

Conch. Icon., *Pleurotoma*, pl. 17. f. 139.

Hab. — ?

This species is chiefly characterized by the stout double ridge that encircles each whorl near the suture, and by the central ridge that is formed in place of the slit as the shell advances in growth.

PLEUROTOMA CUPREA. *Pleur. testâ acuminato-turritâ, anfractibus supernè depressis, fuscâ nodulosis, subflexuosis, distantibus, longitudinalibus, ornatis; apertura brevi, sinu lato.*

Conch. Icon., *Pleurotoma*, pl. 17. f. 140.

Hab. — ?

The little dark brown flexuous ridges, passing down the whorls of a much lighter brown, have a neat and conspicuous appearance.

PLEUROTOMA VARICOSA. *Pleur. testâ acuminato-turritâ, anfractibus supernè lævibus, infrâ longitudinaliter costatis, costis subirregularibus, griseis, interstitiis griseo-ceruleis, transversim striatis, varicibus rudibus lutescentibus grandibus sparsis peculiariter notatis; canali brevissimo, leviter recurvo; sinu lato, subprofundo.*

Conch. Icon., *Pleurotoma*, pl. 17. f. 141.

Hab. Calapan, island of Mindoro, Philippines (found in coarse sand at the depth of fifteen fathoms); Cuming.

Var. β . *Testa omninò fusca.*

Hab. Island of Corrigidor, Philippines (found in coarse sand at the depth of six fathoms); Cuming.

This species may be easily recognized by its prominent display of varices.

PLEUROTOMA CARBONARIA. *Pleur. testâ turritâ, carbonariâ; anfractibus prope suturas depressis, lævibus, infrâ costatis, costis angustis, distantibus, nodulosis; columellâ callositate supernè munitâ; canali brevi; sinu latissimo, profundo.*

Conch. Icon., *Pleurotoma*, pl. 17. f. 145.

Hab. — ?

All the specimens I have seen of this dark Melania-like species have the apex either decorticated or broken away, an indication of their living in brackish water.

Genus PECTUNCULUS.

PECTUNCULUS SPURCUS. *Pect. testá subquadrato-ovali, gibbá, glaucosúscá, longitudinaliter costatá, costis numerosis, angustis, subtilissimè striatis; umbonibus albicantibus, obliquis.*

Conch. Icon., *Pectunculus*, pl. 7. f. 36.

Hab. Bay of San Carlos (found in coarse sand at the depth of sixteen fathoms); Cuming.

The width of this little species from the umbones to the margin is comparatively shorter than that of any other species.

PECTUNCULUS PERTUSUS. *Pect. testá orbiculari, albá, fusco undatim pictá; radiatim costatá, costis subtilissimè pertusis; umbonibus centralibus.*

Conch. Icon., *Pectunculus*, pl. 7. f. 37.

Hab. Islands of Mindanao and Luzon, Philippines (found in coarse sand at the depth of ten fathoms); Cuming.

This interesting little species presents a marked peculiarity in the ribs being finely pricked on each side. Two or three specimens only were collected by Mr. Cuming at the above-mentioned islands.

PECTUNCULUS OCLATUS. *Pect. testá sub-Pectiniformi, radiatim costatá, fuscá, maculis albis, supernè nigro-marginatis, sparsim et irregulariter ornatá; umbonibus centralibus, subobliquis.*

Conch. Icon., *Pectunculus*, pl. 7. f. 38.

Hab. West Indies.

The ground-colour of this shell being a very dark chestnut-brown, the scattered white spots or spaces have a very prominent appearance. Since the specimen above described was figured, M. Deshayes has kindly lent me a specimen in which the white spaces are considerably larger and more characteristic; and I have also had the pleasure of examining a specimen of exceeding beauty, in the collection of M. Delessert, whose kindness in allowing me to have a drawing made of it was unfortunately too late to be of service.

PECTUNCULUS CANCELLATUS. *Pect. testá obliquè Pectiniformi, striis subtilissimè cancellatá; albá, epidermide luteá holoserica partim indutá; umbonibus prominentibus, centralibus.*

Conch. Icon., *Pectunculus*, pl. 7. f. 39.

Hab. Singapore (found in sandy mud at the depth of seven to ten fathoms); Cuming.

This little shell is very thin and fragile, and perfectly white; the entire surface being delicately cancellated and covered towards the margin with a thick pale yellow epidermis. There is no possibility of confounding it with any other species.

PECTUNCULUS MORUM. *Pect. testá sub-Pectiniformi, pallidè purpureo-rubrá, maculis rubidis elongatis sparsim et irregulariter pictá; radiatim costatá, costis lævibus; umbonibus subcentralibus.*

Conch. Icon., *Pectunculus*, pl. 7. f. 40.

Hab. Madagascar?

A very pretty species, in which the ribs radiate somewhat more

obliquely than usual; the general appearance of the shell is not much unlike that of the *P. tessellatus*; it is however lighter and more depressed, with colour and spotting of somewhat different character.

PECTUNCULUS SICULUS. *Pect. testá orbiculari, depressiusculá, sub-æquilaterali, longitudinaliter sulcatá et striatá; rubido-castanée, fusco transversim zonatá, zonis sæpè obscuris; umbonibus testæ junioris interdum albimaculatis.*

Conch. Icon., *Pectunculus*, pl. 7. f. 41.

Pectunculus glycimeris, Lamarck, Philippi.

Testa junior.

Arca bimaculata, Poli.

Hab. Mediterranean, coast of Sicily.

Having adopted the old *P. glycimeris* of British authors, I distinguish the *P. glycimeris* of Lamarck by the above new title. Through some unaccountable neglect, these two very different shells have been hitherto published under the same title, and it is hoped that this present amendment will be appreciated.

PECTUNCULUS PERDIX. *Pect. testá orbiculato-cordatá, subauritá, radiatim costatá; costis planulatis, subindistinctis, longitudinaliter striatis, strigis rubido-fuscis, transversis, angulato-undatis, profusè pictis.*

Conch. Icon., *Pectunculus*, pl. 8. f. 46.

Hab. Straits of Malacca (found in mud at the depth of seventeen fathoms); Hinds.

The form of this shell approximates very closely to that of the *Pectunculus zonalis*, but the painting of it is of a very different character. The beautiful specimen here figured, collected by Sir E. Belcher, is the only example of the species I have seen, with the exception of a small, worn, odd valve in the collection of M. Deshayes.

PECTUNCULUS SPADICEUS. *Pect. testá orbiculari, radiatim striatá, pallidè spadiceá, umbones versus albá, strigis latis, updatiis, ornatá; epidernide holosericá; intus albá, margine exiliter crenulato.*

Conch. Icon., *Pectunculus*, pl. 8. f. 47.

Hab. — ?

There is no very striking peculiarity in this species, although it is too distinct from any other to require comparison. I have seen several specimens of it, both in London and Paris, but have not succeeded in obtaining its true locality.

PECTUNCULUS FORMOSUS. *Pect. testá lenticulari, subdepressá, vel lævi vel subobscurè radiatá, subtilissimè concentricè striatá; luteolactéá, maculis sparsis violaceo-purpureis, longitudinaliter inquinatis, formosè pictá.*

Conch. Icon., *Pectunculus*, pl. 8. f. 48.

Hab. — ?

There are two or three specimens of this handsome shell at Paris, both in the collection at the Jardin des Plantes and in that of M. Delessert.

PECTUNCULUS SERICATUS. *Pect. testá orbiculari, Pectiniformi, depressiusculá, albidá, rosaceo-fusco sparsim tinctá et maculatá, epidermide sericá crassá indutá; radiatim sulcatá, sulcis subdi-stantibus; intus albá.*

Conch. Icon., *Pectunculus*, pl. 9. f. 49.

Hab. Island of Tortola, West Indies.

This exceedingly delicate shell is remarkable for its glossy silken epidermis; the hinge-shelf in the interior of each valve is nearly as broad and solid as that of the *Pectunculus strigilatus*, and the teeth are as closely set; the shell altogether exhibits many characters in common with that species, but no indication of the peculiar manner in which it is attenuated towards the umbones.

This is the only specimen I have seen at present.

PECTUNCULUS LIVIDUS. *Pect. testá orbiculari, tumidá, inæquilate-rali, anticè angulatá; longitudinaliter radiatá, radiis latis, elevati-sculis, subtilissimè striatis, rubido-fuscis, marginem versus livido-cæsius, epidermide pilosá plus minusve indutis; radiis anticis creberrimis; umbonibus rectè incurvis, maculis albidis perpaucis circumsparsis; intus albá, medio purpureo-nigricante tinctá et maculatá.*

Conch. Icon., *Pectunculus*, pl. 9. f. 51.

Hab. Red Sea.

The general outline of this fine species is exactly the same as that of a worn discoloured shell figured in Chenu's 'Recueil de Coquilles' in illustration of the *Pectunculus undulatus* of Lamarck, a species which I cannot identify; its detail of character is however quite at variance with the description. "The longitudinal grooves of the *P. undulatus*," says Lamarck, "are very apparent," whilst this shell, which is in the finest possible condition, cannot be said to be grooved at all, the elevated rays are so superficial. There is also no indication of any waved spots on the body of the shell, nor of any streaks on either side of the ligamentary area; the rays are moreover characterized, by a particular style of grey livid painting, which is unquestionably of great specific importance.

PECTUNCULUS DELESSERTII. *Pect. testá orbiculari, tumidiusculá, subsolidá, inæquilaterali, altitudine longitudinem æquante; radiatim sulcatá, sulcis numerosis, profundis, subtilissimè striatis, liris inter-mediis subtilissimè granuloso-corrugatis, longitudinaliter incisis; albá, fasciis pluribus aurantio-brunneis transversim undatá, intervallis fusco lineato-punctatis; intus albá, anticè rubido-purpureo tinctá.*

Conch. Icon., *Pectunculus*, pl. 9. f. 52.

Hab. — ?

I have named this beautiful shell, at the desire of Mr. Cuming, after the very highly-respected individual to whom he is indebted for it; though it is not without feeling some degree of compunction that the peculiarities above noted may be merely certain modified conditions of the *Pectunculus assimilis*. It is true that the shell is rounder and more swollen, and consequently without that angular

attenuation which throws the umbones into an oblique direction and contracts the ligamentary area in the *P. assimilis*; there are moreover nine or ten well-developed ridges in the shell under consideration, whilst in that under comparison there are not more than five or six, and the internal marginal denticulations are consequently narrower and more numerous. Future discoveries can alone decide whether these are constant differences or casual modifications.

Genus CARDITA.

