



BIRDS,

Described by

JOHN GOULD, ESQ. F.L.S.

WITH

A NOTICE OF THEIR HABITS AND RANGES,

BY CHARLES DARWIN, Esq. M.A. F.R.S. Sec. Geolog. Soc.

AND WITH AN ANATOMICAL APPENDIX,

BY T. C. EYTON, ESQ. F.L.S.

ILLUSTRATED BY NUMEROUS COLOURED ENGRAVINGS.

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ADVERTISEMENT.

WHEN I presented my collection of Birds to the Zoological Society, Mr. Gould kindly undertook to furnish me with descriptions of the new species and names of those already known. This he has performed, but owing to the hurry, consequent on his departure for Australia,—an expedition from which the science of Ornithology will derive such great advantages,—he was compelled to leave some part of his manuscript so far incomplete, that without the possibility of personal communication with him, I was left in doubt on some essential points. Mr. George Robert Gray, the ornithological assistant in the Zoological department of the British Museum, has in the most obliging manner undertaken to obviate this difficulty, by furnishing me with information with respect to some parts of the general arrangement, and likewise on that most intricate subject,—the knowledge of what species have already been described, and the use of proper generic terms. I shall endeavour in every part of the text to refer to Mr. G. R. Gray's assistance, where I have used it. As some of Mr. Gould's descriptions appeared to me brief, I have enlarged them, but have always endeavoured to retain his specific character; so that, by this means, I trust I shall not throw any obscurity on what he considers the essential character in each case; but at the same time, I hope, that these additional remarks may render the work more complete.

The accompanying illustrations, which are fifty in number, were taken from sketches made by Mr. Gould himself, and executed on stone by Mrs. Gould, with

that admirable success, which has attended all her works. They are all of the natural size with the exception of four raptorial birds, a goose and a species of Rhea. As the dimensions of these latter birds are given, their proportional reduction will readily be seen. I had originally intended to have added the initial letter of my name to the account of the habits and ranges, and that of Mr. Gould's to the description of the genera and species; but as it may be known that he is responsible for the latter, and myself for the former, this appeared to me useless; and I have, therefore, thought it better to incorporate all general remarks in my own name, stating on every occasion my authority, so that wherever the personal pronoun is used it refers to myself. Finally, I must remark, that after the excellent dissertation, now in the course of publication, on the habits and distribution of the birds of South America by M. Alcide D'Orbigny, in which he has combined his own extended observations with those of Azara, my endeavour to add anything to our information on this subject, may at first be thought superfluous. But as during the Beagle's voyage, I visited some portions of America south of the range of M. D'Orbigny's travels, I shall relate in order the few facts, which I have been enabled to collect together; and these, if not new, may at least tend to confirm former accounts. I have, however, thought myself obliged to omit some parts, which otherwise I should have given; and, after having read the published portion of M. D'Orbigny's great work, I have corrected some errors, into which I had fallen. I have not, however, altered any thing simply because it differs from what that gentleman may have written; but only where I have been convinced that my means of observation were inferior to his.

July 1859

B I R D S.

FAMILY—VULTURIDÆ.

SARCORAMPHUS GRYPHUS. *Bonap.*

Vultur gryphus, *Linn.*

—, *Humb.* Zoolog. p. 31.

Sarcoramphus Condor, *D'Orbigny.* Voy. Ois.

Condor of the inhabitants of South America.

THE Condor is known to have a wide range, being found on the west coast of South America, from the Strait of Magellan, throughout the range of the Cordillera, as far, according to M. D'Orbigny, as 8° north latitude. On the Patagonian shore, the steep cliff near the mouth of the Rio Negro, in latitude 41°, was the most northern point where I ever saw these birds, or heard of their existence; and they have there wandered about four hundred miles from the great central line of their habitation in the Andes. Further south, among the bold precipices which form the head of Port Desire, they are not uncommon; yet only a few stragglers occasionally visit the sea-coast. A line of cliff near the mouth of the Santa Cruz is frequented by these birds, and about eighty miles up the river, where the sides of the valley were formed by steep basaltic precipices, the Condor again appeared, although in the intermediate space not one had been seen. From these and similar facts, I believe that the presence of this bird is chiefly determined by the occurrence of perpendicular cliffs. In Patagonia the Condors, either by pairs or many together, both sleep and breed on the same overhanging ledges. In Chile, however, during the greater part of the year, they haunt the lower country, near the shores of the Pacific, and at night several roost in one tree; but in the early part of summer they retire to the most inaccessible parts of the inner Cordillera, there to breed in peace.

With respect to their propagation, I was told by the country people in Chile, that the Condor makes no sort of nest, but in the months of November and December, lays two large white eggs on a shelf of bare rock. Certainly, on the Patagonian coast, I could not see any sort of nest among the cliffs, where the young ones were standing. I was told that the young Condors could not fly for a whole year, but this probably was a mistake, since M. D'Orbigny says they take to the wing in about a month and a half after being hatched. On the fifth of March (corresponding to our September), I saw a young bird at Concepcion, which, though in size only little inferior to a full-grown one, was completely covered by down, like that of a gosling, but of a blackish colour. I can, however, scarcely believe that this bird could have used, for some months subsequently, its wings for flight. After the period when the young Condor can fly, apparently as well as the old birds, they yet remain (as I observed in Patagonia) both roosting at night on the same ledge, and hunting by day with their parents: but before the young bird has the ruff round its neck white, it may often be seen hunting by itself. At the mouth of the Santa Cruz, during part of April and May, a pair of old birds might be seen every day, either perched on a certain ledge, or sailing about in company with a single young one, which latter, though full fledged, had not its ruff white.

The Condors generally live by pairs; but among the basaltic cliffs of the plains, high up the river Santa Cruz, I found a spot where scores must usually haunt. They were not shy; and on coming suddenly to the brow of the precipice, it was a fine sight to see between twenty and thirty of these great* birds start heavily from their resting place, and wheel away in majestic circles. From the large quantity of dung on the rocks, they must have long frequented this cliff; and probably they both roost and breed there. Having gorged themselves with carrion on the plains below, they retire to these favourite ledges to digest their food in quietness. From these facts, the Condor must, to a certain degree be considered, like the Gallinazo (*Cathartes atratus*), a gregarious bird. In this part of the country they live almost entirely on the guanaco, which either have died a natural death, or, as more commonly happens, have been killed by the pumas. I believe, from what I saw in Patagonia, that they do not, on ordinary occasions, extend their daily excursions to any great distance from their regular sleeping places.

The condors may oftentimes be seen at a great height, soaring over a certain spot in the most graceful spires and circles. On some occasions I am sure that they do this for their sport; but on others, the Chileno countryman tells you, that they are watching a dying animal, or the puma devouring its prey. If the condors

* I measured a specimen, which I killed there: it was from tip to tip of wing, eight and a half feet; and from end of beak to end of tail four feet.

glide down, and then suddenly all rise together, the Chileno knows that it is the puma, which, watching the carcass, has sprung out to drive away the robbers. Besides feeding on carrion, the condors frequently attack young goats and lambs. Hence the shepherds train their dogs, the moment the enemy passes over, to run out, and looking upwards, to bark violently. The Chilenos destroy and catch numbers; two methods are used: one is to place a carcass within an enclosure of sticks on a level piece of ground, and when the condors have gorged themselves to gallop up on horseback to the entrance, and thus enclose them: for when this bird has not space to run, it cannot give its body sufficient momentum to rise from the ground. The second method is to mark the trees in which, frequently to the number of five or six, they roost together, and then at night to climb up and noose them; they are such heavy sleepers, as I have myself witnessed, that this is not a difficult task. At Valparaiso I have seen a living condor sold for sixpence, but the common price is eight or ten shillings. One which I saw brought in for sale, had been lashed with a rope, and was much injured; but the moment the line was cut by which its bill was secured, it began, although surrounded by people, ravenously to tear a piece of carrion. In a garden at the same place, between twenty and thirty of these birds were kept alive; they were fed only once a week, yet they appeared to be in pretty good health.* The Chileno countrymen assert, that the condor will live and retain its powers between five and six weeks without eating: I cannot answer for the truth of this fact, but it is a cruel experiment, which very likely has been tried.

When an animal is killed in this country, it is well known that the condors, like other carrion vultures, gain the intelligence and congregate in a manner which often appears inexplicable. In most cases, it must not be overlooked, that the birds have discovered their prey, and have picked the skeleton clean, before the flesh is in the least degree tainted. Remembering the opinion of M. Audubon on the deficient smelling powers of such birds,† I tried in the above mentioned garden, the following experiment. The condors were tied, each by a rope, in a long row at the bottom of a wall. Having folded a piece of meat in white paper, I walked backwards and forwards, carrying it in my hand at the

* I noticed that several hours before any of the Condors died, all the lice with which they are infested, crawled to the outside feathers. I was told, that this always happened.

† In the case of the *Cathartes Aura*, Mr. Owen, in some notes read before the Zoological Society, (See Magazine of Nat. Hist. New Ser. vol. i. p. 638.) has demonstrated from the developed form of the olfactory nerves, that this bird must possess an acute sense of smell. It was mentioned on the same evening, in a communication from Mr. Sells, that on two occasions, persons in the West Indies having died, and their bodies not being buried till they smelt offensively, these birds congregated in numbers on the roof of the house. This instance appears quite conclusive, as it was certain, from the construction of the buildings, that they must have gained the intelligence by the sense of smell alone, and not by that of sight. It would appear from the various facts recorded, that carrion-feeding hawks possess both senses, in a very high degree.

distance of about three yards from them ; but no notice whatever was taken of it. I then threw it on the ground within one yard of an old cock bird ; he looked at it for a moment with attention, but then regarded it no more. With a stick I pushed it closer and closer, until at last he touched it with his beak : the paper was then instantly torn off with fury, and at the same moment every bird in the long row began struggling and flapping its wings. Under the same circumstances, it would have been quite impossible to have deceived a dog.

When the condors in a flock are wheeling round and round any spot, their flight is beautiful. Except when they rise from the ground, I do not recollect ever to have seen one flap its wings. Near Lima, I watched several of these birds for a quarter and half-an-hour, without once taking off my eyes. They moved in large curves, sweeping in circles, descending and ascending without once flapping. As several glided close over my head, I intently watched, from an oblique position, the separate and terminal feathers of the wing ; if there had been the least vibratory movement, their outlines would have been blended together, but they were seen distinct against the blue sky. The head and neck were moved frequently, and apparently with force. If the bird wished to descend, the wings were for a moment collapsed ; and then, when again expanded with an altered inclination, the momentum gained by the rapid descent, seemed to urge the bird upwards, with the even and steady movement of a paper kite. It was a beautiful spectacle thus to behold these great vultures hour after hour, without any apparent exertion, wheeling and gliding over mountain and river.

In the garden at Valparaiso, where so many condors were kept alive, I observed that all the hens had the iris of their eyes bright red, but the cocks yellowish-brown. In a young bird, whose back was brown, and ruff not white, (but which must have been at least nearly a year old, as it was then the spring) I observed that the eye was dark brown : upon examination after death, this proved to be a female, and therefore I suppose the colour of the iris changes at the same time with the plumage.

1. CATHARTES ATRATUS. *Rich. and Swain.*

Cathartes urubu, D'Orbigny. Voy. Ois.

Vultur atratus, Bartram, p. 287.

——— *jota*, Jardine's Wilson, vol. iii. p. 236.

———, Bonaparte's List, p. 1.

Gallinazo or Cuervo of the Spanish inhabitants of America; and Black Vulture or Carrion Crow of the English of that continent.

THESE birds, I believe, are never found further south, than the neighbourhood of the Rio Negro, in latitude 41° : I never saw one in southern Patagonia, or in Tierra del Fuego. They appear to prefer damp places, especially the vicinity of rivers; and thus, although abundant both at the Rio Negro and Colorado, they are not found on the intermediate plains. Azara* states, that there existed a tradition in his time, that on the first arrival of the Spaniards in the Plata, these birds were not found in the neighbourhood of Monte Video, but that they subsequently followed the inhabitants from more northern districts. M. Al. D'Orbigny, in reference to this statement, observes that these vultures, although common on the northern bank of the Plata, and likewise on the rivers south of it, are not found in the neighbourhood of Buenos Ayres, where the immense slaughtering establishments are attended by infinite numbers of Polybori and gulls. M. D'Orbigny supposes that their absence is owing to the scarcity of trees and bushes in the Pampas; but this view, I think, will hardly hold good, inasmuch as the country near Bahia Blanca, where the Gallinazo (together with the carrion-feeding gull) is common, is as bare, if not more so, than the plains near Buenos Ayres. I have never seen the Gallinazo in Chile; and Molina, who was aware of the difference between the *C. atratus* and *C. aura*, has not noticed it; yet, on the opposite side of the Cordillera, near Mendoza, it is common. They do not occur in Chiloe, or on the west coast of the continent south of that island. In Wilson's Ornithology it is said that "the carrion crow (as this bird is called in the United States) is seldom found on the Atlantic to the northward of Newbern, lat. 35° North Carolina." But in Richardson's "Fauna Boreali-Americana," it is mentioned, on the authority of Mr. David Douglas, that on the Pacific side of the continent, it is common on the marshy islands of the Columbia, and in the neighbourhood of Lewis's and Clark's rivers (45° — 47° N.) It has, therefore, a wider range in the northern

* Voyage dans l'Amérique Méridionale, vol. iii. p. 24.

than in the southern half of the continent. These vultures certainly are gregarious; for they seem to have pleasure in each other's society, and are not solely brought together by the attraction of a common prey. On a fine day, a flock may often be seen at a great height; each bird wheeling round and round in the most graceful evolutions. This is evidently done for their sport; or, perhaps, is connected (for a similar habit may sometimes be observed during the breeding season amongst our common rooks) with their matrimonial alliances.

2. CATHARTES AURA. *Ill.*

Vultur aura, *Linn.*

—, *Jardine's Wilson*, vol. iii. p. 226.

Vultur jota, *Molina*, Compendio de la Hist. del Reyno de Chile, vol. i. p. 296.

Turkey-buzzard and Carrion Crow of the English in America.

THIS bird has a wide geographical range, being found from 55° S. to Nova Scotia (according to Wilson, in Jardine's edition, vol. iii. p. 231,) in 45° N.; or exactly one hundred degrees of latitude. Its lesser range in Northern than in Southern America is probably due to the more excessive nature of the climate in the former hemisphere. It is said to be partly migratory during winter, in the Northern and even in the Middle States, and likewise on the shores of the Pacific. The *C. aura* is found in the extreme parts of Tierra del Fuego, and on the indented coast, covered with thick forests, of West Patagonia, (but not on the arid plains of Eastern Patagonia,) in Chile, where it is called Jote, in Peru, in the West Indies; and, according to Wilson, it remains even during winter, in New Jersey and Delaware, latitude 40°. It and one of the family of Polyborinæ are the only two carrion-feeding hawks, which have found their way to the Falkland Islands. The Turkey buzzard, as it is generally called by the English, may be recognized at a great distance from its lofty, soaring and most graceful flight. It is generally solitary, or, at most, sweeps over the country in pairs. In Tierra del Fuego, and on the west coast of Patagonia, it must live exclusively on what the sea throws up, and on dead seals: wherever these animals in herds were sleeping on the beach, there this vulture might be seen, patiently standing on some neighbouring rock. At the Falkland Islands it was tolerably common; but sometimes there would not be a single one near the settlement for several days together, and then many would suddenly appear. They were usually shy; a disposition which is remarkable, as being different from that of almost every other bird in this Archipelago. May we infer from this that they are migratory, like those of the northern hemisphere? In a female specimen killed there, the skin of the head was intermediate in colour between

"scarlet and cochineal red,"* and the iris dark-coloured. D'Orbigny describes the iris as being bright scarlet; whilst Azara says it is "jauné léger." Is this difference owing to the sex and age, as certainly is the case with the condors? As a considerable degree of confusion has prevailed in the synonyms of this and the foregoing species, caused apparently by a doubt to which of them Molina applied the name of *Jote*, I would wish to call attention to the fact, that at the present time the *C. aura* in Chile goes by the name of *Jote*. Moreover, I think Molina's description by itself might have decided the question; he says, the head of the *Vultur jota* is naked, and covered only with a wrinkled and reddish (roxiza) skin.

FAMILY—FALCONIDÆ.

SUB-FAM. POLYBORINÆ, *Swains.*

(Caracaridæ, D'Orbigny.)

POLYBORUS BRASILIENSIS. *Swains.*

Polyborus vulgaris, *Vieillot.*

Falco Brasiliensis Anctorum; Caracara of Azara; Tharu of Molina; and Carrancha of the inhabitants of La Plata.