CARDITA RADULA. *Card. testá subquadrato-oblongá, albidá, depressá, costis tribus et viginti, rubido-fuscis, imbricato-squamosis, squamis fornicatis, semi-erectis, subacutis; costarum interstitiis crenulatis; margine crenato.*

Conch. Icon., *Cardita*, pl. 1. f. 2.

Hab. — ?

There are two or three more ribs in this shell than in the following; the dark spots are more numerous, of a reddish instead of a bluish brown, and not of that peculiar half-moon shape, and the scales are more vaulted and erect.

CARDITA PICA. *Card. testá elongato-ovatá, gibbá, albá, nigro aut fusco variè inquinatá; costis septemdecim sedecimve, in medio angulatis, subtiliter squamosis; intus albá, posticè nigerrimo-fuscá.*

Conch. Icon., *Cardita*, pl. 2. f. 8.

Hab. Island of Guimaras, Philippines (found under stones at low water); Cuming.

There is a peculiarity in the shape and blotching of this shell which entitles it to be distinguished as a new species. Several specimens were collected by Mr. Cuming at the above-mentioned island, singularly agreeing in respect to these characters.

CARDITA GUBERNACULUM. *Card. testá ovato-oblongá, depressá, anticè brevissimá, angustá, posticè latissimè rotundatá, subalatá; brunneá, luteo purpureoque umbones versus tinctá; costis plus minusve squamosis, superioribus perpaucis, majoribus, inferioribus angustis numerosis; intus brunneá, anticè albicante.*

Var. β . *Testa alba, fusco vix tincta.*

Conch. Icon., *Cardita*, pl. 3. f. 9.

Hab. Zanzibar.

This is the nearest allied species to the *C. semi-orbiculata*; the dark variety might indeed be easily mistaken for it, were it not for the scales and peculiar elongation of the ventral portion of the shell.

CARDITA MARMOREA. *Card. testá elliptico-ovatá, posticè rotundatá, anticè peculiariter brevi; lacteá, nigro umbones versus maculatá; costis quindecim sedecimve, recto-elongatiuscule radian-tibus, latescentibus; anticis crenatis, intus eburneá.*

Conch. Icon., *Cardita*, pl. 3. f. 12.

Hab. New Holland.

This shell may be recognised by its peculiarly narrow elongated form, the ligamental area describing a complete angle with the anterior; the ribs do not radiate from the umbones in a curved direction, as in the preceding species, but are nearly straight.

CARDITA DISTORTA. *Card. testá elongato-ovatá, valdè gibbosá, peculiariter distortá, luteolá; costis duodecim aut plurimis, sub-squamosis, inferioribus planiusculis.*

Conch. Icon., *Cardita*, pl. 4. f. 13.

Hab. Red Sea; Rüppell.

There are several specimens of this curious species in Mr. Cuming's collection, all singularly distorted in the same manner.

CARDITA SENEGALENSIS. *Card. testá oblongá, elongato-ovatá, fulvá, epidermide fuscá indutá; costis quindecim sedecimve, squamosis, squamis incumbentibus.*

Conch. Icon., *Cardita*, pl. 4. f. 16.

Le jéson? Adanson.

Hab. Senegal.

This shell, which I know to have been brought from Senegal by M. Rang, approaches nearer to the figure and description of *Le jéson* of Adanson than any that has been hitherto assigned to it.

CARDITA VOLUCRIS. *Card. testá elongatá, posticè valdè gibbosá, angulatá, anticè brevi et coarctato-acuminatá; viridescente albidá, posticè nigrá nigroque maculatá; costis septemdecim, anticis planulatis, marginem versus evanidis; posticis angulatis, hinc illinc obsoletè squamosis.*

Conch. Icon., *Cardita*, pl. 4. f. 20.

Hab. —?

Care should be taken not to confound this species with the young of the *C. pectunculus*. It is a solid well-developed shell, and never exceeds an inch to an inch and a half in length.

CARDITA GIBBOSA. *Card. testá ovato-oblongá, solidá, gibbosá; albá, costis septemdecim, fusco-variegatis, transversim radiantibus, rotundatis, exiliter nodulosis.*

Conch. Icon., *Cardita*, pl. 4. f. 21.

Hab. —?

This is a solid gibbous shell, the anterior side of which is not so short as in most of the oblong species of the genus.

CARDITA NITIDA. *Card. testá subquadrato-ovali, eburnéa, maculis cæsiis variegatá; costis duabus vel tribus et viginti, posticis præcipuè crenatis, interstitiis lineis cæsiis angularibus ornatis.*

Conch. Icon., *Cardita*, pl. 6. f. 27.

Var. β . *Testa maculis rubidis.*

Hab. Misamis, isle of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

This pretty shell is remarkable on account of the posterior ribs being more strongly crenated than the anterior.

CARDITA OVALIS. *Card. testá ovatá, rubido-brunnea, maculis albis sparsim variegatá; costis octodecim aut novemdecim, crenatis; posticis lævigatis, interstitiis lineis angularibus ornatis; lunulá distinctá.*

Conch. Icon., *Cardita*, pl. 6. f. 28.

Var. β . *Testa alba, maculis cæsiis variegata.*

Hab. Isle of Corrigidor, Philippines (found in coarse sand at the depth of seven fathoms); Cuming.

I was at one time disposed to consider this species as merely a variety of the preceding. Upon comparison and close examination, they were, however, found to differ in several not unimportant particulars; the posterior ribs of the *C. ovalis* are smooth, they are altogether fewer in number, the umbones are less incurved, and there is a flat indented lunule beneath them, of which I find no indication in the *C. nitida*.

CARDITA LACUNOSA. *Card. testá subovatá, radiatim costatá, costis und vel duabus et viginti, elevatis, valdè compressis, subtiliter muricato-squamosis; interstitiis latiusculis, lacunato-excavatis; albá, areá posticali nigerrimo-fuscá.*

Conch. Icon., *Cardita*, pl. 7. f. 31.

Hab. —?

The prickly scales which surmount the singularly compressed ribs of this shell are placed at equal distances from each other, whilst each rib is in a manner festooned from one scale to the other, like a miniature series of inverted arches.

CARDITA CANALICULATA. *Card. testá suborbiculatá, luteolá, fusco variè zonatá; radiatim costatá, costis und vel duabus et viginti, lateraliter compressis, annulato-serratis, interstitiis excavato-canaliculatis; intus albidá, fusco pallidè tinctá.*

Conch. Icon., *Cardita*, pl. 8. f. 40.

Hab. Philippine Islands; Cuming.

The leading features of this species are its rounded form, and the peculiar manner in which the interstices between the ribs are channeled out.

CARDITA ANGISULCATA. *Card. testá ovatá, rubido-fusco tinctá et variegatá; radiatim costatá, costis und vel duabus et viginti, planis, latiusculis, approximatis, interstitiis angustis, profundè incisís; costis umbones versus annulato-serratis, hinc illinc squamiferis, squamis erectis.*

Conch. Icon., *Cardita*, pl. 8. f. 41.

Hab. —?

This species may be easily recognized by the narrow and deeply-cut interstices between the ribs, which are unusually flat towards the margin.

CARDITA SEMEN. *Card. testá ovatá, subcompressá, tenui, radiatim costatá, costis plano-convexis; olivaceo-fuscá.*

Conch. Icon., *Cardita*, pl. 9. f. 43.

Hab. Mexillones, Desert of Atacama, Bolivia (found at the depth of three fathoms); Cuming.

This minute species is the smallest of the genus; it looks like a little radiated seed.

CARDITA NODULOSA. *Card. testâ ovatâ, solidâ, radiatim costatâ, costis duabus vel tribus et viginti, compressis, regulariter nodulosis; lutescente-albâ, prope marginem aurantio tinctâ.*

Conch. Icon., *Cardita*, pl. 9. f. 44.

Hab. Sicily?

This shell may be recognized by the compressed character of the ribs, and the very regular manner in which they are noduled.

CARDITA NAVIFORMIS. *Card. testâ trapezio-ovatâ, subcompressâ, latere postico elongato-recto; radiatim costatâ, costis paululùm curvatis, squamosis; fusciscente.*

Conch. Icon., *Cardita*, pl. 9. f. 45.

Hab. Valparaiso, South America (dredged from sandy mud at the depth of twenty-five fathoms); Cuming.

The shape of this little species is peculiar, though it approaches in great measure to that of the *C. trapezia*.

CARDITA COMPRESSA. *Card. testâ suborbiculari, solidâ, valdè compressâ, epidermide olivaceâ indutâ; radiatim costatâ, costis lævibus, planiusculis, interstitiis angustis.*

Conch. Icon., *Cardita*, pl. 9. f. 46.

Hab. Valparaiso, South America (dredged from coarse sand at the depth of from twenty to sixty fathoms); Cuming.

Several specimens of this little species were found by Mr. Cuming at the great depth above-mentioned; it has the appearance of the *C. borealis* in miniature.

CARDITA FLABELLUM. *Card. testâ flabelliformi, radiatim costatâ, costis leviter serratis; olivaceo-fuscâ.*

Conch. Icon., *Cardita*, pl. 9. f. 47.

Hab. Valparaiso, South America; Cuming.

The peculiar fan-shape of this minute species distinguishes it in an eminent degree from any hitherto described.

CARDITA TEGULATA. *Card. testâ subflabelliformi, radiatim costatâ, costis decem vel undecim, prominentibus, subtiliter squamulosis.*

Conch. Icon., *Cardita*, pl. 9. f. 48.

Hab. Valparaiso, South America (dredged from the depth of twenty-five fathoms); Cuming.

The sculpture of this shell reminds one of a tiled roof.

CARDITA CARDIOIDES. *Card. testâ globosâ, Cardiiformi, radiatim costatâ, costis rotundatis, irregulariter nodulosis, interstitiis subprofundè incisâ; albâ vel aurantiâ, strigis aurantiis latis, transversis, vividè ornatâ.*

Conch. Icon., *Cardita*, pl. 9. f. 49.

Hab. Islands of Corrigidor and Luzon, Philippines (dredged from coarse sand at the depth of seven fathoms); Cuming.

A very pretty, round, solid species, looking more like a *Cardium* externally than a *Cardita*.

CARDITA FABULA. *Card. testá oblongo-ovatá, latere postico latiore, radiatim costatá, costis subangulatis; albá, fusco sparsim maculatá; intus albá, posticè fusco-tinctá.*

Conch. Icon., *Cardita*, pl. 9. f. 50.

Hab. Island of Alboran.

The locality above-mentioned is attached in manuscript to a number of specimens of this little shell in the British Museum from Mr. Broderip's celebrated collection.

Genus CYPRICARDIA.

CYPRICARDIA SERRATA. *Cypr. testá subquadrato-ovatá, subflexuoso-distortá, incrementi gradibus laminis fragilibus numerosis, exiliter serratis, peculiariter notatis, interstitiis subtilissimè radiatim sulcatis; pallidè rosaceá, intus vividè purpureá.*

Conch. Icon., *Cypricardia*, pl. 1. f. 5.

Hab. — ?

No figure nor description can do justice to this beautiful shell, so remarkable on account of the delicacy of the pink serrated laminæ.

CYPRICARDIA DECUSSATA. *Cypr. testá elongato-ovatá, regulariter convexá, tenui, albá, semipellucidá, striis exilibus, undulatis, elevatis, obliquè decussatis, ornatá.*

Conch. Icon., *Cypricardia*, pl. 1. f. 6.

Hab. — ?

This is evidently one of the terebrating species, belonging to that section of the genus which De Blainville distinguishes by the new generic title of *Coralliophaga*.

The term *decussated* is here used in its strictest and proper sense, signifying *oblique* crossing, as in the letter X.

CYPRICARDIA VELLICATA. *Cypr. testá oblongo-ovatá, compressá, prope marginem ventralem anticam peculiariter vellicatá; albá, latere postico purpureo-fusco plus minusve vividè radiato; umbonibus purpureo-fuscis.*

Conch. Icon., *Cypricardia*, pl. 2. f. 7.

Hab. Calbyog, island of Samar, Philippines (found on soft slaty stones at low water); Cuming.

This interesting species, which has been found in great abundance by Mr. Cuming at the above locality, is distinguished not only by the purple-brown streaks which are more or less strongly depicted on the posterior side of the shell, but by the peculiar manner in which it is pinched, as it were, near the anterior ventral margin.

CYPRICARDIA INCARNATA. *Cypr. testá oblongo-ovatá, tenui, plano-conve.xá, liris planis subtilissimis numerosis ab umbonibus undulatis divergentibus, eximie notatá; albidá, posticè incarnatá.*

Conch. Icon., *Cypricardia*, pl. 2. f. 8.

Hab. Island of Burias, Philippines (found under a stone at low water); Cuming.

The surpassing delicacy of the ridges is exceedingly characteristic in this species; instead of looking raised upon the surface, they have all the appearance of undulating rays of light.

CYPRICARDIA LAMINATA. *Cypr. testá trapezio-oblongá, tenui, albá, latere postico valdè latiore, rotundato, compresso, laminis duabus vel tribus elevatis subdistantibus fimbriato.*

Conch. Icon., *Cypricardia*, pl. 2. f. 9.

Hab. Lord Hood's Island, Pacific Ocean (found at the depth of five fathoms piercing, and partially imbedded in, the *Avicula margaritifera*); Cuming.

This peculiarly shaped shell exhibits the same kind of delicate marginal frill of laminæ as the well-known *Cypricardia coralliophaga*, and belongs to a mollusk of the same terebrating habits. The shells of terebrating mollusks vary so exceedingly in form, according to circumstances of situation, &c., that were the *C. laminata* not entirely destitute of the fine radiating striæ which characterise the *C. coralliophaga*, it might be regarded as a modification of that species.

CYPRICARDIA OBESA. *Cypr. testá subquadrato-ovatá, valdè gibbosá, tumidá, latere postico subobliquè angulatá; longitudinaliter striatá, striis profundè incisis; lutescente-albá.*

Conch. Icon., *Cypricardia*, pl. 2. f. 10.

Hab. — ?

This remarkable shell may be easily recognized by its stout swollen formation; it differs materially in this respect from its nearest allied species the *C. Guinaica*, as well as in the absence of any nodulous divergent striæ. The ridges between the longitudinal striæ in these species are singularly opposite: in the *Cypricardia obesa* they are sharp and parallel to each other; in the *Cypricardia Guinaica* they are rounded and irregularly waved. Differences in regard to colour are also conspicuous, for the shell under consideration exhibits no indication of pink in the interior, but a kind of a burnt reddish-yellow tinge around the posterior muscular cicatrix.

CYPRICARDIA SOLENOIDES. *Cypr. testá angustatá, Soleniformi, latere postico plano-angulatá; albá, posticè purpureo-fusco obsolete radiatá; umbonibus purpureo-fuscis; intus albá, ad extremitatem posticam purpureo-violaceo tinctá.*

Conch. Icon., *Cypricardia*, pl. 2. f. 11.

Hab. Calbayog, island of Samar, Philippines (found piercing soft slaty rocks; low water); Cuming.

The *Cypricardia Solenoides*, though approximating greatly in form to the *Cypricardia coralliophaga*, differs materially in structure and composition; the two species indeed exhibit all the differences upon which De Blainville founded his genus *Coralliophaga*. Instead of

presenting that pellucid tenuity which seems peculiar to the terebrating species, it is of the same solid opaque structure as the *Cypricardia vellicata*, the umbones have the same purplish-brown patch upon them, and there is an evident indication of the same posterior streaks of that colour.

“ Descriptions of new species of *Navicella*, *Neritina*, *Nerita*, and *Natica*, in the cabinet of H. Cuming, Esq.,” by C. A. Récluz.

1°. Genre NAVICELLA, Lamarck:

1. NAVICELLA COOKII. *Nav. testâ ellipticâ, anticè angustâ, convexâ, tenuiusculâ, transversim crebrè striatâ, subepidermide olivaceo-lutescente, supernè carnea, lineolis transversis creberrimis lineas latiusculas efformantibus reticulatâ; interstitiis maculis oblongo-acutis lutescentibus, superioribus interdum latioribus pictâ; apice submarginali, integerrimo; aperturâ cærulescente, intùs crocèa; labio luteo-fuscescente.*

Var. β . *Testâ carneo-violacescente, fasciis nigris radiantibus, basi ac lateraliter ramosis, lineis transversis nullis; aperturâ intùs croceo maculatâ; maculâ nigro latè marginatâ.*

Hab. “ Island of Johanna, one of the Commoro islands; found in a small stream by the Rev. W. V. Hennah.” H. Cuming.

Dimensions.—Long. $21\frac{1}{2}$ à 25 mill.; larg. 10 à 19 mill.; conv. $8\frac{1}{3}$ à $10\frac{1}{2}$ mill.

Cette Navicelle est très rapprochée de la *Nav. La Perousei* (Récluz) et nous l'aurions confondue volontiers avec elle si son opercule, tout à fait différent, ne nous avait fait rechercher avec plus d'assiduité des caractères exclusifs entre les coquilles. La *Nav. de Cook* a le test plus mince, nullement corrodé en dessus, bien que privée d'épiderme dans cette partie de la coquille qui a voisine le sommet; les stries sont mieux marquées; son côté antérieur rétréci et comme comprimé de part et d'autre; son intérieur est privé du reflet cuivré dont l'autre est pourvu. Enûn son opercule, presque de même forme que celui de la *Nav. de La Pérouse*, est noirâtre et non blanchâtre, plus profondément échancré au côté antérieur. La côté ou apophyse dentaire droite et plate en dessus est coupée droitement à sa terminaison; tandis qu'elle est amincée, presque aiguë à sa marge supérieure, comme le tranchant d'un couteau, dans son étendue et un peu tuberculeuse à sa base. La marge externe du côté de l'apophyse est rayonnée de stries fines et à bord entier, et non profondément striée ni crénelée à l'extérieur. Son impression musculaire représente une figure carré-long, une fois plus large que longue, de couleur noire, et est marquée de stries longitudinales légères ondées et rapprochées. Sur l'opercule de la *Nav. de La Pérouse* cette impression est exactement carrée, à angles arrondis, et est très finement sculptée de stries presque droites. La face supérieure de la première a des stries fines et rayonnantes, du sommet à la naissance de l'apophyse, avec un angle rentrant et un autre angle sortant à côté de celui-ci, qui divisent l'opercule en deux parties.

C'est au célèbre et intrépide marin d'Angleterre *Cook*, que nous faisons hommage du nom de cette intéressante Navicelle.

2. NAVICELLA LINEATA, Lamarck.

Var. γ . *Testá lincolis transversis tenuissimis, undulatis, creberrimis, olivaceis, et maculis oblongis ac linearibus, lutescentibus pictá; apice ferè marginali, subviolacco, suprà albido, lævissimè bi-radiato.*

Hab. "Gangès, Bengal." H. Cuming.

Long. $19\frac{1}{3}$ mill.; larg. 12 mill.; convex. 6 mill.

II°. Genre NERITA, Linné.

Sect. A. *Labro intùs integerrimo; labio supernè nec emarginato.*

Gen. NERITINA, Lamarck, Férussac, &c.

1. NERITA SQUIJORENSIS. *Ner. testá ovato-transversá, posticè angustatá, dorso-convexá, supernè planulatá, solidá, longitudinaliter tenuiter et crebrè striatá, spaliceo-reticulatá, interstitiis maculis oblongis, anticè acutis, albidis seu lutescentibus pictá; anfractibus $1\frac{1}{2}$; apice retuso; aperturá extùs ovatá, intùs lutescente; labio plano, margine et in medio vix arcuato et tenuiter crenato; labro subcontinuo, lateralibus rectiusculo.*

Var. β . *Testá spadiceo-reticulatá, fuscüs albidis 2-3 cinctá; labio externè fuscéscente tincto.*

Hab. "Isle of Siquijor, in a small stream." H. Cuming.

Long. 7 à $7\frac{1}{2}$ mill.; larg. 10 à 11 mill.; convex. 6 mill.

Nérite voisine de la *Nerita violacea*, Gmelin (*Ner. crepidularia*, Lamarck), mais distincte par sa forme, sa coloration et sa spire ré-tuse. *Opercule* plane, blanc-jaunâtre, bicaréné en dessous; à carènes aiguës postérieurement. Il est muni de deux dents: la supérieure courte, un peu relevée; l'inférieure transversale, lamelleuse, saillante, et aiguë postérieurement.

2. NERITA AFRICANA. *Ner. testá ovato-conoidé, subepidermide nigrescente strigis nigris longitudinalibus creberrimis et maculis oblongis vel ovatis transversis, luteis, anticè acutis et nigro marginatis, subregularibus, undique pictá; anfractibus tribus subconicis; infimo supernè rugis raris notato; spirá vix prominulá, apice crosá; aperturá obliquá, extùs semi-oblongá, intùs albido-cinerascente; labio convexiusculo supernè calloso, anticè plano, rectiusculo et lævissimè crenato.*

Var. α . *Anfractu infimo depresso; labro supernè vix fornicato et antrorsum productiusculo; labio posticè lutescente.*

Var. β . *Anfractu infimo dorso convexo; labio posticè aurantio.*

Hab. "Island of Fernando Po, west coast of Africa; found in a small stream by Capt. Downs, R.N." H. Cuming.