THIS is one of the commonest birds in South America, and has a wide geographical range. It is found in Mexico and in the West Indies. It is also, according to M. Audubon, an occasional visitant to the Floridas; it takes its name from Brazil, but is no where so common as on the grassy savannahs of La Plata. It generally follows man, but is sometimes found even on the most desert plains of Patagonia: in the northern part of that region, numbers constantly attended the line of road between the Rio Negro and the Colorado, to devour the carcasses of the animals which chanced to perish from fatigue. Although abundant on the open plains of this eastern portion of the continent, and likewise on the rocky and barren shores of the Pacific, nevertheless it inhabits the borders of the damp and impervious forests of Tierra del Fuego and of the broken coast of West Patagonia, even as far south as Cape Horn. The Carranchas (as the *Polyborus Brasiliensis* is called in La Plata) together with the *P. chimango*†, attend in great numbers the estancias and slaughtering houses in the neighbourhood of the Plata. If an

* In this work, whenever the particular name of any colour is given, or it is placed within commas, it implies, that it is taken from comparison with Patrick Syme's edition of Werner's Nomenclature of Colours.

† *Mitayo Chimango* of this work.

animal dies in the plain, the *Cathartes atratus* or Gallinazo commences the feast, and then these two carrion-feeding hawks pick the bones clean. Although belonging to closely allied genera, and thus commonly feeding together, they are far from being friends. When the Carrancha is quietly seated on the branch of a tree, or on the ground, the Chimango often continues flying backwards and forwards for a long time, up and down in a semicircle, trying each time, at the bottom of the curve, to strike its larger relative. The Carrancha takes little notice, except by bobbing its head. Although the Carranchas frequently assemble in numbers, they are not gregarious; for in desert places they may be seen solitary, or more commonly by pairs. Besides the carrion of large animals, these birds frequent the borders of streams and the sea-beach, for the sake of picking up whatever the waters may cast on shore. In Tierra del Fuego, and on the west coast of Patagonia, they must live almost exclusively on this last means of supply.

The Carranchas are said to be very crafty, and to steal great numbers of eggs; they attempt also, together with the Chimango, to pick the scabs off the sore backs of both horses and mules. On the one hand, the poor animal, with its ears down and its back arched; and, on the other, the hovering bird, eyeing at the distance of a yard, the disgusting morsel, form a picture which has been described by Captain Head with his own peculiar spirit and accuracy. The Carranchas kill wounded animals; but Mr. Bynoe (the surgeon of the Beagle) saw one seize in the air a live partridge, which, however, escaped, and was for some time chased on the ground. I believe this circumstance is very unusual: at all events there is no doubt that the chief part of their sustenance is derived from carrion. A person will discover their *necrophagous* habits by walking out on one of the desolate plains, and there lying down to sleep: when he awakes, he will see on each surrounding hillock, one of these birds patiently watching him with an evil eye. It is a feature in the landscape of these countries, which will be recognised by every one who has wandered over them. If a party goes out hunting with dogs and horses, it will be accompanied during the day, by several of these attendants. The uncovered craw of the Carrancha, after feeding, protrudes from its breast; at such times it is, and indeed generally, an inactive, tame, and cowardly bird. Its flight is generally heavy and slow, like that of the English carrion crow, whose place it so well supplies in America. It seldom soars; but I have twice seen one at a great height gliding through the air with much ease. It runs (in contradistinction to hopping), but not quite so quickly as some of its congeners. At times the Carrancha is noisy, but is not generally so; its cry is loud, very harsh and peculiar, and may be compared to the sound of the Spanish guttural *g*, followed by a rough double *rr*. Perhaps the Spaniards of Buenos Ayres, from this cause, have called it Carrancha. Molina, who says it is called Tharu in Chile, states, that when uttering this cry, it elevates its head

higher and higher, till at last, with its beak wide open, the crown almost touches the lower part of the back. This fact, which has been doubted, is true; for I have myself several times seen them with their heads backwards, in a completely inverted position. The Carrancha builds a large coarse nest, either in a low cliff, or in a bush or lofty tree. To these observations I may add, on the high authority of Azara, whose statements have lately been so fully confirmed by M. D'Orbigny, that the Carrancha feeds on worms, shells, slugs, grasshoppers, and frogs; that it destroys young lambs by tearing the umbilical cord: and that it pursues the Gallinazos and gulls which attend the slaughtering-houses, till these birds are compelled to vomit up any carrion they may have lately gorged. Lastly, Azara states that several Carranchas, five or six together, will unite in chase of large birds, even such as herons. All these facts show that it is a bird of very versatile habits and considerable ingenuity.

I am led to suppose that the young birds of this species sometimes congregate together. On the plains of Santa Cruz (lat. 50° S. in Patagonia), I saw in the month of April, or early autumn, between twenty and thirty Polybori, which I at first thought would form a species distinct from *P. Brasiliensis*. Amongst those I killed, there were some of both sexes; but the ovary in the hens was only slightly granular. The plumage of the different individuals was nearly similar; and in none appeared like that of an adult bird, although certainly not of a very young one. Having mentioned these circumstances to Mr. Gould, he likewise suspected it would form a new species; but the differences appear so trifling between it and the specimens of young birds in the British Museum and in the Museum of the Zoological Society, and likewise of the figure of a young bird given by Spix, (*Avium Species Novæ*, vol. i. p. 3.), that I have thought it advisable merely to allude to the circumstance. In my specimen, which is a cock, the head, instead of being of a dark brown, which is the usual character of even very immature birds, is of a pale rusty brown. The bill and cere are less produced than in the adult *P. Brasiliensis*; and the cere is of a brighter colour, than what appears to be usual in the young of this species. In other respects there is such a perfect similarity between them, that I do not hesitate to consider my specimen as a young bird of the *P. Brasiliensis* in one of its states of change;—and to be subject to great variation of plumage during growth, is known to be a character common to the birds of this sub-family. It may, however, possibly be some variety of the *P. Brasiliensis*, for this bird seems subject to variation: Azara (*Voyage dans l'Amérique Méridionale*, vol. iii. p. 35.) remarks, "Il y a des individus dont les teintes sont plus faibles, ou d'un brun pâle, avec des taches sur la poitrine, et d'autres qui ont des couleurs plus foncées; j'ai décrit ceux qui tiennent le milieu entre les uns et les autres."

I have myself more than once observed a single very pale-coloured bird, in

form like the *P. Brasiliensis*, mingled with the other carrion-feeding hawks on the banks of the Plata; and there is now in the British Museum a specimen, which may be considered as partly an albino. Spix, on the other hand, (*Avium Species Novæ*, p. 3.) has described some specimens from the coast of Brazil, as being remarkable from the darkness of the plumage of their wings.

MILVAGO, Spix.

Several new genera have lately been established to receive certain species of the sub-family of *Polyborinæ*, and consequently great confusion exists in their arrangement. Mr. George R. Gray has been kind enough to give me the following observations, by which it appears he has clearly made out, that Spix's genus *Milvago*, is that which ought to be retained. M. D'Orbigny has made two sections in the genus *Polyborus*, according as the craw is covered with feathers, or is naked, and he states that the *P. Brasiliensis* is the only species which comes within the latter division; but we shall afterwards see that the *Falco Novæ Zelandiæ*, Auct. (the *Milvago leucurus* of this work) has a naked craw, which is largely protruded after the bird has eaten. M. D'Orbigny has also instituted the genus *Phalcobænus*, to receive a bird of this sub-family, with the following characters:

“Bec fortement comprimé, sans aucune dent ni sinus, à commissure très-arquée à son extrémité; cire allongée et droite; un large espace nu entourant la partie antérieure et inférieure de l'œil, et s'étendant sur toute la mandibule inférieure; tarses emplumés sur un tiers de leur longueur, le reste réticulé; doigts longs, semblables à ceux des gallinacés, terminés par les ongles longs, déprimés et élargis, très-peu arqués, toujours à extrémité obtuse ou fortement usée; ailes de la famille, la troisième penne plus longue que les autres.”

Mr. George R. Gray, however, has pointed out to me that Spix, (in his *Avium Species Novæ*) ten years since, made a division in this sub-family, from the rounded form of the nostril of one of the species, namely, the *M. ochrocephalus* of his work, or the *Chimachima* of Azara. And Mr. Gray thinks, that all the species may be grouped much more nearly in relation to their affinities by this character, than by any other: he further adds;—“The only difference which I can discover between this latter genus (*Milvago*), and D'Orbigny's (*Phalcobænus*), is, that in the latter the bill is rather longer, and not quite so elevated in the culmen as in the former; and these characters must be considered too trivial for the foundation of a generic division. I, therefore, propose to retain Spix's genus, *Milvago*, for all those *Polyborinæ* which possess rounded nostrils with

an elevated bony tubercle in the centre. They were once considered to form three distinct genera, viz.—*Milvago*, *Spix*. (*Polyborus*, *Vieill.* *Haliaëtus*, *Cuv.* *Aquila*, *Meyen*.)—*Senex*, *Gray*. (*Circaëtus*, *Less.*)—*Phalcobænus*, *D'Orb.* but a careful comparison of the several species, shows a regular gradation in structure from one to the other, which induces me to consider them as only forming two sections of one genus. Those which have the bill short, with the culmen arched, and are of small size, slender form, and with the tarsi rather long and slender, are—

1. *Milvago ochrocephalus*, *Spix*.

Polyborus chimachima; *Vieill.* (young).

Falco degener, *Licht.*

Haliaëtus chimachima, *Less.*

2. *Milvago pezoporos*, *nob.*

Aquila pezopora, *Meyen*.

3. *Milvago chimango*, *n.*

Polyborus chimango, *Vieill.*

Haliaëtus chimango, *Less.*

Those which have a buteo-like appearance, and with rather short and stout tarsi, are,

7. *Milvago leucurus*, *n.*

Falco leucurus, *Forster's* Drawings No. 34.

Falco Novæ Zelandiæ, *Gm.*

— *Australis*, *Lath.*

Circaëtus antarcticus, *Less.*

8. *Milvago albogularis*, *n.*

Polyborus (*Phalcobænus* ?) *albogularis*, *Gould.*

9. *Milvago montanus*, *n.*

Phalcobænus montanus, *D'Orbig.*

10. *Milvago megalopterus*, *n.*

Aquila megaloptera, *Meyen.*

1. MILVAGO PEZOPOROS.

Aquila pezopora, *Meyen*. Nov. Act. Phys. Med. Acad. Cæs. Leo. Car. Nat. Cur. suppl. 1834. p. 62. pl. VI.

I obtained two specimens of this bird, one from Port Desire, in Patagonia, and another at the extreme southern point of Tierra del Fuego. *Meyen** describes it as common on the plains of Chile, and on the mountains to an elevation of 4000 or 5000 feet. As M. D'Orbigny does not notice this species, I presume it is not found on the Atlantic side of the continent, so far north as the Rio Negro, where he resided for some time. The habits and general appearance of *M. chimango* and this bird are so entirely similar, that

* *Novorum Actorum Academiae Cæsariæ, Leopold. vol. xvi. p. 62. Observations Zoologiques, F. J. Meyenii.*

I did not perceive that the species were different; hence I cannot speak with certainty of their range, but it would appear probable that the *M. pezoporus* replaces in Chile, Tierra del Fuego and Southern Patagonia the *M. chimango* of La Plata. In the same manner the *M. chimango* is replaced between the latitudes of Buenos Ayres and Corrientes by a third closely allied species, the *M. ochrocephalus*. D'Orbigny, (p. 614, in the Zoological part of his work) speaking of the Chimango, says, "Il n'est pas étonnant qu'on ait long-temps confondu cette espèce avec le *fulco degener*, Illiger, (the *M. ochrocephalus*) et qu'on l'ait cru de sa famille. Il est impossible de présenter plus de rapports de forme et surtout de couleur. Nous les avons, nous-même confondus au premier abord; mais, en remarquant, ultérieurement, que le sujet que nous regardions comme le mâle ne se trouvait qu'à Corrientes, tandis qu'il y avait seulement des femelles sur les rives de la Plata, l'étude plus attentive des mœurs de ces oiseaux, et les localités respectives qu'habite chacun d'eux, ne tarda pas à nous y faire reconnaître, avec Azara, deux espèces vraiment très-distinctes; mais qui, depuis, ont encore été confondues, sous la même nom, par M. la Prince Maximilien de Neuwied.*" I may observe that the figure given in Meyen's work, has the iris coloured bright red, instead of which it should have been brown.

2. MILVAGO CHIMANGO.

Polyborus chimango, Vieill.

Haliaëtus chimango, Less.

Chimango, Azar. Voyage, vol. iii. p. 35.

My specimen was obtained at Maldonado, on the banks of the Plata. In the following short account of the habits of this bird, it must be understood that I have confounded together, the *M. chimango* and the *M. pezoporus*; but I am certain that almost every remark is applicable to both species. From what has been said under the last head, it may be inferred, that both of these allied birds have comparatively limited ranges, compared with that of the *P. Brasiliensis*. Azara says the Chimango (and he first distinguished this species from the *M. ochrocephalus*, or *M. chimachima*) is rarely found so far north as Paraguay. D'Orbigny saw the Chimango (*M. pezoporus*?) at Arica in lat. 16°, and I killed the *M. pezoporus* in the extreme southern point of America, in lat. 55° 30' south.

The Chimango, in La Plata, lives chiefly on carrion, and generally is the last bird of its tribe which leaves the skeleton, and hence it may frequently be seen standing within the ribs of a cow or horse, like a bird in a cage. The Chimango often frequents the sea-coast and the borders of lakes and swamps, where it picks up small fish. It is truly omnivorous, and will eat even bread, when thrown out

* Tom. iii. p. 162.

of a house with other offal. I was also assured that in Chiloe, these birds (probably in this district the *M. pezoporus*) materially injure the potato crops, by stocking up the roots when first planted. In the same island, I saw them following by scores the plough, and feeding on worms and larvæ of insects. I do not believe that they kill, under any circumstances, even small birds or animals. They are more active than the Carranchas, but their flight is heavy; I never saw one soar; they are very tame; are not gregarious; commonly perch on stone walls, and not upon trees. They frequently utter a gentle, shrill scream.

3. *MILVAGO LEUCURUS*.

Falco leucurus, *Forster's Drawings*, No. 34. MS.

— *Novæ Zelandiæ*, *Gm.*

— *australis*, *Lath.*

Circæetus antarcticus, *Less.*

It will be observed in the above list of synonyms, which I have given on the authority of Mr. G. R. Gray, that this bird, although possessing well marked characters, has received several specific names. Mr. Gray's discovery of Forster's original drawing with the name *F. leucurus* written on it, I consider very fortunate, as it was indispensable that the names by which it is mentioned in most ornithological works, namely, *Falco* or *Polyborus Novæ Zelandiæ*, should be changed. There is not, I believe, the slightest reason for supposing that this bird has ever been found in New Zealand. All the specimens which of late years have been brought to England have come from the Falkland Islands, or the extreme southern portion of South America. The sub-family, moreover, to which it belongs, is exclusively American; and I do not know of any case of a land bird being common to this continent and New Zealand. The origin of this specific name, which is so singularly inappropriate, as tending to perpetuate a belief which would form a strange anomaly in the geographical distribution of these birds, may be explained by the circumstance of specimens having been first brought to Europe by the naturalists during Captain Cook's second voyage, during which New Zealand was visited, and a large collection made there. In the homeward voyage, however, Cook anchored in Christmas Sound, in Tierra del Fuego, and likewise in Staten Land: describing the latter place he says, "I have often observed the *eagles* and *vultures* sitting on the hillocks among the shags, without the latter, either young or old, being disturbed at their presence. It may be asked how these birds of prey live? I suppose on the carcasses of seals and birds, which die by various causes; and probably not few, as they are so numerous." From this description I entertain very little doubt that Cook referred to the *Cathartes aura* and *Milvago leucurus*, both of which birds inhabit these latitudes, as we shall hereafter show.

The plumage in the two sexes of this species differs in a manner unusual in the family to which it belongs. The description given in all systematic works is applicable, as I ascertained by dissection, only to the old females; namely, back and breast black, with the feathers of the neck having a white central mark following the shaft,—tectrices, with a broad white band at extremity; thighs and part of the belly rufous-red; beak "ash gray," with cere and tarsi "Dutch orange."

MALE of smaller size than female: dark brown; with tail, pointed feathers of shoulders and base of primaries, pale rusty brown. On the breast, that part of each feather which is nearly white in the female, is pale brown: bill black, cere white, tarsi gray. As may be inferred from this description, the female is a much more beautiful bird than the male, and all the tints, both of the dark and pale colours, are much more strongly pronounced. From this circumstance, it was long before I would believe that the sexes were as here described. But the Spaniards, who are employed in hunting wild cattle, and who (like the aboriginal inhabitants of every country) are excellent practical observers, constantly assured me that the small birds with gray legs were the males of the larger ones with legs and cere of an orange colour, and thighs with rufous plumage.

The YOUNG MALE can only be distinguished from the adult bird by its beak not being so black, or cere so white; and likewise in a trifling difference of plumage, such as in the markings of the pointed feathers about the head and neck, being more like those of the female than of the old cock. One specimen, which I obtained at the Falkland Islands, I suppose is a one-year-old female; but its organs of generation were smooth: in size larger than the male; the tail dark brown, with the tip of each feather pale colour, instead of being almost black with a white band; under tail-coverts dark brown, instead of rufous; thighs only partly rufous, and chiefly on the inner sides; feathers on breast and shoulder like those of male, with part near shaft brown; those on back of head with white, like those of adult females. Beak, lower mandible gray, upper black and gray (in the old female the whole is pale gray); the edge of cere and the soles of the feet orange, instead of the whole of the cere, tarsi, and toes being thus coloured. The circumstance of the young birds of, at least, one year and a half old, as well as of the adult males, being brown coloured, will, I believe, alone account for the singular fewness of the individuals with rufous thighs, a fact which at first much surprised me.