Long. 17 à 19 mill.; larg. 19 à 20 mill.; convex. $13\frac{1}{2}$ à 15 mill.

Elle a beaucoup de rapports avec le *Neritina afra*, Sowerby, Conch. Illustr. fig. 13, mais en diffère par sa columelle non échan-crée à la marge. Elle a aussi des rapports avec certaines variétés de

la *Nerit. Brasiliana*, Récluz (*Nerita virginca*, Lamarek, non Linné). Sa forme ovale-conique, ses rugosités obliques et les crénelures marginales de la lèvre interne plus petites et égales la séparent nettement de celle du Brésil.

3. *NERITA (CLITHON) DA COSTÆ*. *Ner. testá subglobosá, suprâ médium víx angulosá, muticá, olivaceá, maculis triangularibus albidis, anticè acutè nigris pictá et fasciis pallidissimè interdum obsoletis cinctá; anfractibus quaternis plano-declivis; spirá subconicá, apice erosá; aperturá subrotundá, intùs albá et pallidè cærulescente 3-4 fasciatá; labio compresso, angusto, valdè declivi, supernè transversim calloso, margine crenato et in medio tenuiter arcuato; labro infernè dilatato, supernè subfornicato.*

Hab. "Isle of Negros, in a mountain-stream." H. Cuming.
Long. 14 mill.; larg. $17\frac{2}{3}$ mill.; convex. $12\frac{1}{2}$ mill.

4. *NERITA LEACHII*, Récluz in Guérin, Rev. Cuvier. 1841, p. 312. no. 33.

Var. β . *Testá subglobosá, pallidè fuscá, luteo-bifasciatá.*

Var. γ .? *Testá subglobosá, nigerrimá, maculis punctiformibus víx triangularibus obsitá, nec fasciatá.*

An var. *Neritæ guttata*, Récluz in Rev. Cuv. 1841, p. 316. no. 40?

Var. δ .? *Testá semiglobosá, tenuiore, striis longitudinalibus regularibus creberrimis, transversis, tenuissimis, nigerrimá, maculis sparsis, raris, et fasciis angustis binis, lutescentibus, maculis parvulis triangularibus pallidioribus confertis pictá.*

Hab. "Isle of Bohol; found in a small stream." H. Cuming.

Notre *Nerita guttata* est ovale, d'un beau noir et finement ponctué de blanc-lacté; son second tour est légèrement anguleux pris de la suture; son ouverture est plus étroite, et les dents de la marge de la columelle sont plus fines; enfin elle vit à Triton bay. N'ayant pu nous procurer qu'un seul individu de notre espèce, il nous est difficile de la confondre avec la var. β . de la *Nerita Leachii* bien qu'elle ait des grands rapports avec elle; nous n'en connaissons pas, d'ailleurs, les opercules.

5. *NERITA SAYANA*. *Ner. testá ventricosovovatá, longitudinaliter substriatá, tenuiusculá, nitidulá, nigratá, maculis fuscis seu lutescentibus, diversiformibus, variegatá aut fuscá et nigrescente nebulatá; anfractibus duobus; primo partim deroso, infimo supernè depresso; aperturá subrotundá, intùs albá; labio calloso, plano, declivi, margine recto, in medio tenuissimè crenato.*

Hab. "Island of Guimaras, Philippines; in small streams." H. Cuming.

Long. 14 à 18 mill.; larg. 16 à 21 mill.; convex. 12 à 15 mill.

Nous dédions cette Néríte à feu Mr. Say, auteur de l'*American Conchology*.

6. *NERITA (CLITHON) SUBPUNCTATA*. *Ner. testá semiglobosá, olivaceo-fuscá, tenuiter rugatá; rugis punctis nigrescentibus seriatis notatis, subepidermide albá, nigro reticulatá; anfractu unico, suprâ*

medium anguloso ; apice perforato ; aperturá extùs subrotundá, intùs albo-cinerascente ; labio semilunari, plano, supernè calloso, margine in medio tenuiter arcuato et crenulato ; dente cardinali majore, truncato.

Hab. "Sinait, province of North Ilocos, isle of Luzon ; in a small mountain-stream." H. Cuming.

Long. 11 mill. ; larg. 13 mill. ; convex. 8 mill.

Cette Néríte n'est peut-être qu'une variété locale de notre *Nerita bicolor*, cependant elle est toujours cinq à six fois plus petite, moins solide, à stries constamment poncturés de noir par séries longitudinales plus ou moins distinctes, formée d'un seul tour de spire dont l'angle est plus étroit. Son soumet n'est point corrodé, mais muni d'un trou étroit et profond.

Sect. B. *Labro intùs sæpiùs sulcato ; labio supernè emarginato.*

7. *NERITA GRAYANA.* *Ner. testá ovato-globosá, dorso-obliquè conoided, transversim sulcatá ; sulcis costis latioribus, striis longitudinalibus creberrimis sculptá ; anfractibus sordidè nigro-violaceis, obsoletè albo maculatis ; spirá prominulá, conico-depressá, acutá ; aperturá pallidè fuscescente ; labio planulato, margine tridentato, suprà rugis confertis valdè impresso ; labro intùs regulariter sulcato, supernè unidentato.*

Hab. "Port Curimao, province of North Ilocos, isle of Luzon ; on the rocks at low water." H. Cuming.

Long. 21–25 mill. ; larg. 30 mill. ; convex. 21 mill. *Ouverture extér.* : long. 22 mill. ; larg. 20 à 21 mill. *Spire*, haut. 9 mill.

Nous dédions cette belle Néríte au savant zoologiste Gray.

8. *NERITA PANAYENSIS.* *Ner. testá parvú, ovato-conicá, aurantiá, transversim sulcatá, longitudinaliter crebrè striatá ; costis subter lente subgranosis ; spirá conico-acutá ; labio plano, lacteo, dentibus tribus remotis instructo ; labro margine crenato, intùs calloso, lacteo, planè lævissimo.*

Var. β . *Testá ventricosoglobosá, spirá vix exsertá, minimá, labio basi ruguloso et margine crenulis plurimis notato.*

Hab. "Ilo-Ilo, province of Panay ; under stones at low water." H. Cuming.

Long. $13\frac{1}{2}$ mill., var. 12 ; larg. 15 mill., var. $14\frac{1}{2}$; convex. 10, var. 10 mill. *Ouverture* : long. 11 mill., var. 12 ; larg. $10\frac{1}{2}$, var. 10 mill. *Spire* : haut. 4 mill., var. $2\frac{1}{2}$ mill.

Le type a des rapports de forme avec la *Ner. aurantia* (Récluz) et la variété avec quelques variétés de la *Nerita Rumphii* (Récluz) ; l'opercule, qui nous est inconnu, pourrait probablement trancher la question.

9. *NERITA BEANIANA.* *Ner. testá ovatá, posticè angustatá, transversim crebrè et tenuiter sulcatá, nigrá sive olivaceo-nigricante, fasciis croceis cinctá ; spirá obtusá, decorticatá ; aperturá albá, fauce luteá ; labio compresso-plano, luteo-fuscescente, granulis nigris signato, margine lævissimè arcuatim excavato, subdentulo ; labro intùs striis tenuissimis elongatis, nigris instructo.*

Var. β . *Testá olivaceo-nigricante, lineis nigris et lutescentibus, æquidistantibus fasciatá; labio suprù rugoso, medio nigro granuloso, labro intùs læviter incrasso et lævissimo.*

Var. γ . *Testá costis subnullis, striis longitudinalibus creberrimis, obsoleteisque.*

Operculum nigrescens, minimè granulatum, subtùs carneo-lutescente, fasciis tribus griseis pictum, costulá pland, obsoletá, anticè marginatum. Dente apicali brevi, truncato, infimo transverso, arcuato, plano, posticè dilatato, truncato, superficie substriatá.

Hab. "Isle of Corregidor, bay of Manila; under stones at low water." H. Cuming.

Long. 14 à 16 mill., var. $12\frac{1}{2}$ à 13 mill.; larg. 17 à 21 mill., var. 16 à $16\frac{1}{2}$ mill.; convex. 10 à $12\frac{1}{2}$ mill., var. 9-10 mill. *Ouverture extér.*: long. $12\frac{1}{2}$ à 14 mill., var. $12\frac{2}{3}$ à 13 mill.; larg. $12\frac{1}{2}$ à $13\frac{1}{2}$ mill., var. 12 mill.

Nous donnons à cette belle Néríte le nom de Mr. Bean, savant conchyliologue de Scarborough.

10. NERITA HINDSII. *Ner. testá semiglobosá, solidá, cinereá sive albidá, nigro obscurè articulatá, transversim læviter sulcatá, striis longitudinalibus undulatis sulcis interdum decussantibus insculptá; spirá parvâ, convexo-depressá, vix exsertá; aperturá dilutè stramineá; labio angusto, compresso-subconcavo, rugoso et granuloso, margine in medio 2-4-denticulato; labro intùs valdè calloso et longè sulcato. Operculum pallidè cinereo-fuscescens, granulatum, obsolete biangulosum, albido-viridescens, anticè angulum planissimum circumdatum. Dente apicali plano, supernè læviter incrassato, brevi, truncato, basi maculá fuscá notatá; infimo arcuato, substriato, posticè parùm dilatato, truncato.*

Hab. "Ilo-Ilo, isle of Panay; under stones at low water." H. Cuming.

Long. 15-17 mill.; larg. $19\frac{1}{2}$ -20 mill.; convex. $12\frac{1}{2}$ - $13\frac{1}{2}$ mill.; *Ouverture*: long. 15- $15\frac{1}{2}$ mill.; larg. 13-14 mill. *Spire*, haut. 6-7 mill.

11. NERITA SPENGLERIANA. *Ner. testá orbiculato-conicá, transversim lævissimè sulcatá; sulcis basi obsolete, albidá, nigrozonatá; spirá conico-acutá, lutescente, nigro-punctatá, sulcis profundioribus; labio albo, lævigato, margine subbidentato; labro intùs incrassato, lævissimo. Operculum pallidè fuscum, tenuissimè granulatum, subtùs pallidè rufum. Dente apicali obsolete, infimo arcuato, transversim substriato, posticè superficie dilatá et truncatá.*

Hab. "Ilo-Ilo, isle of Panay; under stones at low water." H. Cuming.

Long. 16 mill.; larg. 18 mill.; convex. 12 mill. *Ouverture ext.*: long. 14 mill.; larg. 12 mill. *Spire*, haut. 5 mill.

12. NERITA RUMPHII, Récluz, Rev. Cuvier. 1841, p. 147. no. 10. Var. 1. Récluz, loco citato, *Nerita polita oceani australis*, Chemnitz, Conch. v. p. 321. tab. 193. f. 2013 et 2014.

Hab. "Trenate, Molucca Islands; under stones at low water." H. Cuming.

Fauce nitidissimè rubro-sanguineá.

Var. 2. *Testá striis transversis nullis, fasciis viridescentibus immaculatis, alternis albis sive pallidè rufescentibus, nigro articulatis; aperturá sanguineá; labio bidentato; labro intùs crebrè sulcato.*

Chemnitz, Conch. v. p. 319. pl. 193. f. 2010.

“Island of Trenate, Molucca Islands; on the reefs.”

Operculum Neritæ Rumphii. Forma *Ner. Orbignyanae* accedens, sed diversa.

Var. 3. *Testá albd maculis nigris latis seriatis unifasciatá.*

“Isle of Ticao; under stones at low water.”

Var. 4. *Testá albedo-lutescente, nigro latè unifasciatá.*

“Isle of Ticao, &c.”

Var. 5. *Testá nigrescente, ravidofasciatá.*

“Isle of Masbate; under stones at low water.”

Var. 6. *Testá nigrá, albo angustè trifasciatá.*

“Isle of Corregidor, off Manila; under stones.”

Var. 7. *Testá olivaceá, nigro-varid, in medio albo-unifasciatá fasciá lineis angustis olivaceis articulátá.*

“Isle of Masbate; under stones.”

Var. 8. *Testá lutescente, cæruleo-undatá, fasciis tribus è maculis rubris articulatis.*

“St. Nicolas, island of Zebu; under stones.”

Var. 9. *Testá nigrá, venis albis et maculis concoloribus pictá.*

“Trenate, Molucca Islands; under stones.”

Var. 10. *Testá rufescente aut cinereá, maculis nigris hastatis transversis pictá.*

An Chemnitz, v. p. 320. pl. 193. f. 2011? *Nerita pennata*, Deshayes in Lamarck, ed. alt. t. viii. p. 613. no. 23†. (vidi in collectione ejus) non Born, *Nerita pennata*. (Hæc est *Ner. piperina*, Chemnitz, Conch. xi. p. 73. tab. 197. f. 1905, 1906; Lister, Conch. Synops. pl. 604. f. 29; *Neritina piperata*, Sow. Conch. Illust. f. 18.)

“Port of Curimao, province of North Ilocos, isle of Luzon; under stones.”

Var. 11. *Testá rufescente aut albidá, roseo-trifasciatá et maculis viridibus parvis seu nebulis variá.*

“Isle of Masbate; under stones.”

Var. 12. *Testá violaceá, albo angustè trifasciatá.*

“Isle of Corregidor, &c.”

Var. 13. *Testá luteo-rufescente, albo-trifasciatá; fasciis nigro sive viridescente articulatis.*

“Isle of Burias; under stones.”

Var. 14. *Testá fusco-nigrescente pallidá, fasciis tribus nigris, et maculis albis sparsis pictá.*

“Isle of Siquijor, under stones; and port of Curimao, province of North Ilocos, isle of Luzon.”

Var. 15. *Testá luteo-rufescente, maculis albis transversis parvulis pictá, nigrescente obsolete trifasciatá.*

“Trenate, Molucca Islands.”

Var. 16. *Testá nigro, ravido et albido-fuscescente fasciatá.*

“Isle of Siquijor, &c.”

Var. 17. *Testá tenui, striis cancellatá, fusco-rufescente, interdum maculis nigris parvulis hastatis pictá; labio planissimo anticè valdè denticulato.*

“Isle of Siquijor, &c.”

Var. 18. *Testá albd, rufescente fulguratá sive roseo-trifasciatá.*

“St. Nicolas, isle of Zebu, &c.”

Var. 19. *Testá lutescente, fasciis viridescensibus zonisque albis nigro-maculatis marginatis.*

“Isle of Ticao; under stones.”

Var. 20. *Testá albo-vinosá, nigro latè bifasciatá et in interstitiis interdum viridescente zonatá.*

“Isle of Corregidor, bay of Manila.”

Var. 21. *Testá albd aut fuscescente, venis nigris longitudinalibus pictá et albo unifasciatá.*

“Isle of Corregidor, &c.”

Var. 22. *Testá sordidè vinosá scu fusco-violacéd, fasciis tribus albis cinereo articulatis seu nébulosis.*

“Isle of Burias.”

Var. 23. *Testá purpureo-nigrescente, fuscescente nigro-punctatá sive albo-bifasciatá; fasciis cinereo nebulosis.*

“Port of Curimao, province of North Ilocos, isle of Luzon.”

Var. 24. *Testá albido-lutescente, nigro angustè bifasciatá.*

“Isle of Corregidor.”

Var. 25. *Testá virescente, albo angustè trifasciatá.*

“Isle of Corregidor.”

Var. 26. *Testá cancellatá, totá nigrá.*

“Isle of Corregidor.”

Var. 27. *Testá fusco-nigricante, maculis nigris transversis intensioribus pictá.*

“From Pasacos, isle of Luzon.”

Var. 28. *Testá grised, maculis albis obsoletè tessellatá.*

“Isle of Ticao.”

Var. 29. *Testá pallidè fusco-rubellá trifasciatá, venis albis lineatá, interstitiis albo angustè marginatis; fasciá albd spiram decurrente.*

“St. Estevan, province of South Ilocos, isle of Luzon.”

Var. 30. *Testá dilutè chocolatá, albido-fasciatá.*

“Isle of Burias.”

Var. 31. *Testá luteo-castanéá, albo angustè trifasciatá, transversim regulariter sulcatá, seu levissimè ad spiram tantum spiraliter cingulatá.*

“Isle of Corregidor.”

Var. 32. *Testá omninè aurantiá.*

“Jimmamaylan, isle of Negros.”

Obs.—Il est impossible de distinguer des espèces parmi ces nom-

breuses variétés dont nous n'avons pas même épuisé la quantité. Les plus riches en couleur vivent dans les mers des Philippines ; celles de l'océanie sont moins variées et agréables à la vue, on doit donc savoir gré à Mr. H. Cuming de nous les avoir fait connaître avec les localités particulières dans lesquelles on les trouve. Quoique l'opercule de cette espèce ressemble assez à celui de la Nérîte polie (qui a pour type la var. gris-verdâtre trifasciée de rose, figurée par Chemnitz, le type de Linné étant une variété très rare), sa coloration diffère et sa bandelette marginale est toujours plus étroite. Du reste la *Nerita Rumphii* est toujours plus petite, sillonnée de stries, et souvent treillisée en tout ou en partie.

III°. Gen. NATICA, Adanson.

A. Umbilicum funiculatum.

Obs.—Funiculus. Columna callosa auctorum, columella adhærens et in umbilico spiraliter contorta, apice plus minùsve dilatato, truncato, rariùs convexo aut rotundato.

* *Testa subglobosa ; operculum testaceum.* Gen. *Nacca*, Risso.

1. NATICA PICTA. *Nat. testâ ventricoso-globosâ, tenuisculâ, levigatâ luteo-rufescente, albo angustè 3-4 fasciatâ : fasciis remotis maculis spadiceis sagittatis articulatis, superâ ad suturam spadiceo-marginatâ ; spirâ convexo-conicâ, apice spadiceâ ; aperturâ intùs fulvâ ; columellâ rectâ, basim versus concaviusculâ, supernè breviter reflexâ ; umbilico coarctato, quadrato ; canali arcuato, extùs zonâ albâ maculis spadiceis undulatis radiato ; funiculo crasso canalem angustante.*

Hab. "Basey, island of Samar, Philippines ; found on the reefs."

H. Cuming.

Long. 26 mill. ; larg. $27\frac{1}{2}$ mill. ; convex. 21 mill. *Overture* : long. $20\frac{1}{2}$ mill. ; larg. $13\frac{1}{2}$ mill.

Testâ fundo pallidè chocolato, fasciâ supremâ rarè maculis supremis majoribus et intensioribus ; anfractibus quinis, convexis, supernè depressiusculis.

2. NATICA EUZONA. *Nat. testâ ventricoso-globosâ, tenui, albâ, lineolis creberrimis longitudinalibus lutco-spadiceis et fasciis tribus è maculis sagittiformibus concoloribus, in supremâ angulatis pictâ ; spirâ convexo-acutâ ; aperturâ albidâ, basi et externè subacutâ ; labio rectiusculo, supernè breviter reflexo et tenuissimo ; umbilico rotundato extùs zonâ albâ maculis spadiceis circumdato ; funiculo angusto, supernè interdum rotundato et dilatato cavitates angustante ; labro fragili.*

Operculum testaceum, tenue, lineolis elevatis 2-3 anticè cinctum.

An *Nat. zebra*, var. ?

Hab. "With *Natica zebra* from Cagayan, province of Misamis, island of Mindanao ; found in sandy mud at twenty-five fathoms : and with *Natica areolata* from the isle of Capul, Philippines ; on the reefs." H. Cuming.

Long. $14\frac{1}{2}$ mill. ; larg. 16 mill. ; convex. $11\frac{1}{2}$ mill.

3. NATICA ORIENTALIS, Gmelin.

Var. γ . *Testá rufá, suturá angustè canaliculatá, albd.*

Var. δ . *Testá subepidermide fuscéscente albidá, suturá canaliculatá, epidermide fusco creberrimè striatá.*

Var. ϵ . ? *Testá minor, subepidermide pallidè fusco-albd, zonis binis è maculis elongato-quadratis spadiceis seriatim pictá; suturá profundá, epidermide fusco creberrimè striatá; aperturá basi minus auctá et acutá; funiculo coarctato.*

Hab. "Singapore; found in sandy mud." H. Cuming.

Var. ϵ . Long. 24 mill.; larg. $23\frac{1}{2}$ mill.; convex. 19 mill. *Ouverture*: long. 19 mill.; larg. 12 mill.

Opereule inconnu, mais comme la columelle est marquée de la rainure opereulaire, il doit être par conséquent de nature testacé et solide, selon nos propres observations. Cette variété, dont je n'ai vû qu'un individu me paraîtrait devoir constituer une espèce distincte, lorsqu'on pourra en étudier quelques autres échantillons.