The *Mitago leucurus* is exceedingly numerous at the Falkland Islands, and, as an old sealer who had long frequented these seas remarked to me, this Archipelago appears to be their metropolis. I was informed, by the same authority, that they are found on the Diego Ramirez Rocks, the Il Defonso islands, and on some others, but never on the mainland of Tierra del Fuego. This statement I can corroborate to a certain degree, since I never saw one in the southern part of



Milvago albogularis.



Grazirix Galapagoensis.



Otus Galapagoensis.



Strix punctatissima



Progne modestus.



Pyrocephalus parvirostris.



Pyrrocephalus nanus

Box. Pl. 8



Tyrannula magnirostris.



Lichenops erythropterus



Fluvicola Azara

No. 119

L. Nichols

No. II. OF PART III.]

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THE
ZOOLOGY
OF
THE VOYAGE OF H.M.S. BEAGLE,

UNDER THE COMMAND OF CAPTAIN FITZROY, R.N.,

DURING THE YEARS

1832 TO 1836.

PUBLISHED WITH THE APPROVAL OF
THE LORDS COMMISSIONERS OF HER MAJESTY'S TREASURY.

Edited and Superintended by

CHARLES DARWIN, ESQ. M.A. SEC. G.S.

CORRESPONDING MEMBER OF THE ZOOLOGICAL SOCIETY,

AND NATURALIST TO THE EXPEDITION.

BIRDS,
BY
JOHN GOULD, ESQ. F.L.S. ETC.
WITH A NOTICE OF THEIR HABITS AND RANGES,
BY CHARLES DARWIN, ESQ.

LOND
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VI.

Jan.

STEWART AND MURDOCH

BAILEY.

There are also a few *Falkland Birds*, which were twice visited during our voyage. They are not found on any of the other antarctic islands. In many respects these birds were exactly comparable in their habits to the *P. Booby*. They fed almost wholly on food animals, and on marine productions. On the islands there was much seaweed vegetation, and therefore no land animals; therefore the birds were most depend upon the sea. At the Falkland Islands they were occasionally attracted to the shore, and constantly hunted the neighbourhood of the houses to pick up all kinds of refuse. If a halting party of the crew killed a beast, these birds immediately congregated from all quarters of the territory and standing on the ground in a circle, they patiently waited until the first to commence. After eating their share they soon had a largely portly, giving them a disgusting appearance. I mention this particularly, because Mr. DODD says that the *P. Booby* is the only bird of this family in which the crop is much developed. They readily attack wounded birds; one of the officers of the *Beagle* told me he saw a specimen in this state lying on the shore, where several of these birds immediately rushed upon it, and devoured it with their repeated blows. I have been told that several have been used to wait together at the mouth of a rabbit hole, and seize on the rabbit as it comes out. This is acting on a principle of greed, which is sufficiently remarkable in birds of prey; but which is in strict conformity with the fact stated by AGASSIZ, namely, that several *Cathartides* wait together in pursuit of large birds, even such as herons.

The *Beagle* was at the Falkland Islands only during the early summer (March), but the officers of the *Atrevida*, who were there in the winter, mentioned many extraordinary instances of the boldness and rapacity of these birds. The sportsmen had difficulty in preventing the wounded game from being seized before their eyes; and often, when having cautiously looked round, they thought they had succeeded in killing a fine bird in some crevice of the rocks, or their return they found, when intending to pick up their game, nothing but feathers. One of these hunters recounted on a dog which was lying asleep close by a party, who were out shooting; and they repeatedly flew on toward the vessel lying in the harbour, so that it was necessary to keep a good lookout to prevent the birds from shooting the ropes, being torn from the rigging, and the mast or gunwale from their sails. They are very mischievous and inquisitive; and they will pick up almost anything from the ground: a large black glass hat was carried nearly a mile, or was a pair of heavy boots, used by rowing out with. On the *Atrevida* once, during the survey, a heavy loss, in a small *Kater's* engine, in a short time, which was never recovered. These birds are voracious and extremely poisonous; it was common to behold them when they were coming up the grass with their bills from rage. They are not true

Tierra del Fuego, near Cape Horn, which was twice visited during our voyage. They are not found on Georgia, or on the other antarctic islands. In many respects these hawks very closely resemble in their habits the *P. Brasiliensis*. They live on the flesh of dead animals, and on marine productions. On the Ramirez Rocks, which support no vegetation, and therefore no land-animals, their entire sustenance must depend upon the sea. At the Falkland Islands they were extraordinarily tame and fearless; and constantly haunted the neighbourhood of the houses to pick up all kinds of offal. If a hunting party in the country killed a beast, these birds immediately congregated from all quarters of the horizon; and standing on the ground in a circle, they patiently awaited for their feast to commence. After eating, their uncovered craws are *largely* protruded, giving to them a disgusting appearance. I mention this particularly, because M. D'Orbigny says that the *P. Brasiliensis* is the only bird of this family in which the craw is much developed. They readily attack wounded birds; one of the officers of the Beagle told me he saw a cormorant in this state fly to the shore, where several of these hawks immediately seized upon it, and hastened its death by their repeated blows. I have been told that several have been seen to wait together at the mouth of a rabbit hole, and seize on the animal as it comes out. This is acting on a principle of union, which is sufficiently remarkable in birds of prey; but which is in strict conformity with the fact stated by Azara, namely, that several Carranchas unite together in pursuit of large birds, even such as herons.

The Beagle was at the Falkland Islands only during the early autumn (March), but the officers of the Adventure, who were there in the winter, mentioned many extraordinary instances of the boldness and rapacity of these birds. The sportsmen had difficulty in preventing the wounded geese from being seized before their eyes; and often, when having cautiously looked round, they thought they had succeeded in hiding a fine bird in some crevice of the rocks, on their return, they found, when intending to pick up their game, nothing but feathers. One of these hawks pounced on a dog which was lying asleep close by a party, who were out shooting; and they repeatedly flew on board the vessel lying in the harbour, so that it was necessary to keep a good look-out to prevent the hide used about the ropes, being torn from the rigging, and the meat or game from the stern. They are very mischievous and inquisitive; and they will pick up almost anything from the ground: a large black glazed hat was carried nearly a mile, as was a pair of heavy balls, used in catching wild cattle. Mr. Osborne experienced, during the survey, a severe loss, in a small Kater's-compass, in a red morocco case, which was never recovered. These birds are, moreover quarrelsome, and extremely passionate; it was curious to behold them when, impatient, tearing up the grass with their bills from rage. They are not truly

gregarious; they do not soar, and their flight is heavy and clumsy. On the ground they run with extreme quickness, putting out one leg before the other, and stretching forward their bodies, very much like pheasants. The sealers, who have sometimes, when pressed by hunger, eaten them, say that the flesh when cooked is quite white, like that of a fowl, and very good to eat—a fact which I, as well as some others of a party from the Beagle, who, owing to a gale of wind, were left on shore in northern Patagonia, until we were very hungry, can answer for, is far from being the case with the flesh of the Carrancha, or *Polyborus Brasiliensis*. It is a strange anomaly that any of the *Falconiæ* should possess such perfect powers of running as is the case with this bird, and likewise with the *Phalcobæus montanus* of D'Orbigny. It perhaps, indicates an obscure relationship with the Gallinaceous order—a relation which M. D'Orbigny suggests is still more plainly shown in the Secretary Bird, which he believes represents in Southern Africa, the *Polyborinæ* of America.

The *M. leucurus* is a noisy bird, and utters several harsh cries; of which, one is so like that of the English rook, that the sealers always call it by this name. It is a curious circumstance, as shewing how, in allied species, small details of habit accompany similar structure, that these hawks throw their heads upwards and backwards, in the same strange manner, as the Carranchas (the Tharu of Molina) have been described to do. The *M. leucurus*, builds on the rocky cliffs of the sea-coast, but (as I was informed) only on the small outlying islets, and never on the two main islands: this is an odd precaution for so fearless a bird.

4. MILVAGO ALBOGULARIS.

PLATE I.

Polyborus, (*Phalcobæus*) *albogularis*, *Gould*, *Proceedings of Zoolog. Soc. Part V.* (Jan. 1837.) p. 9.

M. Fæm. fuscescenti-niger, marginibus plumarum inter scapulas fulvis; primariis secundariisque albo ad apicem notatis; guld, pectore, corporeque subtilis albis; lateribus fusco sparsis; rostro livido, lineis nigris ornato; cera tarsisque flavis.

LONG, tot. 20 unc. $\frac{1}{2}$; rostri, $1\frac{1}{2}$; alas, $15\frac{3}{4}$; caudæ, 9; tarsi, 3.

Description of female specimen, believed to be applicable to both sexes.

COLOUR.—Head, back, upper wing coverts pitch black, passing into liver brown; feathers on back of neck and shoulders terminating in a yellowish-brown tip, of which tint the external portion of the primaries, and nearly the whole of the tertiaries partake. Tail liver brown, with a terminal white band nearly one inch broad; base of the tectrices white, irregularly marked with brown: upper tail coverts white. All the feathers of the wing

tipped with white, their bases irregularly barred with transverse marks of brown and white. *Under surface*.—Chin, throat, breast, belly, thighs, under tail-coverts, under lining of wings, and edge of shoulders perfectly white. On the flanks, however, there are some brown feathers irregularly interspersed; and on the lower part of the breast, most of the feathers show a most obscure margin of pale brown. Bill horn-colour. Cere and tarsi yellow.

FORM.—Cere and nostril as in the *M. Leucurus*, but the bill not quite so strong. Feathers on the sides and back of head narrow and rather stiff; those on the shoulders obtusely pointed,—which character of plumage is very general in this sub-family. Wing: fourth primary very little longer than the third or the fifth, which are equal to each other. First primary three inches shorter than the fourth or longest, and more nearly equal to the sixth than to the seventh. Extremity of wing reaching to within about an inch and a half of the tail. Tarsi reticulated, with four large scales at the base: upper part covered with plumose feathers for about three quarters of an inch below the knee; but these feathers hang down and cover nearly half of the leg. Middle toe with fifteen scales, outer ones with about nine. Claws of nearly the same degree of strength, curvature and breadth as in *Polyborus Brasiliensis*, or in *M. leucurus*, but sharper than those of the latter.

	Inch.		Inch.
Total length	20½	Hind claw measured in straight line from	
Tail	9	tip to root	½
Wings when folded	15½	Claw of middle toe, a twentieth less than that	
From tip of beak to anterior edge of eye	½	of the hind one.	
Tarsus from soles of feet to knee joint	3½		

Habitat, Santa Cruz, 50° S. Patagonia. (*April*.)

Mr. Gould, at the time of describing this species, entertained some doubts whether it might not eventually prove to be the *Phalcoænus montanus* of D'Orbigny, in a state of change. I have carefully compared it with the description of the *P. montanus*, and certainly, with the exception of the one great difference of *M. albogularis* having a white breast, whilst that part in the *P. montanus* is black, the points of resemblance are numerous and exceedingly close. The *M. albogularis*, appears to be rather larger, and the proportional length of the wing feathers are slightly different; the cere and tarsi are not of so bright a colour; the middle toe has fifteen scales on it instead of having sixteen or seventeen. The black shades of the upper surface are pitchy, instead of having an obscure metallic gloss, and the feathers of the shoulders are terminated with brown, so as to form a collar, which is not represented in the figure of

P. montanus, given by M. D'Orbigny. Although the main difference between the two birds, is the colour of their breasts, yet it must be observed, that in the *M. albogularis* there is some indication of an incipient change from white to brown in the plumage of that part. But as M. D'Orbigny, who was acquainted with the young birds of the *P. montanus*, (of which he has given a figure), does not mention so remarkable a modification in its plumage, as must take place on the supposition of *M. albogularis* being an immature bird of that species; and as the geographical range of the two is so very different, I am induced to consider them distinct. Moreover, on the plains of Santa Cruz, I saw several birds, and they appeared to me similar in their colouring. The *M. albogularis* is remarkable from the confined locality which it appears to frequent. A few pair were seen during the ascent of the river Santa Cruz, (Lat. 50° S.) to the Cordillera; but not one individual was observed in any other part of Patagonia. They appeared to me to resemble, in their gait and manner of flight, the *P. Brasiliensis*; but they were rather wilder. They lived in pairs, and generally were near the river. One day I observed a couple standing with the Carranchas and *M. pezoporos*, at a short distance from the carcass of a guanaco, on which the condors had commenced an attack. These peculiarities of habit are described by M. D'Orbigny in almost the same words, as occurring with the *P. montanus*; both birds frequent desert countries; the *P. montanus*, however, haunts the great mountains of Bolivia, and this species, the open plains of Patagonia.

In the valleys north of 30° in Chile, I saw several pair, either of this species, or of the *P. montanus* of D'Orbigny, (if, as is probable, they are different) or of some third kind. From the circumstance of its not extending (as I believe) so far south even as the valley of Coquimbo, it is extremely improbable that it should be the *M. albogularis*,—an inhabitant of a plain country twenty degrees further south. On the other hand, the *P. montanus* lives at a great elevation on the mountains of Upper Peru; and therefore it is probable that it might be found in a higher latitude, but at a less elevation. M. D'Orbigny says, "Elle aime les terrains secs et dépourvus de grands végétaux, qui lui seraient inutiles; car il nous est prouvé qu'elle ne se perche pas sur les branches." In another part he adds, "Elle descend cependant quelquefois jusque près de la mer, sur la côte du Pérou, mais ce n'est que pour peu de temps, et peut-être afin d'y chercher momentanément une nourriture qui lui manque dans son séjour habituel; peut-être aussi la nature du sol l'y attire-t-elle; car elle y trouve les terrains arides qui lui sont propres."* This is so entirely the character of the northern parts of Chile, that, it appears to me extremely probable, that the *P. montanus*, which inhabits the great mountains of Bolivia, descends, in Northern Chile, to near the shores of the Pacific; but that further

* Voyage dans l'Amerique Meridionale Partie, Oiseaux, p. 52.

south, and on the opposite side of the Cordillera, it is replaced by an allied species,—the *M. albogularis* of Santa Cruz.

5. MILVAGO MEGALOPTERUS.

Aquila megaloptera, *Meyen*, Nov. Act. Acad. Cass. Suppl. 1834, p. 64. Pl. VIII.

When ascending the Desplado, a branch of the valley of Copiapó in Northern Chile, I saw several brown-coloured hawks, which at the time appeared new to me, but of which I did not procure a specimen. These I have no doubt were the *A. megaloptera* of Meyen. In the British Museum there is a specimen, brought from Chile by Mr. Crawley. Mr. G. R. Gray suspects that this bird may eventually prove to be the young of the *Phalcobæus montanus* of D'Orbigny, and as I saw that bird (or another species having a close general resemblance with it) in the valleys of Northern Chile, although not in the immediate vicinity, this supposition is by no means improbable. Meyen's figure at first sight appears very different from that of the young of the *P. montanus*, given by M. D'Orbigny, for in the latter the feathers over nearly the whole body are more distinctly bordered with a pale rufous shade, the thighs barred with the same, and the general tint is of a much redder brown. But with the exception of these differences, which are only in degree, I can find in M. D'Orbigny's description no other distinguishing character, whilst on the other hand, there are numerous points of close resemblance between the two birds in the shadings, and even trifling marks of their plumage. Meyen, moreover, in describing the habits of his species, says, it frequents a region just below the limit of perpetual snow, and that it sometimes soars at a great height like a condor. Those which I saw had the general manners of a *Polyborus* or *Milvago*, and were flying from rock to rock amongst the mountains at a considerable elevation, but far below the snow-line. In these several respects, there is a close agreement with the habits of the *P. montanus*, as described by M. D'Orbigny. I will only add that the specimen in the British Museum appeared, independently of differences of plumage, distinct from the *M. albogularis* of Patagonia, from the thinness and greater prolongation of its beak, and the slenderness of its tarsi.

SUB-FAM.—BUTEONINÆ.

CRAXIREX. Gould.

Rostrum Buteonis sed longius; mandibulæ superioris margo rectus; versus apicem subitò incurvus. Alæ elongatæ. Cera lata. Nares ferè rotundæ, apertæ. Tarsi mediocres, anticè squamis tecti. Digni magni, fortes; unguis obtusæ.

MR. GOULD was partly led to institute this genus from the facts communicated to him by me regarding the habits of the following species, which is found in the Galapagos Archipelago, and there supplies the place of the Polybori and Milvagine of the neighbouring continent of America. If a principle of classification founded on habits alone, were admissible, this bird, as will presently be shown, undoubtedly would be ranked with more propriety in the sub-family of Polyborinæ, than amongst the Buzzards. To the latter it is closely related in the form of its nostrils; in the kind of plumage which covers the head, breast, and shoulders; in the reticulation of the scales on its feet and tarsi, and less closely in the form of its beak. To the Polyborinæ it manifests an affinity in the great strength and length of its toes and claws, and in the bluntness of the latter; in the nakedness of the cere, in the perfectly uncovered nostrils, in the prolongation and bulk of the bill, in the straightness of the line of commissure, and in the narrow shape of the head. In these several respects, taken conjointly with its habits, this bird supplies a most interesting link in the chain of affinities, by which the true buzzards pass into the great American sub-family of carrion-feeding hawks. I am, indeed, unable to decide, whether I have judged rightly in placing this genus, as first of the Buteoninæ, instead of last of the Polyborinæ.