4. NATICA BRODERIPIANA. *Nat. testá globoso-ovatá, solidiusculá, luteá seu pallidè fuscá, zonis albis spadiceo maculatis cinctá, longitudinaliter tenuiter sulcatá: sulcis supernè et infernè profundioribus; spirá conico-acutá, apice fusco-spadiced; suturá fasciolá albo marginatá; aperturá basi et externè angulosá; columellá in medio arcuatim concavá, supernè et infernè incrassatá; umbilico dilatato, profundo, zond albd, lævigatá circumdato; canali umbilico lineari; funiculo crasso, largo, depresso.*

Testa anfractibus 5-6 convexis, subcostatis. Maculæ fasciarum nunc quadratæ, nunc transversim oblongæ seu arcuatæ; fasciæ medianæ maculæ biseriatæ, infimæ parvulæ. Labrum solidum. Operculum testaceum, anticè striis tribus aratum, in medio costá arcuatá valdè exsertá sculptatum; apice puncto calloso notato; posticè infernè ad marginem crebrè rugoso seu crenulato et in medio ventricoso.

Hab. "Xipixapi, West Colombia; sandy mud, sixteen fathoms." H. Cuming.

Long. $25\frac{1}{2}$ mill.; larg. $23\frac{1}{2}$ mill.; convex. 18 mill. *Ouverture*: long. 22 mill.; larg. $10\frac{1}{2}$ mill.

5. NATICA ELENÆ. *Nat. testá ventricosoglobosá, posticè angustatá, tenui, longitudinaliter striis æquidistantibus supernè et infernè profundioribus, striolis transversis creberrimis subcancellatis sculptá; albido-stramineá, lineolis crebris undulatis longitudinalibus; pictá; anfractu infimo supernè planulato; spirá convexo-conicá, subacutá; aperturá basi subangulosá, supernè rotundatá; labio subrecto, in medio subarcuato, supernè calloso; umbilico dilatato, profundo, spirali; canali lineari; funiculo lato, supernè crasso et obliquè truncato; labro fragili.*

Var. β . ? *Testá minori, ventricosogovatá, anfractibus senis, supernè planatis, gradatis, superioribus longitudinaliter striatis, infimo lævigato, lineis spadiceis remotiusculis subundulatis picto; spirá conico-acutá; columellá rectá, supernè et infernè incrassatá; canali umbilico profundè arcuato, valdè latiore; funiculo angusto; aperturá semi-oblongá.*

Hab. "St. Elena, West Colombia; found in sandy mud at six fathoms." H. Cuming.

Testâ tenuiori, sulcis longitudinalibus striæformibus; anfractu infimo transverso, anticè dilatato posticèque angustato, fasciis nullis, lineis spadiceis crebris undulatis angulatisque; spirâ minori; columellâ minus concavâ; funiculo crassiore à Naticâ Broderipianâ differt.

Var. β . *Forma Natica Fanel Adansonii accedens sed diversa; an species nova?*

Umbilicus testaceus, anticè triangulatus, in medio costâ latâ, crassâ, exsertâ, sulco anticè cinctâ et posticè revolutâ insculptus, areâ posticâ arcuatim sulcatâ. Margo postica transversim crenulata: crenis inferioribus valdè impressis.

Long. 23 mill.; larg. 24 mill.; convex. 16 mill. *Ouverture*: long. 20 mill.; larg. $11\frac{1}{2}$ mill.

6. NATICA AREOLATA. *Nat. testâ ventricosoglobosâ, tenui, parvâ, subpellucidâ, glaucinâ seu luteâ, lineis angulato-flexuosis, sæpè basi latioribus arcuatisque pictâ, ornatis; spirâ convexo-conicâ, apice fuscâ; aperturâ subviolacèâ; labio obliquè rectiusculo, ad umbilicum subconvexo, basim versus arcuatim rotundatâ; funiculo crasso, supernè rotundato, plano umbilicum canalemque valdè angustante.*

Var. β . *Testa minor, maculis luteis anticè albo marginatis ac arcuatis subseriebus 3-4-cincta, interdum confluentibus; anfractibus supernè zonâ dilutè aurantiâ lined albâ marginatâ ornatis.*

Rumph. Mus. tab. 22. fig. G. *bona, non Natica zebra, Lamk.*

Hab. "Island of Capul: found on the reefs, Philippines." H. Cuming. Amboina (Mus. Paris et Rumphius).

Long. 12 à 17 mill.; larg. 13 à 19 mill.; convex. $10\frac{1}{2}$ à 15 mill. *Ouverture*: long. $10\frac{1}{2}$ à $14\frac{1}{2}$ mill.; larg. 6 à 9 mill. *Spire*, haut. $4\frac{1}{2}$ à 7 mill.

7. NATICA FULGURANS. *Nat. testâ ovatâ, ventricosâ, tenuiter striatâ, albâ, flammeis fulgurantibus spadiceo-nigris interdum confluentibus pictâ; spirâ conicâ, acutâ; aperturâ albâ; columellâ obliquâ, rectiusculâ, umbilico profundo; canali latiusculo; funiculo depresso, supernè basique compresso; labro basi obliquè rectiusculo, crasso, compresso.*

Hab. "Le Senegal (Mme Dupont)."

Long. 22 mill.; larg. 20 mill.; convex. 15-16 mill. *Ouverture*: long. 16 mill.; larg. 9 mill. *Spire*, haut. 9 mill.

Testa alba seu dilutè ravidâ; flammis interruptis in zonas transversas efformantibus sæpè dispositis.

8. NATICA COLLIEI. *Nat. testâ ventricosoglobosâ, albâ, maculis spadiceo-fuscis quinque seriatis: seriebus duabus maculis rufis quadratis interdum angulatis alteris punctiformibus cinctâ; spirâ convexâ, apice acutâ; anfractibus supernè planiusculis, radiatim breviter striatis; aperturâ albidâ, intùs subflammulatâ; umbilico arcuato, profundo; funiculo parvo; columellâ obliquè rectiusculâ.*

Var. β . *Testa maculis quadratis quinque seriatis cincta; scriebus tribus medianis maculis majoribus interdum confluentibus; apertura intus rosed; funiculo crasso extus ad sinistram obliquè planulato, basi canali propinquiori.*

Hab. "Swan River, Australia; found on stones, low water, by Lient. Collie, R.N. Var. from the island of Ticao found on the reefs." H. Cuming.

Long. 14 var. 17 mill.; larg. 15 var. 16 mill.; convex. $11\frac{1}{2}$ var. 13 mill. *Overture*: long. $11\frac{1}{2}$ var. 13 mill.; larg. 7 var. $7\frac{1}{2}$ mill.

9. NATICA FANEL, Adanson.

Var. β . *Testa alba, seu albo-subvinosa, maculis rotundatis atropurpureis, paucis interdum confluentibus picta.*

Natica variolaria, nobis olim.

Hab. "Zanzibar, east coast of Africa, collected by Mr. Thomas Thorre." H. Cuming.

Testa subglobosa, ovata, ventricosa, nitidissima, lævigata. Anfractibus senis, convexis, supernè depresso-planis, radiatim tenuiter striatis, ferè gradatis. Spira conica; apice acutiusculo. Apertura semirotonda, alba, obliquata. Columella obliquè recta, angusta, supernè breviter reflexa, adnata, basi in labro continuato et incrassata. Umbilicum semirotondum, fuscum, profundum. Funiculum depressum, latiusculum, rufum, supernè vix callosum, semiovatum, columellæ adnatum. Operculum?

10. NATICA GAMBIE. *Nat. testâ ventricoso-ovatâ, interdum subglobosâ, crassâ, albidâ seu dilutè carneolatâ; anfractibus convexis, lævigatis, supernè longè radiatim striatis, superioribus suprâ depresso-planiusculis; spirâ conico-depressâ, acuta; aperturâ obliquâ, albâ; columellâ rectâ, supernè incrassatâ, callosâ; umbilico parvo; canali arcuato, profundo; funiculo magno, supernè dilatato, plano, semiovato; labro crasso.*

Var. β . *Testâ ovatâ, substriatâ, supernè cinereo-fuscescente, fusco obscurè zonatâ, infernè albidâ, submedio zonâ pallidâ cinctâ; spirâ glaucescente; aperturâ intus fusco-purpurascente.*

Operculum testaceum, solidum, ad apicem tenuiusculum, lacteum, posticè marginem versus fuscum, lævigatum, anticè lineâ angustâ circumdatum. Varietates innumerae Naticæ maroccanæ Chemnitzii (Nat. marochiensis Lamk. non Menke nec Philippi, quæ est Nerita (Natica) glaucina Linné certè) differt, formâ, facie, consistentia, umbilico, funiculo et operculo. Rara.

Hab. "River Gambia; found on the sands by Mr. Beale of Jersey." H. Cuming.

Long. 27 mill.; larg. 25 mill.; convex. 18 mill. *Overture*: long. 21 mill.; larg. $10\frac{1}{2}$ mill. *Spire*, haut. 11 mill.

11. NATICA CANRENA, Lamk.

Nerita canrena, Linné, Mus. L. U. p. 674. no. 383. Synonymis et variet. exclusis.

Var. β . *Minor, tenuior, magnitudinis avellanae, zonis tribus albis et totidem fuscis pallidis cinctu; zonis albis medio ventris lineis*

arcuatis spadiceis ornatis, superâ maculis spadiceis arcuatis pictâ; suturâ fasciâ angustâ luteâ marginatâ, striis radiatis crebris sculptâ; umbilico parvo; canali profundo, arcuato, zonâ latissimâ albâ circumdato et maculis spadiceis remotis notatâ.

Hab. "Jaena, isle of Bohol, Philippines; twelve fathoms, sandy mud." H. Cuming.

An eadem ut typus Linnei?

Var. γ . *Testâ, omninè albâ, ad suturam lacteo fasciatâ; labro fragili.*

Hab. "Island of St. Vincent, North America." H. Cuming.

Long. 23 mill.; larg. 26 mill.; conv. 20 mill. *Ouverture*: long. 20; larg. 13 mill. *Spire*, haut. 9 mill.

12. NATICA PAVIMENTUM. *Nat. testâ ovato-obtusâ, subglobosâ, parvulâ, exalbidâ, lacteo-quadrifasciatâ, supremâ latâ lineis rufis radiatis, tribus inferioribus angustioribus maculis quadratis rufis seriatis articulatis pictâ; spirâ convexo-rotundatâ, parvâ, vix prominenti; aperturâ albâ, obliquâ; columellâ rectâ, solidâ; funiculo semirotundo, umbilico parvulo omninè occultante.*

Var. β . *Testâ fasciâ mediî ventris maculis longitudinaliter oblongo-quadratis remotioribus pictâ.*

Testâ anfractibus quinis, convexo-depressis, infimo convexiore; suturâ vix impressâ. Operculum?

Hab. "The island of Ticao, Philippines; found on the reefs." H. Cuming.

Long. 10 mill.; larg. 9 mill.; conv. 7 à 7½ mill. *Ouverture*: long. 8 mill.; larg. 3⅔ mill.

13. NATICA GUALTERIANA. *Nat. testâ subovatâ, semigloboso-acutâ, tenui, subepidermide fuscescente albidâ, punctis quadratis spadiceis seriatis in medio ventris trifasciatâ, supernè lineis concoloribus obsoletisque decurrentibus ornâtâ; anfractibus ventricosis, ad suturam longè et crebrè striatis, fasciâ albâ circumdatâ; spirâ conico-acutâ; aperturâ dilatâtâ, basi subproductâ et angulosâ; umbilico parvo; funiculo semiovato, suprâ obliquè plano, umbilicum et canalem valdè occultante.*

Var. β . *Testa minor, fasciis punctorum in medio ventris ultimi duabus.*

Hab. "Sual, province of Pangasinan, island of Luzon; found at five to seven fathoms, on sand." H. Cuming.

Long. 12½ mill.; larg. 12 mill.; conv. 9 mill. *Ouverture*: long. 10 mill.; larg. 6 mill. *Spire*, haut. 5 mill. *Natica maroccanæ Chemnitzii proxima.*

** *Testa subovata seu ovata; operculum cartilagosum, Gen. Natica, Risso.*

MAMILLATÆ, Récluz.

14. NATICA PANAMAËNSIS. *Nat. testâ ovato-globosâ, ventricosâ, ponderosâ, albidâ; anfractibus septenis, supremis depresso-convexis, infimo ad peripheriam depresso-planulato, suprâ subanguloso, declivi seu convexiusculo, striis tenuissimis impresso; spirâ conicâ,*

acutâ; aperturâ obliquâ, oblongo-semilunari; columellâ supernè et anticè ventricosâ, valdè incrassatâ, calloso-lactèâ, convexâ, sub umbilico productiusculâ; umbilico profundo; funiculo intùs sub-obsoleto, externè oblongo, calloso et cum callo columellæ consolidato; labro tenuiusculo.

Operculum cartilagosum, radiatim tenuiter striatum, dilutè fuscum. Sinu Panama propria.

Hab. "Panama; found at ten fathoms in fine sand." H. Cuming,

Long. 44 à 54 mill.; larg. 40 à 47 mill.; convex. 33 à 40 mill.

Ouverture: long. exter. 40 à 47½ mill., inter. 33 à 40 mill.; larg. 18 à 22 mill. *Spire*, haut. 16 mill.

15. NATICA FLEMINGIANA. *Nat. testâ ovato-oblongâ, crassiusculâ, lactèâ, nitidâ, politâ, lævissimè striatâ, anfractibus senis, depresso-convexiusculis, infimo ovato-convexo, supernè subconico; spirâ depresso-conicâ, apice exalbido; aperturâ angustâ, semirotondâ; columellâ obliquè rectiusculâ, in medio subconvexâ, externè callosâ, crassâ; umbilico profundo, supernè partim tecto, externè angulo vix notato circumdato, basi in canalem profundum arcuatum prolongato, à funiculo modificato.*

Junior. Canali umbilico subconsolidato, lineari.

Operculum cartilagineum, luteum, tenuissimum, margine antico hyalino zonatum, fasciâ latâ, purpurco-rufâ, apice revolutâ, superficie eleganter radiatim striatâ valdè differt. Testa interdum albo dilutè straminea seu ferrugineo partim tincta.

Hab. "Sorsogon, isle of Luzon; found in sand and small stones." H. Cuming.

Long. 30 mill.; larg. 26 mill.; convex. 22 mill. *Ouverture*: exter. 27 mill., inter. 19 mill.; larg. 11⅔ mill. *Spire*, haut. 9 mill.

Nerita mamilla, var. *lactææ*, Linnæi valde affinis, sed spirâ acutâ et umbilico aperto differt. *Natica vavaoi* Le Guillou proxima, sed columellâ convexiore, basi et internè non angulatâ, rotundato-concavâ, angulo umbilici remotiore et lineæformi, canali umbilici angustiore et columellâ suprâ medium convexiusculâ transversim nec sulco obsoleto instructâ dissimilis est. *Natica uber*, Valenciennes, ferè simillima, sed in hac operculum cartilagineum omninò luteum et striis tenuioribus, in *Nat. Flemingianâ*.

16. NATICA DUBIA. *Nat. testâ ventricosò-ovatâ seu globoso-acutâ, lævigatâ, crassâ, ponderosâ, albido-stramineâ, ad suturam obscurè fasciatâ et transversim obsoletè striatâ; spirâ conico-depressâ, plus minusve prominulâ, acutâ; aperturâ semirotondâ, intùs submargaritacèâ; labio anticè recto, basi incrassato, supernè valdè calloso: callo suprâ medium convexo; umbilico spirali, in canalem profundum arcuatumque prolongatum et funiculo modificatum sive ferè sive omninò oblecto; labro solido.*

Hab. "Chili?" H. Cuming.

Long. 37 à 39 mill.; larg. 36 à 37 mill.; convex. 27 à 28 mill.

Ouverture: exter. 32½ à 33, inter. 22 à 23 mill.; larg. 14 à 15½ mill.

Spire, haut. 9 à 11½ mill.

Natica Flemingianæ proxima, sed solidiore, ventricosiore, ponde-

rosâ columellâ nec anticè convexâ, supernè valdè convexâ, umbilico interdum occultato, differt.

17. NATICA UBERINA, Valenciennes in Mém. Géol. de Humboldt. Var. β . *Testâ ovato-conicâ, obsoletissimè cancellatâ; anfractibus supernè conicis; spirâ elongatâ, conicâ; canali umbilici et capite funiculi magis elongati.*

Hab. "Casma, Peru; found in muddy sand, five fathoms." H. Cuming.

Long. $41\frac{1}{2}$ mill.; larg. 37 mill.; convex. 30 mill. *Ouverture*: long. exter. 31 mill.; inter. 26 mill.; larg. 16 mill.

18. NATICA CUMINGIANA. *Nat. testâ ovato-ventricosâ, luteo-aurantiâ, ponderosâ, supernè tenuiter et crebrè striatâ, nitidissimâ; anfractibus senis conico-depressis, infimo ventricoso, suprâ levissimè conico; spirâ conico-depressâ, acutâ, partim albâ; suturâ subobliteratâ; aperturâ oblongo-semilunari, albâ; columellâ lacted, rectiusculâ, in medio subconvexâ, supernè et externè incrassatâ, callosâ; umbilico patulo, spirali; canali largo, semirotondo, lacteo, bianguloso; angulo interno spirali, externo posticè carinato; funiculo lacteo, crasso, externè semirotondato, internè depresso, spirali, umbilicum modificante.*

Junior. Testâ tenuiore, carneolatâ, spirâ lacted, angulis umbilici obsoletis; callo columellæ suprâ umbilicum sulco transverso notato, in adulto vix conspicuo.

Operculum rubicundum striis radiatum et tenuissimè longitudinaliter arcuatimque impressum, anticè zonâ hyalinâ circumdatum. Natica aurantia, var. lutea, nobis (Nerita mamilla, var. lutea, Linné), proxima sed ventricosiori, majori et umbilico patulo, funiculato, diversa est. Naticæ porcelanæ, D'Orbigny multò major, ventricosior, aurantiâ ac non stramineâ dissimilis.

Hab. "Island of Cayo, Philippines; found in sandy mud, deep water." H. Cuming.

Long. 46 mill.; larg. 43 mill.; convex. 27 à 28 mill. *Ouverture*: long. exter. 42, inter. 32 mill.; larg. 18 mill. *Spire*, haut. $15\frac{1}{2}$ mill.

Junior. Naticæ fuscatae, nobis (Nerita mamma veneris fuscata seu lutea, Chemnitz, Conch., p. 282. pl. 189. f. 1932, 1933) accedens sed diversa.

19. NATICA POWISIANA. *Nat. testâ ventricoso-ovatâ, crassâ, nitidâ, rufo-purpurascente, interdum rufo obscurè fasciatis anfractibus senis convexo-depressis; infimo fasciâ suturali luteâ, latâ, ornato; spirâ conico-depressâ, albâ seu luteo tinctâ, acutâ; aperturâ semirotondâ, intûs albido-cinerascente; columellâ albâ, rectiusculâ, in medio subconvexâ, basi crassâ et obliquè rectâ, supernè callosâ; umbilico patulo, albo, spirali, in canalem latum extûs desinente; canali intûs subangulato, externè costulâ convexiusculâ, basin versus sensim crescente, supernè in umbilicum decurrente; funiculo semiovato, plano, intûs convexiusculo.*

Var. β . *Testâ aurantio-rufescente.*

Hab. "Moluccas." H. Cuming.

Long. 35 à 40 mill. ; larg. 35 à 44 mill. ; convex. 28 à 34 mill.
Ouverture : long. exter. 32 à 39 mill., inter. 24 à 31 mill. ; larg. 15 à 19 mill. *Spire*, haut. 12 à 14 mill.

Natica Cumingiana valdè affinis, basi columellæ crassiori extùs obliquè truncata, angulo externo umbilici costæformi, rotundato, obtuso et in perforatione decurrente, angulo interno canalis majore et depresso, apertura semirotunda, anticè dilatata sed non oblonga, et supernè aucta differt.

20. NATICA SALANGONENSIS. *Nat. testâ ovatâ seu oblongâ, cæruleo-fuscâ seu fulvâ, substriatâ ; anfractibus quaternis depresso-convexis, supernè conicis et zonâ aurantiâ marginatis ; spirâ conicâ, obtusiusculâ, pallidè cærulescente et albo fasciatâ ; aperturâ semirotundâ, fulvo-castaneâ ; columellâ rectâ, in medio vix convexâ, suprâ crassâ, supernè angulo transverso calloso instructâ, ad umbilicum sulco notatâ ; umbilico profundo, coarctato, fulvo-aurantiâ ; canali arcuato, largo, funiculo supernè oblongo, basi sensim attenuato modificato.*

Operculum pallidè fulvum, radiatim striatum, tenue, et cartilagineum. *Naticæ mamillaris, Lamk. (Natica fuscata, nobis) proxima sed diversa.*

Hab. "Salango, West Colombia ; found in sandy mud." H. Cuming.

Long. 26 mill. ; larg. 23 mill. ; convex. 15 mill. *Ouverture* : long. exter. $24\frac{1}{2}$ mill., inter. 20 mill. ; larg. 4 à 5 mill.