CRAXIREX GALAPAGOENSIS. Gould.

PLATE II.

Polyborus Galapagoensis. Proceedings of the Zoological Society for January, 1837, p. 9.

C. Mas. adult. Intensè fuscus; primariis nigris; secundariorum pogoniis internis transversim albo et fusco striatis; caudâ cinerascenti-fuscâ, transversim lineis angustis et numerosis intensè fuscis notatâ; rostro obscure corneo; pedibus olivaceo-flavis.

Long. tot. 20½ unc.; rostri, 1½; alæ, 15; caudæ, 8½; tarsi, 3½.

Fem. adult. femine juniore ferè similis, pectore tamen fusco.

Fem. juv. Capite corporeque intensè stramineis, fusco-variegatis; illo in pectore et abdomine prævalente; primariis fusco-nigris; rectricum pogoniis externè cinerascenti-fuscis, internè pallide rosaceis; utrisque lineis angustis et frequentibus fuscis transversim striatis, apicibus sordide albis; rostro nigrescenti-fusco; pedibus olivaceo-flavis.

Long. tot. 24 unc.; rostri, 1¾; alæ, 17¼; caudæ, 10½; tarsi, 3½.

Description of adult male.

COLOUR.—Entire dorsal aspect umber brown: base of feathers on hind part of neck, white; base of those on back, irregularly banded with pale fulvous, and the scapulars with a distinct band of it. The inferior feathers of upper tail coverts banded in like manner to their extremities. Tail dusky clove-brown, obscurely marked with darkened transverse narrow bands. Primaries perfectly black towards their extremities, but with the outer edge of their base, gray: inner web banded and freckled with gray, brown, and white, which in the secondaries takes the form of regular bars. *Under surface*, entirely umber brown, but rather paler than the upper. Lining of wings gray, with irregular transverse brown bars: under-side of tail the same, but paler. Thighs of a rather yellower brown. Bill and cere horn colour, mottled with pale gray: tarsi yellow.

FORM.—Beak, with apex much arched, both longer and more pointed than it is in the group of the Polyborinæ. Cere naked, with few bristles; nostrils large, quite uncovered, irregularly triangular, with the angles much rounded, and situated rather above a central line between the culmen and commissure. Fourth primary longest, but third and fifth nearly equal to it; first, four inches and a half shorter than fourth, and equal to the eighth; second shorter than fifth. Extremities of wing reaching within half an inch of end of tail.

Tarsi strong, feathered for nearly a third of their length beneath the joint. Scales in narrow, undivided (with the exception in some instances of one) bands, covering the front of tarsus. Toes very strong and rather long, like those of the species of *Milvago*, and much more so than in the genus *Buteo*. Hind-toe equal in length to the inner one; but not placed quite so high on the Tarsus as in *Polyborus*. Basal joints of middle toe covered with small scales, with five large ones towards the extremity. Claws very strong, thick and long, and rather more arched, and broader than in *Polyborus Brasiliensis*; their extremities obtuse, but not in so great a degree as in some species of *Milvago*.

	Inches.
Total length from tip of bill to end of tail following curvature of body	20½
Tail	8½
Wing, from elbow-joint to extremity of longest primary	15
Bill, from tip to anterior edge of eye measured in a straight line	7½
Tarsus, from soles of feet to centre of joint	9½
Hind claw from tip to root, measured in straight line	1-7/15
Claw of middle toe	9½/10

Old female.

COLOUR.—Nearly as in young female, but with the breast dark brown.

Young female.

COLOUR.—Head, back of neck, back, wing coverts and tertiaries barred and mottled, both with pale umber brown (of the same tint as in the male bird) and with pale fulvous orange. On head and back of neck, each feather is of the latter colour, with a mere patch of the brown on its tip; but in the longer feathers, as in the scapulars, upper tail coverts, inner web and part of outer of the tertiaries, each is distinctly barred with the dark brown. Tail as in the old male. Primaries black as in male, with the inner webs nearly white, and marked with short transverse bars. Under surface and thighs of the same fulvous orange, but some of the feathers, especially those on the breast, are marked with small spots of umber brown on their tips. Some of the longer feathers on the flanks, on the under tail coverts, and on the linings of the wing, have irregular bars of the same.

FORM and SIZE.—Larger and more robust than the male. Total length 24 inches.

Tail ten and a half inches long, and therefore longer in proportion to the wings than in the other sex. Wings from joint to end of primaries, 17½.

Habitat, Galapagos Archipelago, (October).

This bird is, I believe, confined to the Galapagos Archipelago, where on all the islands, it is excessively numerous. It inhabits, indifferently, either the dry sterile region near the coast, which, perhaps, is its most general resort, or the damp and wooded summits of the volcanic hills. This bird, in most of its habits and disposition, resembles the *Mitvago leucurus*, or the *Falco Novæ Zelandiæ* of older authors. It is extremely tame, and frequents the neighbourhood of any building inhabited by man. When a tortoise is killed even in the midst of the woods, these birds immediately congregate in great numbers, and remain either seated on the ground, or on the branches of the stunted trees, patiently waiting to devour the intestines, and to pick the carapace clean, after the meat has been cut away. These birds will eat all kinds of offal thrown from the houses, and dead fish and marine productions cast up by the sea. They are said to kill young doves, and even chickens; and are very destructive to the little tortoises, as soon as they break through the shell. In these respects this bird shows its alliance with the buzzards. Its flight is neither elegant nor swift. On the ground it is able, like the *M. leucurus* and *Phalcobæus montanus* of D'Orbigny, to run very quickly. This habit which, as before observed, is so anomalous in the Falcons, manifests in a very striking manner the relation of this new genus with the *Polyborinæ*. It is, also, a noisy bird, and utters many different cries, one of which was so very like the shrill gentle scream of the *M. chimango*, that the officers of the "Beagle" generally called it either by this name, or from its larger size by that of *Carrancha*,—both names, however, plainly indicating its close and evident relationship with the birds of that family. The crow is feathered; and does not, I believe, protrude like that of the *P. Brasiliensis* or *M. leucurus*. It builds in trees, and the female was just beginning to lay in October. The bird of which the full figure has been given, is a young female, but of, at least, one year old. The old male-bird is of a uniform dusky plumage, and is seen behind. The adult female resembles the young of the same sex, but the breast is dark brown like that of the male. In precisely the same manner as was remarked in the case of the *M. leucurus*, these old females are present in singularly few proportional numbers. One day at James' Island, out of thirty birds, which I counted standing within a hundred yards of the tents, under which we were bivouacked, there was not a single one with the dark brown breast. From this circumstance I am led to conclude that the females of this species (as with the *M. leucurus*) acquire their full plumage late in life.

1. BUTEO ERYTHRONOTUS.

Haliaëtus erythronotus, King, in Zoological Journal, vol. iii. p. 424.

Buteo tricolor, D'Orbigny.

I obtained specimens of this bird from Chiloe and the Falkland Islands, and Captain King who first described it, procured his specimens from Port Famine, Lat. 53° 38' in Tierra del Fuego. M. D'Orbigny states that it has a wide range over the provinces of La Plata, central Chile, and even Bolivia; but in this latter country, it occurs only on the mountains, at an elevation of about 12,000 feet above the sea. The same author states, that it usually frequents open and dry countries; but as we now see that it is found in the dense and humid forests of Chiloe and Tierra del Fuego, this remark is not applicable. At the Falkland Islands, it preys chiefly on the rabbits, which have run wild and abound over certain parts of the island. This bird was considered by Captain King as a *Haliaëtus*; but Mr. Gould thinks it is more properly placed with the Buzzards. Captain King gave it the appropriate specific name of *erythronotus*, and, therefore, as Mr. Gould observes, the more recent one of *tricolor*, given by M. D'Orbigny, must be passed over.

2. BUTEO VARIUS. Gould.

Buteo varius, Gould, Proceedings of the Zoological Society, Part v. 1837, p. 10.

B. vertice corporeque supra intensè fuscis, plumis fulvo marginatis vel guttatis; primariis secundariisque cinereis, lineis numerosis fuscis transversim striatis; caudâ cinerâ, lineis angustis numerosis fuscis transversim notatâ; singulis plumis flavescenti-albo ad apicem notatis; gulâ fuliginosâ; pectore fulvo, lineâ interruptâ nigrescente a gulâ tendente circumdato; abdomine imo lateribusque stramineo et rufescenti-fusco variegatis; femoribus crissoque stramineis lineis transversalibus anfractis rufescenti-fuscis ornatis; rostro nigro; cerâ tarsisque olivaceis.

Long. tot. 21½; alæ, 16½; caudâ, 10; tarsi, 3½.

COLOUR.—Head and back of neck umber brown, with edges of the feathers fringed with fulvous, (or buff orange with some reddish orange) and their bases white. Shoulders brown, with the feathers more broadly edged. Back the same, with the basal part of the feathers fulvous, with transverse bars of the dark brown. Tail blueish gray, with numerous, narrow, transverse, faint black bars. Tail-coverts pale fulvous, with irregular bars of dark fulvous and brown. Wings: primaries blackish gray, obscurely barred; secondaries and tertiaries more plainly barred, and tipped with fulvous. Wing coverts, dark umber brown, largely tipped, and marked with large

spots, almost forming bars, of pale fulvous. *Under surface*.—Chin black; throat and breast ochre yellow, with a narrow dark brown line on the shafts of the feathers, which, in those on the sides of the throat and breast expands into a large oval spot. Feathers on belly reddish brown, fringed and marked at base with the ochre yellow. Lining of wings ochre yellow, with numerous transverse bars of dark brown. Under-side of tail, inner webs almost white, outer pale gray, with very obscure transverse bars. Thighs, ochre yellow, with numerous zigzag transverse bars of pale reddish brown. Bill pale blackish; iris brown; tarsi gamboge yellow.

FORM.—Fourth primary very little longer than third, and about half an inch longer than fifth. First rather shorter than seventh, and longer than eighth. Wings when folded reaching within two inches of the extremity of the tail.

	Inches.
Total length	21½
Length of tail	10
Wings when folded	16½
From tip of beak to within anterior edge of nostril, measured in straight line	4½
Tarsi from soles of feet to middle of knee joint	3½
Middle toe, measured from basal joint to tip of claw	2½

Habitat, Strait of Magellan, (*February*.) and Port St. Julian in Southern Patagonia, (*January*.)

3. BUTEO VENTRALIS. *Gould*.

Buteo ventralis, *Gould*, Proceedings of the Zoological Society, Part v. 1837, p. 10.

B. vertice corporeque intensè nitide fuscis, plumis dorsalibus purpurascens; primariis nigris; caudâ fuscâ, lineis obscurioribus cancellatâ numerosis, ad apicem sordidè albâ; gulâ abdomine medio crissoque stramineo-albis; pectoris corporisque lateribus fuscâ abdominali femoribusque flavescens; albis fusco notatis, notis in femoribus rufescentibus; tarsis per mediam partem anticè plumosis, rostro nigro; cerâ tarsisque flavis.

Long. tot. 23 unc.; *ala*, 15½; *cauda*, 9½; *tarsi*, 3½.

COLOUR.—Head, back of neck, back, and wing-coverts, umber brown. Feathers on sides of throat edged with fulvous; those on lower parts of back with their basal parts marked with large white spots, edged with fulvous, but which do not show, until the feathers are ruffled. Tail of the same dark brown as the back, with many bars of pale brown, and extreme points tipped with dirty white. Tail-coverts same brown, with the more lateral ones marked with white and fulvous. Wings: primaries black, with the inner and basal webs brownish; secondaries and tertiaries brown, with obscure traces of paler

transverse bars. *Under surface*.—Chin almost white; throat and breast very pale ochre yellow, with narrow brown lines on the shaft of the feathers, which expand into large marks on the sides of the upper part of the breast, and into regular spots on those of the belly. Lining of wing white, with brown spots on the feathers near their tips, like on those of the belly. Thighs very pale ochre yellow, with transverse bars of pale brown, appearing like inverted wedge-formed marks, with the apex on the shafts. Under tail-coverts almost white; under side of tail pale gray, with darker gray bars on the inner side of shafts. Bill blueish black, with base of lower mandible and part of upper yellowish. Tarsi pale yellow.

FORM.—Fourth primary very little longer than either the third or fifth, which are equal. First nearly equal to the eighth. Extremity of wing when folded reaching within two inches and a half of the end of the tail.

	In.		In.
Total length	23	Tarsi	3½
Wing when folded	15½	Middle toe from joint to tip of claw . . .	3
Tail	9½	From extremity of beak to within nostril . .	10

Habitat, Santa Cruz, Lat. 50° S. Patagonia, (*April*.)

Mr. Gould remarks that "this species has all the characters of a true *Buteo*, and will rank as one of the finest of this well defined group. In size it rather exceeds the Common Buzzard of Europe, which in its general style of colouring it somewhat resembles."

SUB-FAM.—FALCONINA, V10.

FALCO FEMORALIS. *Temm.*

Falco femoralis, *Temm.* Pl. Col. 121 male; and 243 adult male.

Sparz, Av. Sp. Nov. 1. p. 18.

This specimen was shot in a small valley on the plains of Patagonia, at Port Desire, in Lat. 47° 44'. It builds its nest in low bushes, and the female was sitting on the eggs in the beginning of January. Egg, 1·8 of an inch in longer diameter, and 1·4 in shorter; surface rough with white projecting points; colour nearly uniform dirty "wood brown," thickly freckled with rather a darker tint; general appearance, as if it had been rubbed in brown mud. M. D'Orbigny supposed that Latitude 34° was the southern limit of this species; we now find its range three hundred and thirty miles further southward. The same author states that this falcon prefers a dry open country with scattered bushes, which answers to the character of the valleys, in the plains near Port Desire.

TINNUNCULUS SPARVERIUS. Vieill.

Falco sparverius, Linn. et Auct.

I obtained specimens both from North and South Patagonia (Rio Negro and Santa Cruz), and Captain King found it at Port Famine in Tierra del Fuego. I saw it at Lima in Peru; and Mr. Macleay (Zoological Journal, vol. iii.) sent specimens from Cuba. According to Wilson it is common in the United States, and Richardson says its northern range is about 54°. The *Tinnunculus* therefore, ranges throughout both Americas over more than 107 degrees of latitude, or 6420 geographical miles. It is the only bird, which I saw in South America, that hovered over one particular spot, in the same stationary manner, as the common English kestrel (*Falco tinnunculus*, Linn.) is so frequently observed to do.

SUB-FAM.—CIRCINÆ.

1. CIRCUS MEGASPILUS. Gould.

Circus megaspilus, Gould, in Proceedings of the Zoological Society, Part V. 1837, p. 10.

C. vertice corporeque supra intensè fuscis, lineâ stramineâ a naribus supra oculos ad occiput tendente; hoc rufescenti-fusco; primariis intensè fuscis ad basin cinereis, lineis nigris cancellatis; caudæ tectricibus albis; rectricibus intermediis cinereis, externis cinereo-stramineis, omnibus lineis latis fuscis transversim notatis, lineâ ultimâ latissimâ, apice sordidè stramineo; gulâ pectoreque stramineis, fusco variegatis; corpore subtus stramineo; plumis pectoris laterumque striâ centrali fusca notatis; rostro nigro; cerâ tarsisque flavis.

Long. tot. 22 unc. ; rostri, 1½; alæ, 17; caudæ, 10½; tarsi, 3½.

COLOUR.—Head, back of throat, whole back, and wing-coverts umber brown, of a nearly uniform tint, and not very dark. Front, over the nostrils, with few purely bristly feathers; over the eyes, extending backward, a pale almost pure white streak, which joins an irregular band, extending across the nape of the neck, from below ear to ear, of brown feathers, edged with pale fulvous, giving a streaked appearance to that part. The wing-coverts are just tipped with dirty white. Wings: primaries of the same brown as the back, the inner ones assuming a gray tinge; these, and the basal parts of the inner webs of all, are obscurely barred; secondaries and tertiaries of a paler brown than the interscapular region. Tail grayish brown, with five well-defined bars,

about $\frac{3}{4}$ of an inch wide, of the same brown, as the rest of the upper surface; extremities tipped with very pale dirty brown. Tail-coverts; upper ones brown, and the under ones white, with small brown spots on the shaft towards their extremities. *Under surface*.—Chin, pale fulvous, or ochre yellow. Breast, belly, thighs and under tail-coverts the same; the feathers on the lower part of the breast and on the belly have a dark brown mark along the shaft, which widens but very little towards the extremity; the brown on those on the upper part of the breast and on the throat is broader, and some of the feathers are of a darker fulvous, and as the dark brown of the back encroaches on each side, this part is much darker than the rest of the under surface. Above this, and just beneath the chin, a kind of collar is formed from ear to ear, of short feathers of a more strongly pronounced fulvous tint, with a narrow brown streak on their shafts. Lining of wings, and flanks almost white, with transverse brown bars. Under side of tail pale gray passing into fulvous, with the terminal dark brown bars seen through. Bill, horn-coloured, with some white markings towards its base; tarsi bright yellow.

FORM.—Third primary rather longer than fourth, second equal to fifth; first more nearly equal to the sixth than to the seventh. Wings reaching within an inch of the end of the tail. Feathers on thighs depend but little below the knee.

Total length	In. 22	Tarsi	In. $3\frac{1}{2}$
Wings folded	17	Middle toe to end of claw	$2\frac{3}{4}$
Tail	$10\frac{1}{2}$	From tip of bill to nearest part of cere	$1\frac{5}{16}$

Habitat, Maldonado, La Plata, (*July*.)

This hawk was not uncommon on the grassy savannahs and hills in the neighbourhood of the Rio Plata. Mr. Gould remarks "that in size it fully equals the *Circus æruginosus* of Europe, which it doubtless represents in the countries it inhabits. This species has a remarkable specific character in the lanceolate and conspicuous stripes down its breast."

2. *CIRCUS CINERIUS*. *Vieill.*

Circus cinerius, *Vieill. Ency. Meth.*

Falco histrionicus, *Quoy and Gaim.* Voy. autour du monde, Plate 15.

Circus histrionicus, *Vigors*, Zoological Journal, vol. iii. p. 423, note.

My specimens were obtained at the Falkland Islands, and at Concepcion in Chile. M. D'Orbigny states that it is a wild bird; but at the Falkland Islands it

was, for one of its order, very tame. The same author gives a curious account of its habits: in a different manner from other raptorial birds, when it has killed its prey, it does not fly to a neighbouring tree, but devours it on the spot. It roosts on the ground, either on the top of a sand hillock, or by the bank of a stream: it sometimes walks, instead of hopping, and when doing so, it has some resemblance in general habit to the *Milvago chimango*. It preys on small quadrupeds, molluscous animals, and even insects; and I find in my notes, that I saw one in the Falkland Islands, feeding on the carrion of a dead cow. Although in these respects this *Circus* manifests some relation in its habits with the *Polyborinae*, yet it has the elegant and soaring flight, peculiar to its family; and in form it does not depart from the typical structure. Mr. Gould remarks that "we see in this elegant bird as perfect an analogue of the *Circus cyaneus* of Europe, as in the preceding species of the *Circus æruginosus*."

FAMILY.—STRIGIDÆ.

SUB-FAM.—SURNINÆ.

ATHENE CUNICULARIA. Bonap.

Strix cunicularia, *Mol. Bonap. Am. Orn.* I. 68. pl. 7. f. 2.

This bird, from its numbers and the striking peculiarities of its habits has been mentioned in the works of all travellers, who have crossed the Pampas. In Banda Oriental it is its own workman, and excavates its burrow on any level spot of sandy soil; but in the Pampas, or wherever the Bizcacha is found, it uses those made by that animal. During the open day, but more especially in the evening, these owls may be seen in every direction standing frequently by pairs on the hillock near their habitation. If disturbed, they either enter the hole, or, uttering a shrill harsh cry, move with a remarkably undulatory flight to a short distance, and then turning round, steadily gaze at their pursuer. Occasionally in the evening they may be heard hooting. I found in the stomachs of two which I opened the remains of mice; and I saw a small snake killed and carried away by one. It is said that reptiles are the common object of their prey during the day time. Before I was aware, from the numbers of mice caught in my traps, how vastly numerous the small rodents are in these open countries, I felt much surprise how such infinite numbers of owls could find sufficient means of support. I never saw this bird south of the Rio Negro, (Lat. 41° S.) In North America they frequent only the trans-Mississippian territories in the neighbourhood of the Rocky Mountains. The account given by Say of their habits, agrees with what

may every day be observed in the Pampas ; but in the northern hemisphere they inhabit the burrows of the Marmot or Prairie dog, instead of those of the Bizcacha ; and it would appear that their food is chiefly derived from insects, instead of from small quadrupeds and reptiles. Mr. Gould says he has compared my specimens from La Plata and Chile, on opposite sides of the Cordillera, with those from Mexico and the Rocky Mountains of North America, and he cannot perceive the slightest specific difference between them.

SUB-FAM.—ULULINÆ.

1. OTUS GALAPAGOENSIS. Gould.

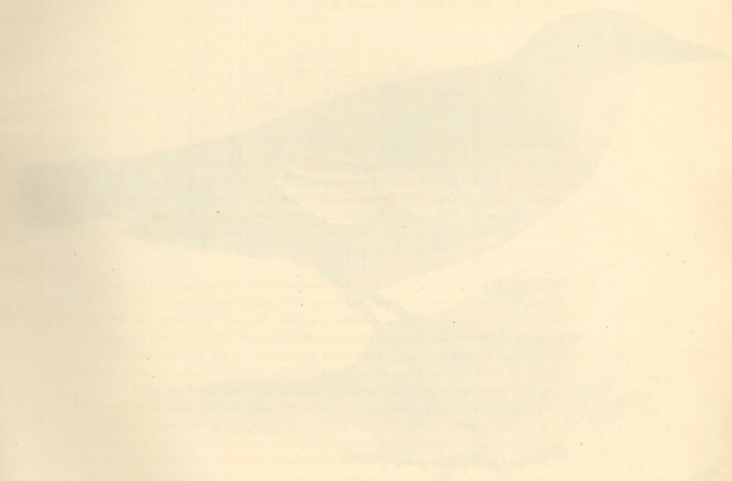
PLATE III.

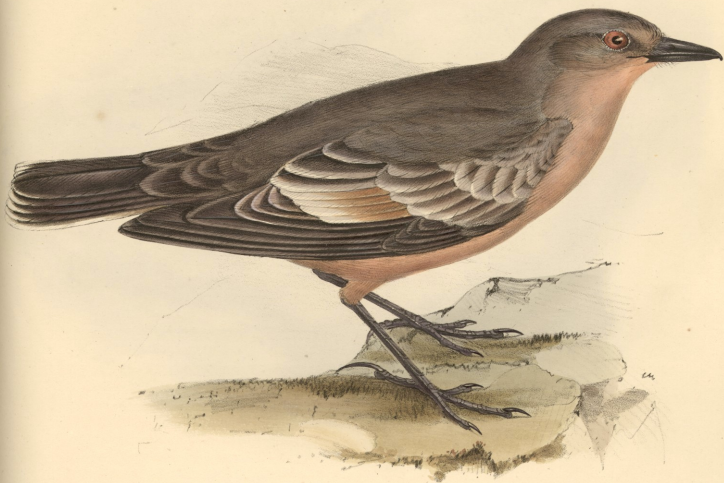
Otus (Brachyotus) Galapagoensis, Gould, in Proceedings of the Zoological Society, Part V., 1837, p. 10.

O. fasciâ circa oculos fuliginosâ ; strigâ superciliari, plumis nares tangentibus et circa angulum oris, gulâ et disci facialis margine, albis ; vertice corporeque supra intensè stramineo fuscoque variegatis ; primariis ad apicem intensè fuscis, ad basin stramineo fasciatis ; corpore subtus stramineo, notis irregularibus fasciisque fuscis ornato ; femoribus tarsisque plumosis rufescenti-stramineis ; rostro unguibusque nigris.

Long. tot. 13½ ; rostri, 1 ; alar, 11 ; caudæ, 6 ; tarsi, 2.

COLOUR.—Facial disc ; plumose feathers immediately around the eyes, nearly black, tipped with glossy fulvous ; those nearer the margin are white at their base, and only slightly tipped with a darker brown. Between the eyes a band of small fulvous feathers with a central streak of dark brown, passing backward, blends into the plumage of the nape. Back of head and throat streaked with fulvous and brown, the centre of each feather being brown, and its edge fulvous. Interscapular region and the feathers of the wing, coloured in the same manner, but the fulvous part is indented on each side of the shaft in the brown, giving an obscurely barred appearance to these feathers. Primaries brown, with large rounded marks of fulvous ; those on the first feather being smaller, and almost white : wing-coverts brown, and but little mottled. Tail with transverse bars of the same brown and fulvous, the latter colour much clearer and stronger on the external feathers ; in the central ones, the fulvous part includes irregular markings of the dark brown. *Under surface.*—Throat and breast, with center of each feather brown, edged with fulvous ; the former colour being predominant. On the belly and under tail-coverts the brown coloured marks on the shafts are narrow, but they are united to narrow transverse bars, which form at the





Taniptera variegata



Corvus corax



Agriornis micropterus



Fregata acares



Agriornis leucurus.



Podiceps albus



Pachyrhamphus albesceus

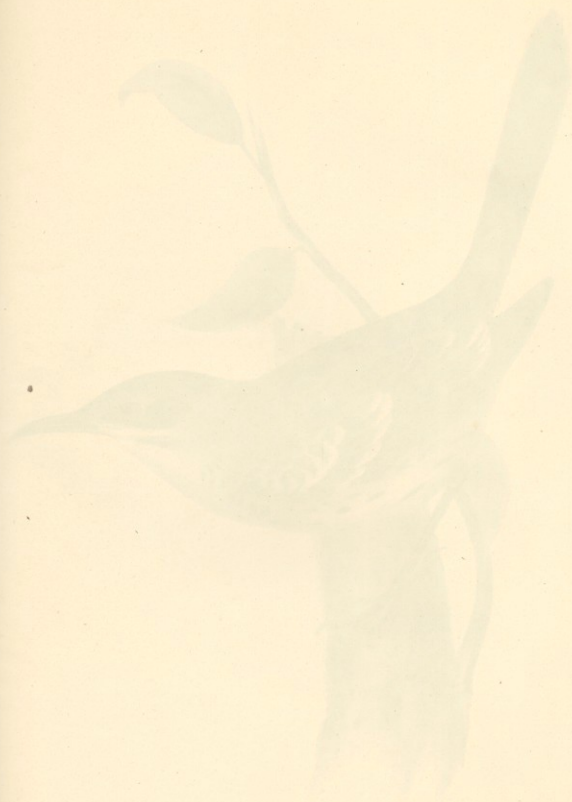


Pachyramphus minimus.





Mimas trifasciatus.









Mimus parvulus.



Macrotis lagotis



Upercerthia dunclaria.



Fregata aquila



Opetiorhynchus lanceolatus.

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ILLUSTRATIONS OF THE ZOOLOGY OF SOUTH AFRICA:

Consisting chiefly of Figures and Descriptions of the Objects of Natural History collected during an Expedition into the Interior of South Africa, in the years 1834, 1835, and 1836, fitted out by
"The Cape of Good Hope Association for Exploring Central Africa."

TOGETHER WITH

A SUMMARY OF AFRICAN ZOOLOGY,
AND AN INQUIRY INTO THE GEOGRAPHICAL RANGES OF SPECIES IN THAT QUARTER OF THE GLOBE.

BY ANDREW SMITH, M.D.

SURGEON TO THE FORCES, AND DIRECTOR OF THE EXPEDITION.

Prospectus.

THE Cape of Good Hope is now acknowledged to be one of the greatest avenues as yet opened for the researches of the Naturalist. Our Colony in that part of Southern Africa is the key to a large portion of an extensive continent which is still but very partially explored; and the field to which it admits the scientific traveller is rich to exuberance in the variety and novelty, both of animal and vegetable life.

Stimulated by the prospect of Discovery in a quarter so fertile in interest, "*The Cape of Good Hope Association for Exploring Central Africa*" was established in 1833; and in 1836, an Expedition fitted out by that body, consisting of thirty-four persons, and directed by Dr. Smith, after an absence of nineteen months, and penetrating as far as 23° 28' South latitude, returned to Cape Town laden with a variety of curious and important specimens in Natural History, &c.

Previously to this period little information has been furnished, in a shape calculated to enable the public to form accurate ideas of the various animated beings by which these regions are inhabited. The splendid publication of Le Vaillant, no doubt, should be mentioned as forming an exception, *pro tanto*; but this includes only a portion of the Birds of the most southern extremity of the country, and a work therefore extensive enough to comprehend the various departments of Zoology is still a desideratum.

The Members of *The Cape of Good Hope Association for Exploring Central Africa* found themselves, on the return of the recent Expedition, in a situation to supply at least some portion of the existing deficiencies; but their funds, even if it had been possible to divert them to such an object, were altogether inadequate to defray the expense of laying the result of their labours before the world. Under such circumstances, it was decided that Dr. Smith, the director of the Expedition, should be authorised, on his arrival in England, to wait upon Lord Glenelg, for the purpose of making him acquainted with the position and views of the Society, in the hope that Government might be induced to assist in the publication of their materials.

This hope has not been disappointed. At the recommendation of the Secretary of State for the Colonial Department, the Lords Commissioners of Her Majesty's Treasury have been pleased, by a pecuniary grant, to enable the Society to publish the result of its labours, without infringing upon the funds raised solely for the purposes of discovery; and in a form which, while it places the work within reach of most of the friends and promoters of science, will not, it is hoped, be found inconsistent with the interest and importance of the subject.

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The Entomological portion of the work will be from the pen of W. S. Macleay, Esq., who has kindly undertaken that department. The rest of the descriptions will be furnished by Dr. Smith, who will add a summary of African Zoology, and an inquiry into the Geographical ranges of species in that quarter of the Globe.

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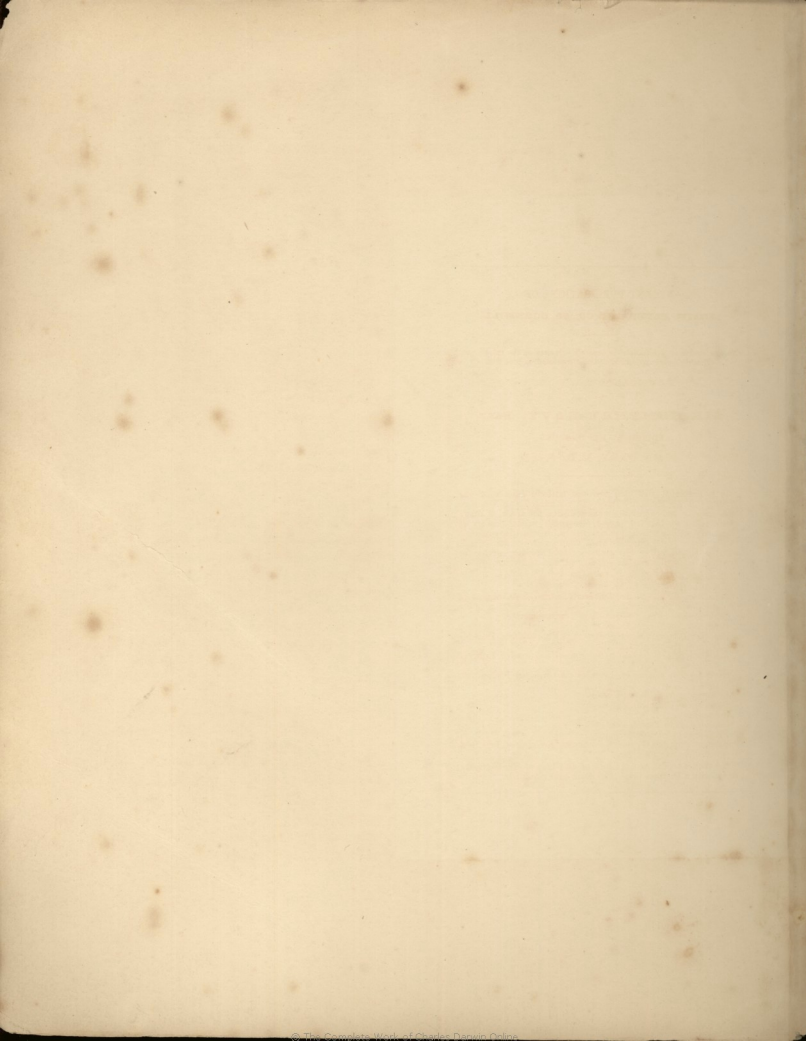
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points of intersection marked something like arrow-heads. The fulvous tint is here predominant. Downy feathers on thighs same fulvous colour as rest of body. Bill black.

FORM.—Second primary scarcely perceptibly longer than the first, and fourth rather longer than first. Tarsi thickly clothed with short feathers to the root of the nails.

	In.		In.
Total length	13½	Tarsi	2
Wings	11	Middle toe to root of nail	1½
Tail	6	From tip of beak to interior edge of nostril	¾

Habitat, James Island, Galapagos Archipelago, (October).

Mr. Gould informs me, that "this species has most of the essential characters of the common short-eared owl of Europe (*Strix brachyota*), but differs from it, and all the other members of the group, in its smaller size and darker colouring."

The lesser proportional size of the fulvous marks on the first primaries, and on the tail, and the peculiar transverse brown marks on the feathers of the belly, easily distinguish it from the common short-eared owl. The specimen described is a male bird.

2. OTUS PALUSTRIS. Gould.

Strix brachyota. Lath.