21. NATICA PYRIFORMIS. *Nat. testâ oblongo-pyriformi, lacteâ, substriatâ, nitidâ ; anfractibus 5-6 convexiusculis, elongatis, supernè declivis : infimo ventricoso-conico, supernè depresso ; spirâ elongatâ, conicâ, apice puncto fusco-notatâ ; aperturâ obliquâ, subsemilunari, angustatâ ; columellâ rectiusculâ, extùs supernè callosâ, basi cum funiculo suprâ compresso consolidatâ, umbilico parvo, externè occultante et canali arcuato profundo angustante ; labro tenuiusculo, subpellucido.*

Spirâ interdum supernè lutescente. Anfractus ultimus sæpè tenuiter striatum : striis inter oculum et lumen hyalinis.

Hab. "Ilo-Ilo, island of Panay ; found on the sand at low water," H. Cuming : "and from Huan river, Australia ; found in sandy mud by Lieut. Collie, R.N., ten fathoms."

22. NATICA AURANTIA, Lamk.

Var. β . *Lutea seu straminea, Nerita mamilla, var. lutea, Linné, Mus. Lud. Obr. p. 675. no. 386. Natica straminea, nobis olim. Natica sulphurea, quorundam.*

Hab. "Philippines ; found on the reefs." H. Cuming. Var. β . Amboina, Timor (Mus. Paris).

B. *Umbilicum nudum, pervium, nec funiculatum.*

* *Testa subglobosa, operculum cartilagineum.*

23. NATICA VIOLACEA, Sowerby, Tankerville Catal.
Natica amethystina, Lamarck's collection.

Var. β . *Testá globoso-ovatá, ventricosá, albá seu lacted, maculis luteis seu dilutè chocolatis superioribus characteriformibus, medianis quadratis, inferioribus oblongis quinque seriatis pictá; columellá intùs et extùs pulchrè roseo-violaced.*

Hab. "Island of Ticao, Philippines; found in coral sand at four fathoms. Var. *a.* from the island of Masbate, Philippines; sandy mud." H. Cuming.

24. *NATICA BURIASIENSIS.* *Nat. testá parvulá, ventricoso-globosá, subepidermide luteo-olivaceo albá, nitidá, lævigatá, lineis luteis longitudinalibus undulatis crebris, interdum maculis albis majoribus supernè et in medio ventris subtriseriatis pictá; spirá parvá, subconicá, acutá; aperturá semirotondá, in fundo violacedá; columellá rectá, basi crassiusculá, supernè callosá, callo fusco-rubente, suprà umbilicum parvum, externè reflexum, curvum, et angulatum, partim occultante.*

Var. β . *Testá ad suturam fasciá albá, latá, spiram decurrente pictá; spirá apice fusco-violascente.*

Operculum testaceum, album, striis obsoletis ornatum, posticè margine tenuiter crenatum, anticè lineá elevatá cinctum, apicem versus lævissimè callosum.

Natica intricata (Nerita intricata, Donovan) minor, minus globosa, umbilicus nec funiculatus differt.

Hab. "Island of Burias, Philippines; found in sandy mud at seven fathoms." H. Cuming.

Long. 11 mill.; larg. $11\frac{1}{2}$ mill.; convex. $8\frac{1}{3}$. *Ouverture*: long. exter. $8\frac{1}{3}$, inter. 6 mill.; larg. 4 mill. *Spire*, haut. 4 mill.

25. *NATICA RAYNOLDIANA.* *Nat. testá subglobosá, crassiusculá, tenuissimè et densè striatá, albá seu dilutè aurantio-fulvá, spadiceo trifasciatá et sæpè reticulatá; anfractibus spiræ depresso-converxis, infimo rotundato; spirá depresso-conicá, subacutá, fuscá; aperturá semirotondá, albá; columellá subrectá, utrinque arcuatá, supernè callosá, incrassatá; callo albo, umbilicum extùs albo-zonatum, partim occultante.*

Var. β . *Testá dilutè aurantio-fulvá, spadiceo-trifasciatá nec reticulatá.*

Var. γ . *Testá albá seu albidá maculis spadiceis triseriatis cinctá interdum lineis reticulatá, seu lineis confluentibus subflammulatá.*

Var. δ .? *Testá globoso-ovatá, albá seu pallidè aurantiá, lineis reticulatis pictá, nec fasciatá.*

An *Nerita arachnoidea*, Gmelin, p. 3674. no. 17? Chemnitz, Conch. v. pl. 188. fig. 1915, 1916, optima (Mus. Paris), non *Natica arachnoidea*, Lamarck (*Natica cruentata*, var. *trifasciata*, nobis).

Hab. "Zanzebar, East Africa; found on the sands by Mr. T. Thorre. Cagayan, province of Misamis, island of Mindanao; found on sandy mud." H. Cuming. Trincomalee, bay of Ceylon, by M. Raynaud (Mus. Paris). Var. δ . patriam ignoro.

Long. 24 mill.; larg. 27 mill.; conv. 21 mill. *Ouverture*: long. exter. 20 mill., inter. 15 mill.; larg. 10 mill. *Spire*, haut. 9 mill.

26. NATICA GALLAPAGOSA. *Nat. testá globoso-acutá, subepidermide dilutè olivaceo-albá, fasciá largá carneo-rufescente aut viridescente, supernè fasciá pallidè rufá cinctá; anfractibus quinís subplanis: infimo ventricoso, supernè declivi, planiusculo; spirá parvula, conico-depressá, rufo-fulvá, acutá; aperturá semirotundá, albá, obliquá; columellá obliquè rectá, supernè calloso-angulatá, ad umbilicum parvum, partim occultante reflexá.*

Operculum cartilagineum, olivaceo-fuscum tenuissimè radiatim striatum, aperturá testæ minus.

Hab. "Gallapagos Islands; found in coral sand at Albemarle island." H. Cuming.

27. NATICA PISIFORMIS. *Nat. testá minimá, subglobosá, albido-viridescente, subpellucidá; anfractibus depressis, infimo ventricoso, supernè sæpiùs subanguloso, lævigatis; spirá depresso-conicá seu planulatá, vix exsertá; aperturá semirotundá; columellá rectá, supernè brevè reflexá, adnatá; umbilico punctiformi, subfuniculato.*

Operculum cartilagineum, tenuiter radiatim striatum, lutescens, in medio rubicundum? Tale ego vidi in aperturá eádem testæ.

Hab. "Valparaiso, Chili; found in coarse sand at forty-five fathoms." H. Cuming.

Long. 5-6 mill.; larg. 5-5 $\frac{3}{4}$; convex. 4-5 mill. *Ouverture*: long. exter. 4 $\frac{1}{2}$ -5 mill., inter. 3 $\frac{1}{2}$ -4 mill.; larg. 2-3 mill.

** *Testá ovato-acutá, tenuiusculá, sæpissimè zonatá; columellá nigro aut fusco-purpurascente pictá; operculo cartilagineo, oblongo; aperturá angustiore.*

28. NATICA ZANZEBARICA. *Nat. testá ovato-oblongá, tenui, subepidermide olivaceo-albá, maculis fusco-purpureis elongatis interdum confluentibus trifasciatá; anfractibus senis, convexis, tenuiter et crebrè striatis: penultimo maculis bifasciato, infimo ovato; spirá conico-acutá, albá; apice fusco, minimo; aperturá ovato-acutá, columellá suprà umbilicum adnatá, reflexá, fusco-purpurascente, anticè vix arcuatá; umbilico profundo, extùs partim occultato.*

Hab. "Zanzibar." Mr. Thorre.

Long. 50 mill.; larg. 41 mill.; convex. 32 mill. *Ouvert.*: exter. 42, inter. 40 mill.; larg. 24 mill. *Spire*, haut. 16 $\frac{1}{2}$ mill.

29. NATICA PRIAMUS. *Nat. testá ovato-acutá, ventricosá, nitidissimá, tenuè striatá, zoná pallidiore in medio cinctá: zoná lateraliter maculis spadiceis seriatis, sæpiùs remotis et quadratis marginatá; spirá parvá, conico-acutá, maculis fasciatá, apice albo et puncto fusco notatá; aperturá ovatá, basi et anticè dilatatá, albido-fuscá; columellá suprà umbilicum adnatá, chocolatá, subarcuatá, externè in medio albo unimaculatá et reflexá, umbilicum profundum zoná extùs decurrente rufá partim occultante; funiculo valdè depresso, vix conspicuo, in umbilicum continuato.*

Var. β. pallidiore.

Hab. "Moluccas," H. Cuming: Isle of France, M. Le Colonel Mathieu (Mus. Paris).

Long. 42 mill. ; larg. 40 mill. ; convex. 26 mill. *Ouverture* : long. 39 mill. ; larg. 22 mill.

Natica maura, Lamarck's Encyclop., Sowerby, Tankerville Cat., *proxima sed major, ventricosior, tenuior, fasciata, columella tenuior valdè differt.*

30. NATICA SAMARENSIS. *Nat. testâ ovato-acutâ, albido et cærulescente longitudinaliter pallidè zonatâ, fusco-spadiceo transversim quadrifasciatâ : fasciarum maculis interdum flammæformibus aut confluentibus ; spirâ conico-acutâ, albo cinctâ ; aperturâ ovatâ, spadiceo-flammulatâ ; columellâ omninè rufo-fuscâ, subrectâ, basi obtusè emarginatâ, supernè reflexâ, suprâ umbilicum externè auctâ ; umbilico ferè tecto, intùs spadiceo.*

Operculum cartilagineum, tenuiter radiato-striatum, angulo circulari in medio notatum, luteo-fuscescens, aperturâ testæ multò minus.

Hab. "Catbalonga, island of Samar, Philippines ; under stones at low water." H. Cuming.

Long. 33 mill. ; larg. 25 mill. ; convex. 19 mill. *Ouverture* : long. exter. $29\frac{3}{4}$, inter. 26 mill. ; larg. 15 mill.

Natica Simiæ, Deshayes in Lamarck, An. s. vert. viii. p. 652. no. 45. (Lister, Conch. pl. 142. f. 36. *Ner. fasciatus è museo Oxoniensi*), *proxima, sed major, solidior, fasciis dissimilibus, columellâ omninè rufo-fuscâ differt.*

31. NATICA SEBÆ, Souleyet, Voy. Bonite, pl. 35. fig. 6, 7. optime ; Seba Mus., iii. pl. 41. f. 21. optima.

Var. β . *Testâ tenui, subepidermide stramineo, exalbida, anfractibus supernè lacteo marginatis, columellâ et umbilico rufo-fuscis.*

Operculum tenue, rubrum, longitudinaliter creberrimè transversim radiatim valdè striatum.

Hab. "St. Nicolas, island of Zebu, Philippines ; found under stones. This species is remarkable for the smallness of the operculum ; the animal covers a part of the shell when at rest." H. Cuming.

Var. β . "Loon, isle of Bohol, Philippines ; found under stones." H. Cuming.

December 26th, 1843.

No Meeting was held.

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PART XII.

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