Specimens of this bird were obtained at the Falkland Islands, at Santa Cruz in Patagonia, and at Maldonado on the northern bank of the Plata. At the latter place it seemed to live in long grass, and took to flight readily in the day. At the Falkland Islands it harboured in a similar manner amongst low bushes. Mr. Gould says, "So closely do the specimens brought home by Mr. Darwin, resemble European individuals, that I can discover no specific difference, by which they may be distinguished."

We have, therefore, the same species occurring in lat. 52° S. on the coast of South America, and in the northern division of the continent, according to Richardson, even as far as the sixty-seventh degree of latitude. Jardine says it is found in the Orkney islands (lat. 59°), and in Siberia; and that he has received specimens of it from Canton. M. D'Orbigny says it is found in the Sandwich and Marianne islands in the Pacific Ocean, and at Bengal in India. This bird, therefore, may be considered as a true cosmopolite.

ULULA RUFIPES.

Strix rufipes, *King*, in *Zoological Journal*, Vol. iii. p. 426.

I obtained a specimen of this bird from a party of Fuegians in the extreme southern islands of Tierra del Fuego. Owls are not uncommon in this country, and as small birds are not plentiful, and the lesser rodents extremely scarce, it at first appears difficult to imagine on what they feed. The following fact, perhaps, explains the circumstance: Mr. Bynoe, the surgeon to the "Beagle," killed an owl in the Chonos Archipelago, where the nature of the country is very similar to that of Tierra del Fuego, and, on opening its stomach, he found it filled with the remains of large-sized crabs: I conclude, therefore, that these birds here likewise subsist chiefly on marine productions.

SUB-FAM.—STRIGINÆ.

1. STRIX FLAMMEA. *Linn.*

I obtained a specimen of a white owl from Bahia Blanca in Northern Patagonia, and Mr. Gould remarks concerning it, that he only retains the name of *S. flammea* provisionally, until all the white owls, from various countries, shall have been subjected to a careful examination. Mr. Gould suspects, that when this is effected, the South American white owl will prove to be specifically distinct from that of Europe.

2. STRIX PUNCTATISSIMA. *G. R. Gray.*

Plate IV.

S. supra nigricans, flavo subnebulosa, minutè albo-punctatissima, maculâ albâ ad apicem plumæ, cujusvis; subtus fulva, fasciis interruptis nigricantibus; caudâ dorso concolore, nigricanti-fasciatâ, apice albâ; disco faciali castaneo-rufo nigricanti-nebuloso circumdato, pogoniis internis albis, scapis nigris; pedibus longis, infra genu plumosis; tarso reliquo digitisque subpliosis.

Long, tot. $13\frac{1}{2}$; ala, $9\frac{1}{2}$; cauda, $4\frac{1}{2}$; tarsi, $2\frac{1}{2}$.

COLOUR.—Head and feathers within facial disc, glossy ferruginous brown, those forming the margin of it, same coloured, with their tips dark brown. Back

of head and throat smoky brown, mottled with numerous small white dots, on the tips of the feathers. Back and wing-coverts the same, with the white spots larger and purer. Wings: primaries, same dark brown, mottled with dull chesnut red; the tip of each, with the exception of the three first, is marked with a triangular white spot, of the same kind with those over the rest of the body, but larger. Tail, transversely barred with brown and reddish fulvous, and the extreme points mottled with white. *Under surface.* Breast, belly and lining of wings, fulvous, mottled with brown;—the feathers being transversely barred with narrow brown lines. Under side of tail, pale gray, with well defined transverse bars of a darker gray. Short downy feathers on tarsi, of a brighter fulvous than the rest of the under surface.

FORM.—Third primary rather longer than second; first equal to third. Wing, exceeding the tail in length by nearly one inch and a quarter. Short feathers on the tarsus, extending about one-third of its length, below the knee. Tarsi, elongated. Toes and lower part of tarsi, with few scattered brown hairs.

	In.		In.
Total length	19½	Tarsi	2⅞
Wing	9½	Tip of beak to rictus	1½
Tail	4½	Middle toe, from root of claw to base	1⅞

Habitat, James Island, Galapagos Archipelago, (*October.*)

I am indebted to Mr. G. R. Gray for the description of this species, which is deposited in the British Museum. Only one specimen was obtained during our visit to the Galapagos Archipelago; and this formed part of the collection made by the direction of Captain FitzRoy.

This owl is in every respect a true *Strix*; it is fully a third less than the common species of Europe, and differs from it in many respects, especially in the darker colouring of its plumage. The colouring of the Plate is not perfectly accurate in its minuter details.

FAMILY.—CAPRIMULGIDÆ.

SUB-FAM.—CAPRIMULGINÆ.

1. CAPRIMULGUS BIFASCIATUS. Gould.

Caprimulgus bifasciatus, Gould, in Proceedings of the Zoological Society, February 1837, p. 22.

C. capite nigro fusco et fulvescente ornatus; caudâ albo bifasciatâ, fasciâ terminali latâ: primâ angustâ; primariis nigrescentibus fasciâ angustâ albâ ad medium: alis spuriis maculâ albâ notatis; gutture lunulâ albâ; secundariis tectricibusque alarum maculâ fulvescente ad apicem; crisso pallidè rufescente; rostro pedibusque fuscis.

Long. tot. unc., $9\frac{1}{4}$; alar, $6\frac{1}{2}$; caudæ, 5; tarsi $\frac{3}{4}$.

Front and back of head gray, mottled with black and with little fulvous. The latter colour more abundant, and in larger markings in the interscapular region, and on the wing-coverts. The black markings give a somewhat streaked appearance to the back of head and interscapulars. On the back of throat the fulvous tint is so much pronounced, that a collar is formed which is continued under a white one round the breast. Wings: primaries brownish-black; four external ones, with a large white mark, forming a band, at about one-third of their length from their extremities: these white marks are edged with fulvous, and the part on the outer web of the first primary, is wholly so coloured. The other primaries are marked with reddish brown, as are the secondaries and tertiaries, the marks becoming more numerous and smaller, and the colours more mottled, nearer the back. Tail: upper tail-coverts and two central feathers of tail marked like those on the back; the black, however, forming narrow interrupted transverse bars. The pair next to these central ones have near their extremities a large white mark, but only on the inner shaft. In the three succeeding pairs, the white spot extends on both sides of the shaft, and in each pair increases somewhat in size; so that in the external pair, the white spot is merely bordered with a very narrow, faint margin, of brown and fulvous. At about half their length, all the feathers, with the exception of the central pair, have a smaller white mark, but only on the inner side of the shaft. This mark is transverse, in the form of a band, and the white blends into fulvous on the edges of the webs. Outer web of these same external feathers, are transversely barred with black and fulvous. *Under surface*.—Chin, breast, belly, and lining of wings, dirty fulvous, with numerous

narrow, irregular, transverse bars of brown. Throat with white collar, beneath which the fulvous tint is predominant, forming a kind of under collar, which is continued round the whole neck. Under tail-coverts fulvous,—tail itself appears almost black, with a great terminal white band, and a narrower one at about half its length.

Wings, an inch and a quarter shorter than the tail. Second primary, scarcely perceptibly longer than the third; the first about an eighth of an inch shorter than the second, and this longer than the fourth. Feathers on wing, with the outer webs, slightly excised.

	In.		In.
Total length	9 $\frac{3}{4}$	Tarsi	$\frac{1}{16}$
Wing folded	6 $\frac{1}{2}$	From tip of beak to rictus	1
Tail	5	Of middle toe without the claw	$\frac{1}{10}$

Habitat, Valparaiso Chile, (August).

This species frequents the mountains of central Chile. When bivouacking one night on the Bell of Quillota, at an elevation of 6000 feet above the sea, I heard a gentle, plaintive cry, which I was told was made by this bird. It is regarded with superstitious dread by many of the lower orders.

Mr. Gould observes, that "this species has a strong resemblance, at the first glance, with the *Caprimulgus Europæus*, but may be readily distinguished by its shorter wing, more lengthened tarsi, by a conspicuous white band across the base of the tail, and by all these feathers, except the two middle ones, having another white band near the tip." Mr. Gould then adds, as "I am quite undecided to which of the sub-genera this and the following species should belong, I leave them for the present in the restricted genus, *Caprimulgus*, although I certainly perceive in it many points of affinity to the group which inhabits the United States of North America."

2. CAPRIMULGUS PARVULUS. Gould.

Caprimulgus parvulus, Gould, Proceedings of the Zoological Society, February 1837, p. 22.

C. capite intensè fusco, guttis minutis cinereis ornato; vittâ rufâ cervicem cingente; gutture scapularibusque ad marginem, secundariis ad apicem stramineis; pectore et abdomine lineis fuscis transversis; primariis nigrescentibus, tribus fasciis inæqualibus pallidè rufescentibus; caudâ fasciis pallidè fulvescentibus et fuscis ornata.

Long. tot. unc., 7 $\frac{1}{2}$; ala, 5; cauda, 4; tarsi, $\frac{5}{8}$.

Crown of head gray, with black longitudinal streaks. Back of neck with a fulvous ring, which extends round the front beneath one of white, as in the *C. bifas-*

ciatus. Back, dull gray. Interscapulars, with the central part of each feather, black, terminating in a point; the outer part of the web being broadly fringed with a very pale fulvous, the inner with gray. Wings: primaries brown, with fulvous marks, forming three irregular transverse bars, which are scarcely visible when the wing is closed. Tail and upper tail-coverts, dull coloured, very obscurely marked with transverse bars of gray and fulvous, of different degrees of darkness. *Under surface*.—Throat white, edged with fulvous on lower side. Breast, belly, and under tail-coverts, fulvous, with numerous very narrow transverse bars of brown. The pale fulvous marks, forming interrupted bars, are more plainly seen on this than on the upper side of the tail.

Third primary, very little longer than second, and second than first. First rather longer than fourth. Extremities of wings reaching within an inch and a quarter of end of tail. End of tail more rounded than in last species.

	In.		In.
Total length	7½	Tarsi	$\frac{3}{8}$
Wings	5	Middle toe, from tip of claw to joint of foot	$\frac{7}{8}$
Tail	4	From tip of beak to rectus	1

Habitat, La Plata, (*September*).

This species is not uncommon on the wooded banks of the Parana, near Santa Fé. If disturbed, it rises from the ground, in the same inactive manner as the European species. I saw one alight on a rope diagonally, but not so completely in a longitudinal position as does the *C. Europæus*, nor transversely as other birds. Mr. Gould observes, that "this goatsucker is full a third less than the *Caprimulgus Europæus*, and is remarkable for the uniformity of its markings, having no distinct white bars, or marks, either on the wings or tail."

FAMILY.—HIRUNDINIDÆ.

1. PROGNE PURPUREA. *Boie*.

Hirundo purpurea, *Wils*.

My specimens were obtained at Monte Video, (November) and Bahia Blanca, 39° S. (September) how much further southward this species extends I do not know. Jardine says, that in North America it migrates during summer as far as the Great Bear Lake, in Lat. 66° N.; it is mentioned by M. Audubon, at New Orleans, 30° N., and by Mr. Swainson, at Pernambuco, in 8½° S.; we may, there-

fore, conclude that it ranges throughout both Americas, but it is not found in the Old World. Wilson describes this bird as a great favourite with the inhabitants of North America, both European and Indian, who erect boxes and other contrivances near their houses for it to build in. At Bahia Blanca, the females were beginning to lay in September, (corresponding to our March): they had excavated deep holes in a cliff of compact earth, close by the side of the larger burrows inhabited by the ground parrot of Patagonia, (*Psittacara Patagonica*.) I noticed several times a small flock of these birds, pursuing each other, in a rapid and direct course, flying low, and screaming in the manner so characteristic of the English Swift, (*Hirundo Apus*, Linn.)

2. PROGNE MODESTA. Gould.

PLATE V.

Hirundo concolor, Gould, in Proceedings of the Zoological Society.

P. nitida carulescenti-nigra.

Long, tot. 6 unc; *aler*, $5\frac{1}{2}$; *caudo*, $2\frac{3}{4}$; *tarsi*, $\frac{1}{2}$.

The upper and under surface has not so strongly a marked purple shade, as in the *P. purpurea*. The primaries and feathers of the tail, however, have a greenish gloss, perhaps slightly more metallic.

Tail not so deeply forked as in *P. purpurea*, which is owing to the two external feathers on each side not being so much prolonged and bent outward, as in that species. Nostrils of less size than in the latter, although the beaks differ but little. Claws and feet are much less strong, than might have been anticipated, even proportionally to the less dimensions of this species compared with the *P. purpurea*.

	Inches.		Inches.
Total length	6	Tarsi	$\frac{1}{2}$
Wings	$5\frac{1}{2}$	Middle toe from tip of claw to joint	$1\frac{3}{4}$
Tail	$2\frac{3}{4}$		

Habitat, James Island, Galápagos Archipelago, (October).

Male.

This swallow was observed only on this one island of the group, and it was there very far from common. It frequented a bold cliff of lava overhanging the sea. Had not Mr. Gould characterized it as a distinct species, I should have considered it only as a small variety, produced by an uncongenial site, of the *Progne purpurea*. I can perceive no difference whatever from that bird,

excepting in its less size, slenderness of limbs, and less deeply forked tail; and the latter difference may perhaps be owing to youth.

1. *HIRUNDO LEUCOPYGIA*. Licht.

My specimens were obtained at Port Famine, in Tierra del Fuego, (*February*), and at Valparaiso, in Chile, (*August to September*). At Port Famine they build in holes in a cliff of earth. Mr. Gould says, "were it not for the bare legs of this little Martin, I should have some difficulty in discriminating between it and the one so well known as a summer visitor in our island."

2. *HIRUNDO FRONTALIS*. Gould.

H. vertice, plumis auricularibus, dorso et lunulâ pectorali nitidè cæruleo viridescentibus, notâ albâ supra nares, gulâ corporeque subtus albicantibus, crisso niveo, alis caudâque fuscis viridi tinctis, rostro nigro, pedibus intensè fuscis.

Long. tot. $4\frac{3}{4}$ unc. *ala*, $4\frac{3}{4}$; *cauda*, 2; *tarsi*, $\frac{1}{2}$.

Upper surface, with a greenish blue metallic gloss; which can faintly be perceived on the primaries and on the tail feathers. The short feathers over each nostril white, thus forming two small white marks; those over the ridge of bill pale brown, giving together the appearance of a narrow white band over the upper mandible. Entire under surface and lining of wings pure white.

Tarsi rather darker than in *H. leucopygia*.

Very slightly larger than *H. leucopygia*; upper mandible rather broader.

	Inches.		Inches.
Total length	$4\frac{3}{4}$	Tail	2
Wings	$4\frac{3}{4}$	Tarsi	$\frac{1}{2}$

Habitat, Monte Video, (*November*).

Mr. Gould says, "this species is closely allied both to the common martin, and to the last species; from the former bird, however, its bare legs at once distinguish it, while it differs from the latter in being rather larger in size, in having an obscure white mark on the forehead, at the base of the bill, and in having the metallic lustre of the upper surface deep steel green, instead of purple, which is the prevailing colour of both *Hirundo leucopygia* and *H. urbica*."

It is abundant on the northern bank of the Plata, and more common than the *H. purpurea*, which frequents the same localities. It probably replaces on the eastern side of the continent, the *H. leucopygia* of Chile.

3. *HIRUNDO CYANOLEUCA*. *Viell.*

It is nearly allied to the two latter species, but is readily distinguished from them by the absence of the white rump. I procured specimens in September, both from Valparaiso, and from Bahia Blanca (North Patagonia). At the latter place it built in holes in the same bank of earth with *P. purpurea*.

CYPSELUS UNICOLOR. *Jard.*

C. unicolor. *Jard. et Selby*, Illust. Ornith. pl. 83.

I obtained a specimen of this bird from St. Jago, Cape de Verd Islands. (September).

It more resembled a swallow than a swift in the manner of its flight. I only saw a few of them. Insects occur so scantily over the bare and parched plains of basaltic lava, which compose the lower parts of the island of St. Jago, that it is surprising how these birds are able to find the means of subsistence.

FAMILY.—HALCYONIDÆ.

HALCYON ERYTHORHYNCHA, *Gould*, Proc. Zool. Soc. 1837.

Alcedo Senegalensis var. β , *Lath.*

In January, during the first visit of the Beagle to St. Jago, in the Cape de Verd Islands, these birds were numerous. But in our homeward voyage, in the beginning of September, I did not see a single individual. As Mr. Gould informs me it is an African species; it is probably only a winter visitant to this archipelago. It lives in numbers in the arid valleys in the neighbourhood of Porto Praya, where it may be generally seen perched on the branch of the castor oil plant. I opened the stomachs of several, and found them filled with the wing cases of Orthopterous insects, the constant inhabitants of all sterile countries; and in the craw of one there was part of a lizard. It is tame and solitary; its flight is not swift and direct like that of the European kingfisher. In these respects, and especially

in its abundance in dry rocky valleys where there is not a drop of water, it differs widely from the habits of the allied genus *Alcedo*; although certainly it abounded more in those valleys where streamlets occurred. This Halcyon was the only brilliantly coloured bird which I saw on the island of St. Jago.

1. *CERYLE AMERICANA*, *Boie*.

Alcedo Americana, *Gmel.*

This Kingfisher is common on the banks of the Parana. It frequents the borders of lakes and rivers, and sitting on the branch of a tree, or on a stone, it thence takes short flights, and dashes into the water to secure its prey. Its manner of flying is neither direct nor rapid, which character is so remarkable in the flight of the European species; but it is weak and undulatory, and resembles that of the soft-billed birds. It often arrests itself suddenly in its course, and hovers over the surface of the water, preparatory to darting on some small fish. When seated on a twig it constantly elevates and depresses its tail; and as might have been expected from its figure, it does not sit in the stiff upright position so peculiar to the European Kingfisher. Its note is not unfrequently uttered: it is low, and like the clicking together of two small stones. I was informed that it builds in trees. The internal coating of the stomach is of a fine orange colour. Mr. Gould has seen specimens of this bird from Mexico; it enjoys, therefore, a very wide range.

2. *CERYLE TORQUATA*, *Bonap.*

Alcedo torquata, *Gmel.*

Ispida torquata, *Suain.*

This bird is common in the south part of Chile, in Chiloe, the Chonos Archipelago, and on the whole west coast, as far as the extreme southern parts of Tierra del Fuego. In these countries, it almost exclusively frequents the retired bays and channels of the sea with which the land is intersected; and lives on marine productions. I opened the stomach of one, and found it full of the remains of crustaceæ, and a part of a small fish. It occurs likewise in La Plata, and is very common in Brazil, where it haunts fresh water. It is said (*Dict. Class. d'Hist. Nat.*) to occur in the West Indian islands; it has, therefore, a wider range (from the equatorial region to the neighbourhood of Cape Horn) than the *Ceryle Americana*.

FAMILY.—MUSCICAPIDÆ. *Vieill.*SUB-FAM.—TYRANNINÆ. *Sw.*SAUROPHAGUS SULPHURATUS. *Swains.**Lanius sulphuratus. Gmel.**Tyrannus magnanimus. Vieill. Ency. Meth. p. 850.**Tyrannus sulphuratus. D'Orb. et Lafre. Mag. de Zool. 1837, p. 42.*

The habits of this bird are singular. It is very common in the open country, on the northern banks of the Plata, where it does not appear to be a bird of passage. It obtains its food in many different methods. I have frequently observed it, hunting a field, hovering over one spot like a hawk, and then proceeding on to another. When seen from a short distance, thus suspended in the air, it might very readily be mistaken for one of the rapacious order; its stoop, however, is very inferior in force and rapidity. At other times the *Saurophagus* haunts the neighbourhood of water, and there, remaining stationary, like a kingfisher, it catches any small fish which come near the margin. These birds not unfrequently are kept, with their wings cut, either in cages or in court-yards. They soon become tame, and are very amusing from their cunning odd manners, which were described to me, as being similar to those of the common magpie. Their flight is undulatory, for the weight of the head and bill appears too great for the body. In the evening the *Saurophagus* takes its stand on a bush, often by the road-side, and continually repeats, without change, a shrill and rather agreeable cry, which somewhat resembles articulate words. The Spaniards say it is like the words, "Bien te veo" (I see you well), and accordingly have given it this name.

MUSCIVORA TYRANNUS. *G. R. Gray.**Muscicapa Tyrannus. Ste.**Tyrannus Savana. Vieill. Bonap. Am. Orn. pl. 1. f. 1.*

This species belongs to Mr. Swainson's genus *Milvulus* (more properly *Milvulus*), but which name Mr. G. R. Gray has altered to *Muscivora* as the latter was proposed for *Musc. forficata* as far back as 1801, by Lacepède.

It is very common near Buenos Ayres; but I do not recollect having seen many in Banda Oriental. It sits on the bough of a tree, and very frequently on

the ombu, which is planted in front of many of the farm houses, and thence takes short flights in pursuit of insects. From the remarkable structure of its tail, the inhabitants of the country call it scissor-tail; a name very well applied from the manner in which it opens and shuts the forked feathers of its tail. Like all birds thus constructed, (of which the frigate bird offers a most striking example), it has the power of turning very shortly in its flight, at which instant it opens and shuts its tail, sometimes, as it appears, in a horizontal and sometimes in a vertical plane. When on the wing it presents in its general appearance a caricature likeness of the common house swallow (*Hirundo rustica*). The *Muscivora*, although unquestionably belonging to the family of *Muscicapidæ* manifests in its habits an evident relationship with birds of the fissirostral structure.

SUB-GEN. PYROCEPHALUS, GOULD.

MUSCICAPA. *Auct.*MUSCIPETA. *Cuv.*TYRANNULA. *Swain.*

Rostrum capite brevius, rectum, depressum, basi setis numerosis nigris obsessum; mandibulâ superiore emarginatâ, inferiorem obtegente; naribus rotundatis patulis. Caput subcristatum. Alæ longæ; remige prima secundum tertiamque longissimas subæquales fere æquante. Tarsi mediocres, anticè scutellati; digitis lateralibus inæqualibus, exteriore longiore. Cauda mediocris quadrata.

Mr. Gould observes, that "the males of nearly all the members of this group (which may be considered either as a distinct genus or sub-genus of *Myiobius*), have the crown of the head and greater part of the under surface scarlet. Four species were obtained.—*Pyrocephalus parvirostris*, (Gould), and *Muscicapa coronata*, (*Auct.*), may be taken as types.

1. PYROCEPHALUS PARVIROSTRIS. Gould.

Plate VI.

Le Churrinche, *Asara*. No. 177.

P. suprà fuscus; capite et subtus nitidè puniceis; rectricibus exterioribus tectricumque et secundariorum apicibus griseo-marginatis.

Long. tot. $5\frac{1}{2}$ unc.; alæ, $13\frac{1}{2}$; caudæ, $2\frac{1}{2}$; tarsi, $\frac{1}{2}$; rostr. $\frac{1}{2}$.

Crown of the head, crest, and all the under surface, bright scarlet; the remainder

of the plumage, deep brown; the outer tail-feathers on each side, and the edges of the secondaries and wing-coverts, margined with grey.

Habitat, La Plata, (October.)

This species differs from *Pyr. coronatus* or *Muscapa coronata*, of authors, chiefly in its size; in other respects it is very similar. The admeasurements of the latter, for comparison (as given me by Mr. G. R. Gray), are: total length, 5 inches and 8 lines; bill, between 9 and 10 lines; wings, 3 inches and 2 lines; tail, 2 inches and 7 lines; tarsi, 7 or 8 lines.

During the summer, this bird was common both near Buenos Ayres and Maldonado; but at the latter place, I did not see one in the months of May, June, July, (winter) and therefore, no doubt it is a bird of passage, migrating southward during the summer from Brazil. The birds of this and the allied genera, correspond very closely in their habits to certain of the Sylviadæ of Europe; some of the species frequenting bushes, like the black-cap, (*Sylvia atricapilla*); others more usually the ground, as the robin (*Sylvia rubecula*) or hedge-sparrow (*Accentor modularis*). Another group (*Synallaxis*, &c.) represent those European Sylviæ, which frequent reeds.

2. PYROCEPHALUS OBSCURUS. Gould.

P. lividus rufotinctus; præcipuè in fronte ventree.

Long. tot. $5\frac{9}{12}$ unc.; ala, $3\frac{2}{12}$; cauda, $2\frac{2}{12}$; tarsi, $\frac{7}{12}$; rostr. $\frac{3}{12}$.

All the plumage chocolate-brown, tinged with red, the latter colour predominating on the forehead and lower part of the abdomen; bill and tarsi, black.

A single specimen was obtained, and it would appear to be either an immature bird or a female.

Habitat, Lima, Peru. (August.)

3. PYROCEPHALUS NANUS. Gould.

PLATE VII.

P. fuscus; rectricum exteriorum marginibus omniumque et secundariorum apicibus nitidè griseo-brunneis.

Femina, brunnea; gutture griseo-albo; corpore subts pallidè flavescens; pectoris laterumque plumis in medio brunneo-striatis.

Long. tot. $4\frac{1}{2}$ unc.; ala, $2\frac{2}{10}$; cauda, $2\frac{2}{12}$; tarsi, $\frac{7}{12}$; rostri, $\frac{3}{12}$.

Male.

Crown of the head, crest, and all the under surface, scarlet; back, wings, and

tail, sooty-brown; the external margin of the outer tail feathers, and the tips of all, light greyish brown; bill and tarsi, black.

Female.

All the upper surface, wings, and tail, brown; throat, greyish white; the remainder of under surface, pale buff, the feathers of the chest and flanks, with an obscure fine stripe of light brown down the centre.

Habitat, Galapagos Archipelago. (*September.*)

There is nothing remarkable in the habits of this bird. It frequents both the arid and rocky districts near the coast, and the damp woods in the higher parts of several of the islands in the Galapagos Archipelago.

4. PYROCEPHALUS DUBIUS. *Gould.*

P. minor, lividus; fronte, superciliis corporeque subtus stramineis; tectricibus stramineo marginatis.

Long. tot. $4\frac{1}{2}$ unc; *alæ*, $2\frac{3}{4}$ caudæ, $1\frac{9}{12}$; *tarsi*, $\frac{7}{12}$; *rostr.*

Forehead, stripe over the eye, and all the under surface pale buff; back of the neck and upper surface chocolate brown; greater and lesser wing coverts margined with buff.

Habitat, Galapagos Archipelago, (*September.*)

From the appearance of this bird when alive, although closely resembling *P. nanus*, I entertained no doubt that it was a distinct species. Mr. G. R. Gray informs me that there is a specimen of a male in the British Museum, which differs from the male of the precedent species, in having the upper colour of a decided brown, and the external margins of the outer tail feathers and tips of the secondaries rather reddish white; also in size as stated by Mr. Gould.

MYIOBIUS. *G. R. Gray.*

TYRANNULA. *Swains.*

Mr. Gould had adopted for the following species Mr. Swainson's generic appellation of *Tyrannula*, but Mr. G. R. Gray has pointed out, that as *Tyrannulus* was proposed and published eleven years before, namely in 1816, by Vieillot, it becomes necessary to change the former name, and therefore he proposes *Myiobius*.

1. MYIOBIUS ALBICEPS. *G. R. Gray.**Muscipeta albiceps.* *D'Orb. et Lafr. Mag. de Zool.* 1837, p. 47.

This bird is not uncommon in Tierra del Fuego, and along the western coast of the southern part of the continent, where the land is covered with trees; it is occasionally found near Valparaiso in central Chile; and likewise in Banda Oriental on the banks of the Plata, where the country is open, from all of which places I procured specimens. At Port Famine and in the islands of the Chonos Archipelago, it inhabits the gloomiest recesses of the great forests. It generally remains quietly seated high up amongst the tallest trees, whence it constantly repeats a very plaintive, gentle whistle, in an uniform tone. The sound can be heard at some distance, yet it is difficult to perceive from which quarter it proceeds, and from how far off; and I remained in consequence, for some time in doubt, from what bird it proceeded.

2. MYIOBIUS AURICEPS.

Tyrannula auriceps. *Gould, MS.*

M. rufus; capite cristato nitidè flavo; plumarum apicibus brunneis; alis brunneis, secundariarum marginibus tectricumque apicibus rufis; caudâ pallidè brunneâ, plumarum externarum marginibus externis pallidioribus; gutture corporeque subtus pallidè flavescenti-albis; plumis singulis fasciâ centrali brunneâ.

Long. tot. $5\frac{3}{4}$ unc; ala, $2\frac{1}{2}$ caude, $2\frac{1}{4}$ tarsi, $\frac{3}{16}$ rostr. $\frac{1}{16}$.

All the upper surface rufous; the basal portion of the coronal feathers yellow; tail uniform light brown, the external margin of the outer feathers lighter; wings brown, the external margin of the secondaries and the tips of the greater and lesser wing-coverts rufous; throat and all the under surface pale buffy white, each feather having a brown mark down the centre; bill brown; feet black.

Habitat, Buenos Ayres, La Plata, (*August*).

This bird is about the size of a sparrow. It is nearly allied to *Tyrannula ferruginea* of Swainson and *M. cinnamomea* of D'Orbig. and Lafr.

3. MYIOBIUS PARVIROSTRIS.

Tyrannula parvirostris, Gould, MS.

M. suprà rufobrunneus; pileo, nuchâ humerisque obscurè olivaceo-brunneis; alis brunneis, primariarum et secundariarum marginibus exterius angustè tectricumque latè ferrugineis; caudâ guttureque griseo-brunneis; pectore abdomineque flavescenti brunneis.

Long. tot. $4\frac{9}{12}$ unc.; ala, $2\frac{7}{12}$; cauda, $2\frac{2}{12}$; tarsi, $\frac{9}{12}$; rostr. $\frac{7}{12}$.

Crown of the head, back of the neck, and shoulders, dark olive brown; back and upper tail coverts rufous brown; wings brown; the external edges of the primaries and secondaries finely, and the greater and lesser wing coverts broadly margined with ferruginous; tail uniform greyish brown; throat brownish grey; chest and abdomen sandy brown; upper mandible dark brown; under mandible yellowish brown; feet blackish brown.

Habitat, Tierra del Fuego, Chile, and La Plata.

This bird inhabits the forests of Tierra del Fuego, and as I procured specimens of it in the beginning of winter (June), it probably remains throughout the year in the extreme southern part of South America. Other specimens were procured on the banks of the Plata, and near Valparaiso in Chile; it has therefore a wide range.

4. MYIOBIUS MAGNIROSTRIS.

PLATE VIII.

Tyrannula magnirostris. Gould, MS.

M. Fœm. Suprà olivaceo-brunnea; caudâ brunneâ; rectricum externarum marginibus griseo-brunneis; gutture pectoreque olivaceo griseis; abdomine caudæque tectricibus inferioribus pallidè flavis; alis saturatè brunneis, secundariis tectricibusque latè griseo marginatis.

Long tot. $5\frac{6}{12}$; ala, $2\frac{9}{12}$; cauda, $2\frac{2}{12}$; tarsi, $1\frac{1}{12}$; rostr. $\frac{2}{12}$.

Crown of the head and back olive brown; tail brown; the external margins of the two outer feathers greyish brown; throat and chest olive grey; abdomen and under tail coverts very pale citron yellow; wings dark brown; secondaries, greater and lesser wing coverts broadly margined with grey; bill and feet black.

Habitat, Chatham Island, Galapagos Archipelago (October).

This bird and the *Pyrocephalus nanus*, inhabit the same island. Not very uncommon.

GENUS.—SERPOPHAGA. Gould.

Rostrum capite multò brevius, rectum, subdepressum; tomis rectis; mandibulâ superiore submarginatâ; naribus basalibus, lateralibus, pilis mollibus anticè versis partim tectis. Alæ breves, concavæ, remige quartâ longissimâ. Cauda longiuscula subrotundata. Tarsi mediocres squamis duris annulati; digitis parvis, postico mediano breviorè, lateralibus æqualibus, exteriorè cum mediano usque ad articulum priorem connatum.

1. SERPOPHAGA PARULUS. Gould.

Muscicapa parulus, Kütitz, Mem. L'Acad. Imp. des Sci. St. Peters. 1831. 1. p. 190. Pl. 9.

Sylvia Bloxami, Gray's Zool. Misc. 1831. p. 11.

Culicivora parulus, D'Orbigny & Lafre. Mag. de Zool. 1837, p. 57.

This bird is common in central Chile, in Patagonia, and although found in Tierra del Fuego, it is not numerous there. Its specific name is very well chosen, as I saw no bird in South America whose habits approach so near to those of our tom-tits (*Parus*). It frequents bushes in dry places, actively hopping about them, and sometimes repeating a shrill cry; it often moves in small bodies of three and four together. In August I found the nest of one in a valley in the Cordillera of central Chile; it was placed in a bush and was simply constructed.

2. SERPOPHAGA ALBO-CORONATA. Gould.

S. supra olivaceo-brunnea, subtus pallidè flava; pileo nigrescenti brunneo, in hoc plumarum basibus lineâque supra oculos albis; alis nigrescenti brunneis, primariis angustè olivaceo marginatis, tectricibus latè olivaceo-griseo marginatis, gutture griseo.

Long. tot. $4\frac{3}{4}$; alæ, 2; caudæ, 2; tarsi, $\frac{1}{2}$; rostr. $\frac{1}{10}$.

A stripe of white from the nostrils over each eye; crown of the head brown, the base of all the feathers pure white; back of the neck, back and upper tail coverts olive brown; wings blackish brown, the external edges of the primaries finely margined with olive, and the greater and lesser wing coverts largely tipped with olive grey; tail uniform brown; throat grey; abdomen and under tail coverts pale citron yellow; bill and feet brown.

Habitat, Maldonado, La Plata, (June).

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This bird, like the last species, generally moves in very small flocks. Its habits, I presume, are also very similar; for I state in my notes that it closely approaches to our tit-mice in general manners and appearance.

3. SERPOPHAGA NIGRICANS. Gould.

Sylvia nigricans, Vieill.

Tachuris nigricans, D'Orbigny, & Lafr. Mag. de Zool. 1837. p. 55.

Le Petit Tachuris noirâtre, Azara, No. 167.

This bird is common in the neighbourhood of Maldonado, on the banks of the Plata. It generally frequents the borders of lakes, ditches, and other moist places; but is related in its general manners with the last species. It often alights on aquatic plants, growing in the water. When seated on a twig it occasionally expands its tail like a fan.

SUB-FAM.—TITYRANÆ. (PSARIANÆ, Sw.)

PACHYRAMPHUS, G. R. Gray.

Pachyrhynchus, Spix.

1. PACHYRAMPHUS ALBESCENS.

Pachyrhynchus albescens, Gould, MS.

PLATE XIV.

P. olivaceo-griseus; *alis nigrescenti brunneis, albescenti marginatis*; *guttur corpore-que subtus griseo-albis*; *alarum tectricibus inferioribus pallide sulphureis*.

Long. tot. $5\frac{3}{12}$ unc.; *ala*, $2\frac{7}{12}$; *cauda*, $2\frac{6}{12}$; *tarsi*, $\frac{9}{12}$; *rost.*, $\frac{1}{12}$.

Head and all the upper surface olive grey; wings blackish brown, the coverts and secondaries broadly margined with dull white; primaries narrowly margined with greyish white; tail blackish brown, the external web of the outer feather white; under surface of the shoulder pale sulphur yellow; throat and under surface greyish white; bill and feet black.

Habitat, Buenos Ayres.

The generic name of *Pachyrhynchus* Spix, is changed by Mr. G. R. Gray, to *Pachyramphus*, as the former word is used in entomology.

2. PACHYRAMPHUS MINIMUS.

Pachyrhynchus minimus, Gould, MS.

PLATE XV.

P. rufo brunneus; capite guttureque brunneo-nigris; plumarum basibus albis; alis caudæque brunneis, plumis flavescenti-albo marginatis; colli lateribus, fasciâ pectorali hypochondriisque fulvis; jugulo ventrequè pallidè flavescentibus.

Long. tot. $3\frac{1}{2}$; alæ, $1\frac{1}{2}$; cauda, $1\frac{1}{2}$; tarsi, $\frac{1}{2}$; rostr. $\frac{1}{2}$.

Crown of the head, sides of the face and throat blackish brown, each feather white at the base; back of the neck black, and upper tail coverts rufous brown; wings and tail dark brown, each feather margined with sandy white; sides of the neck, under surface of the shoulder, band across the chest and flanks reddish fawn colour; lower part of the throat, and centre of the abdomen very pale buff; bill and feet blackish brown.

Habitat, Monte Video, (November).

SUB-FAM.—FLUVICOLINÆ, SWAIN.

ALECTURUS GUIRAYETUPA. Vieill. Dict.

Muscicapa psalura, Temm., Pl. Col. t. 286 and 296.

—— risoria, Vieill., Gal. des Ois. Pl. 131.

Yetapa psalura, Less., Tr. d'Orn. i. p. 387.

Le Guirayetupa, Azara, No. 226.

This bird is not uncommon on the open grassy country near Maldonado on the banks of the Plata. It sits generally on the top of a thistle; from which it makes short flights and catches its prey in the air. The two long feathers in its tail appear quite useless to it. It sometimes feeds on the ground. In the stomach of one which I opened there was a spider (*Lycosa*), and some Coleoptera.

1. LICHENOPS PERSPICILLATUS. G. R. Gray.

Sylvia perspicillata, Gmel.

Eranthe perspicillata, Vieill.

Ada Commersoni, Less.

Perspicilla leucoptera, Swainson, Nat. Libr. x. Flyc. p. 105, Pl. 9.

Fluviola perspicillata, D'Orb. & Lagr., Mag. de Zool. 1837, p. 59.

Le Clignot ou Lichenops, Comm., Sundee.

Le Bec d'argent, Azara, No. 228.

This bird belongs to the sub-genus, *Perspicilla*, of Mr. Swainson; but as Mr.

G. R. Gray has pointed out that Commerson had previously considered it the type of his genus, *Lichenops*, we have been induced to prefer the latter as the oldest name. It is common in the neighbourhood of the Plata, and across the Pampas, as far as Mendoza on the eastern foot of the Andes; it has not, however, crossed those mountains and entered Chile. It usually sits on the top of a thistle, and like our common fly-catchers (*Muscicapa grisola*), takes short flights in pursuit of insects; but does not, like that bird, return to the same twig. It feeds, also, occasionally on the turf: in the stomach of some which I opened, I found Coleopterous insects, chiefly Curculionidæ. Beak, eye-lid, and iris, beautiful primrose yellow.

2. LICHENOPS ERYTHROPTERUS. Gould.

PLATE IX.

L. supra nigrescenti-brunneus, plumis rufo-marginatis; primariis secundariisque castaneis, apicibus pogoniæque externæ dimidio apicali brunneis; gutture corporeque subtus cervinis; pectore brunneo-marginato.

Long. tot. 6 unc.; ala, 3; cauda, $2\frac{3}{4}$; tarsi, 1; rostri, $\frac{1}{2}$.

All the upper surface and tail blackish brown, each feather margined with rufous; primaries and secondaries reddish chesnut, their tips and their external webs for half their length from the tip, brown; tertiaries, greater and lesser wing-coverts dark-brown, each feather margined with reddish buff; throat, and all the under surface, fawn colour; the chest spotted with brown; base of the bill, and chiefly of the lower mandible, as well as the iris, bright yellow; eye-lid, blackish yellow; feet, dark brown.

Habitat, Banks of the Plata.

This bird is not very common. It frequents damp ground, where rushes grow, on the borders of lakes. It feeds on the ground and *walks*. It is certainly allied in many respects with the foregoing species, but in its power of walking, and in feeding on the ground, there is a marked difference in habits. As it has lately been described (Swainson's Nat. Libr. Ornith. x. p. 106.) as the female of the *L. perspicillatus*, I will here point out some of its chief distinguishing characters. Its beak is slightly more depressed, but with the ridge rather more plainly pronounced. In the *L. perspicillatus*, the upper mandible is entirely yellow, excepting the apex; in the *L. erythropterus*, it is entirely pale brown, excepting the base. The eyelid in the former is bright primrose yellow, in the latter blackish yellow. The tail of *L. erythropterus* is squarer and contains only ten feathers instead of twelve: the wing is $\frac{1}{4}$ of an inch shorter, and the secondaries relatively to the primaries are also shorter. The red colour on the primaries represents, but does not correspond with, the white on the black feathers of *L. perspicillatus*; and the secondaries in the two birds

are quite differently marked. In *L. erythropterus*, the third, fourth, and fifth primaries are the longest, and are equal to each other; the second is only a little shorter than the third. In *L. perspicillatus* the third is rather shorter than the fourth and fifth; and the second is proportionally shorter relatively to the third, so that the outer part of the wing in this species is more pointed than in *L. erythropterus*. The hinder claw in the latter is only in an extremely small degree straighter than in the former; and this, considering that the *L. perspicillatus* is generally perched, and when on the ground, can only hop; and that the *L. erythropterus* feeds there entirely, and walks, is very remarkable.

1. FLUVICOLA ICTEROPHRYS. *D'Orb. & Lafr. Mag. de Zool.* 1837. p. 59.

Muscicapa icterophrys, *Vieill. Encyc. Meth.* p. 832.

Le Suiriri noirâtre et jaune, *Azara*, No. 183.

Specimens were found by me both at Monte Video and at Maldonado, on the banks of the Plata. I found Coleoptera in their stomachs.

2. FLUVICOLA IRUPERO. *G. R. Gray.*

Tyrannus irupero, *Vieill. Ency. Meth.* p. 856.

Muscicapa mæsta, *Licht. Cat.* p. 54.

Muscicapa nivea, *Spix*, *Av. pl.* 29. f. 1.

Pepoaza nivea, *D'Orb. & Lafr. Mag. de Zool.* 1837. p. 62.

Irupero, *Azara*, No. 204.

This elegant bird, which is conspicuous amongst most land species by the whiteness of its plumage, is found, though not commonly, (in November) in Banda Oriental; whilst near Santa Fé, three degrees of latitude northward, it was common during the same time of year. It is rather shy, generally perches on the branches of bushes and low trees.

3. FLUVICOLA AZARÆ. *Gould.*

PLATE X.

F. alba; *alis, caudæ caudæque tectricibus atris, his albo-marginatis; primariis flavescenti-albis, basibus apicibusque nigris; rostro pedibusque atris.*

Long. tot. $8\frac{1}{2}$ unc.; *alar*, $4\frac{1}{2}$; *caudæ*, $4\frac{1}{2}$; *tarsi*, 1; *rostr.* 1.

Head, all the upper and under surface white; wings and tail black; tail coverts black margined with white; primaries broad and crossed near their extremity with sulphur white, and tipped with brown; bill and legs black.

Habitat, banks of the Plata.

This bird is very common in the neighbourhood of Maldonado, where it frequents the open grassy plains. It sits on the top of a thistle, or on a twig, and catches the greater part of its food on the wing. It is generally quiet in its movements and silent. Mr. Gould remarks, that he finds "nearly all the species of this peculiar group to differ remarkably in the structure of their wings and tail, while in all other respects they closely resemble each other both in form and habit; I have, therefore, hesitated to separate them into so many genera. I have assigned the present species to Mr. Swainson's subgenus *Fluvicola*, considering that differences in the form of one organ alone would not be sufficient grounds for the institution of a new genus among such closely allied species; the present bird evidently leads off to *Tenioptera*, a genus proposed many years since, by the Prince of Musignano for the *Pepoazas* of Azara.

"This species is closely allied to, if not identical with the *Pepoaza Dominicana* of Azara, but as there is a degree of obscurity in his description, which causes some doubt on this point, I have considered it better to pay a just tribute of respect to that zealous labourer in the field of natural science, by assigning his name to this very elegant bird."

1. XOLMIS CORONATA. *G. R. Gray.*

Tyrannus coronatus, *Vieill. Ency. Meth.* p. 885.

Muscicapa vittiger, *Licht. Cat.* p. 54.

My specimen was obtained on the wooded banks of the Parana, near Santa Fé, in Lat. 31° S.

Boie's name of *Xolmis* is adopted by Mr. G. R. Gray, as it was proposed some five years anteriorly to that of the Prince of Musignano's.

2. XOLMIS NENGETA. *G. R. Gray.*

Lanius nengeta, *Linné*, l. p. 135. '7.

Tyrannus nengeta, *Sicains. Journ. Sci.* xx. p. 279.

Fluvicola nengeta, *Sicains. Nat. Libr. Fly-catchers*, p. 102. pl. 8.

Tyrannus pepoaza, *Vieill. Ency. Meth.* p. 855.

Muscicapa polyglotta, *Licht. Spie. II.* pl. 24.

Tyrannus polyglottus, *Cuv.*

Le *Pepoaza* proprement dit, *Azara*, No. 201.

My specimen was procured at Maldonado, north bank of La Plata, where it is not common. Its habits in many respects are like those of the *Fluvicola Azarae*; it appears to catch its prey on the wing. Iris bright red.

3. *XOLMIS VARIEGATA*. *G. R. Gray.*

PLATE XI.

Pepoaza variegata. *D'Orb. & Lafr. Mag. de Zool.* 1837. p. 63. Voy. dans l'Amér. Mèr. Orn. pl. 39. f. 2.
Tœnioptera variegata. On plate.

This bird feeds in small flocks, often mingled with the icteri, plovers, and other birds on the ground. Its manner of flight and general appearance never failed to call to my recollection our common fieldfares (*Turdus pilaris*, Linn.) and I may observe that its plumage (in accordance with these habits) is different from that of the rest of the genus. I opened the stomachs of some specimens killed at Maldonado, and found in them seeds and ants. At Bahia Blanca I saw these birds catching on the wing large stercorivorous Coleoptera; in this respect it follows the habits, although in most others it differs from those of the rest of its tribe. Iris rich brown.

4. *XOLMIS PYROPE*. *G. R. Gray.*

Muscicapa pyrope, *Kittlitz*, Mem. l'Acad. Imp. des Sci. St. Peters. 1831. p. 191. pl. 10. Vögel von Chili, pl. 10. p. 19.

Pepoaza pyrope, *D'Orb. & Lafr. Mag. de Zool.* 1837. p. 63.

This bird is not uncommon near Port Famine in Tierra del Fuego, and along the whole western coast (at Chiloe specimens were obtained) even as far north as the desert valley of Copiapó. In the thickly wooded countries of Tierra del Fuego and Chiloe, where it is more common than further northward, it generally takes its station on the branch of a tree, on the outskirts of the forest. When thus perched, usually at some height above the ground, it sharply looks out for insects passing by, which it takes on the wing. Iris scarlet. It builds a coarse nest in bushes. Egg perfectly white, pointed oval; length one inch, breadth .76 of an inch.

GENUS.—AGRIORNIS. Gould.

Tyrannus, *Eyd. & Gere.*Pepoaza, *D'Orb. & Lafr.*

Rostrum longitudine capitis, rectum, forte, compressum, abruptè deflexum, emarginatum; tomis rectis integris; naribus basalibus, lateralibus, rotundis, patulis; rictu pilis rigidiusculis obsesso. Alæ mediocres, remige primâ longâ, tertiâ quartâque æqualibus, longissimis. Cauda mediocris, quadrata. Tarsi longi, fortes, squamis crassis annulati; digito ungueque postico mediano brevior, lateralibus æqualibus, liberis.

Mr. Gould observes that the members of this genus are remarkable for their robust form and for their strength and magnitude of their bills; and their habits strictly accord with their structure, as they are fierce and courageous.

The species are closely allied to those of the preceding genus.*

1. AGRIORNIS GUTTURALIS. Gould.

Tyrannus gutturalis, Eyd. & Gere. Voyage de la Fav. Ois. dans Mag. de Zool. 1836. pl. 11.

Pepoaza gutturalis, D'Orb. & Lafr. Mag. de Zool. 1837. p. 64.

My specimens were obtained near Valparaiso in Chile. I saw it as far north as the valley of Copiapó. I was assured by the inhabitants that it is a very fierce bird, and that it will attack and kill the young of other birds.

2. AGRIORNIS STRIATUS. Gould.

A. Fem. intensè olivaceo-brunnea; alis caudâque fuscis, utriusque plumis marginibus apiceque pallidè brunneis; rectricum externarum pogoniâ externâ albâ; gutture facieque lateribus albis, his nigrostriatis; pectore hypochondriisque olivaceo-brunneis; ventre crissoque flavescentibus.

Long. tot. 10 unc.; alæ, $4\frac{9}{12}$; cauda, $4\frac{1}{12}$; tarsi, $1\frac{3}{12}$; rostri, $1\frac{2}{12}$.

Head, and all the upper surface dark olive brown; wings and tail dark brown, each feather margined and tipped with pale brown, and the outer web of the external tail-feather, white; throat, and sides of the face, white, striated with

* Perhaps to this genus belong *Muscicapa thamnophiloides* and *cinerea*, figured by Spix, in his *Aves*, pl. 26. f. 1 and 2. *G. R. Gray.*

Genus—*MYIARCHUS*. Gould.

Tarsus, 1.5 line.

Toes, 1.0 line.

Myiarchus longitarsus capitis ruberis, front. cinereascenti, superc. cinereis, fronto-ocularibus; fronte rubra integris; maxilla cinerea, mandibula, maxilla palmarum, rictu alb. aperturam clausis. Alaribus, venter, pedes longi, carpi quatuordecim squamis, longioribus. Clavis carpalis, quadrata. Tarsi longi, fusi, squamis vixis, unguibus, digitis longioribus; pollex medianus brevior, laterales squallidi, breves.

Mr. Gould observes that the members of this genus are remarkable for their robust form and for their strength and magnitude of their bills; and their habits strictly accord with their structure, as they are fierce and voracious.

The species are closely allied to those of the preceding genus.*

3. *Myiarchus cinerascens*. Gould.

Myiarchus cinerascens, Aud. & Sney. Voy. Zool. Amer. Sept. 1845, p. 11.

Myiarchus cinerascens, 270, 2, 4 Linn. Mag. de Stockholm, p. 13.

My specimens were obtained near Valparaiso in Chile. I saw it as far north as the valley of Copacabana. I was assured by the inhabitants that it is a very fierce bird, and that it will attack and kill the young of other birds.

4. *Myiarchus cinerascens*. Gould.

Front. inferius albidus-brunneus; alar. cinereis; fronte, superc. plumbeo nigrescentibus; capite pallido brunneo; maxilla cinerea; mandibula, palmarum, rictu alb. aperturam clausis. Alaribus, venter, pedes longi, carpi quatuordecim squamis, longioribus. Clavis carpalis, quadrata. Tarsi longi, fusi, squamis vixis, unguibus, digitis longioribus; pollex medianus brevior, laterales squallidi, breves.

Length, 1.5 line. Alar. long. 1.0 line. Tarsus, 1.0 line.

Head, end of the upper surface, dark olive-brown; wings and tail dark brown, each feather elongated and tipped with pale brown. The outer web of the external tail-feather, often, almost, and below of the face, white, striated with

* Taken in the great valley of Patagonia, and others, figured by Aud. in the Ann. Mus. Nat. Hist. Paris, 1845, p. 11.



Eremochius phanicurus.





Synalaxis major.

Fig. 1. 1881

Birds Pl 23.



Synalaxis rufogularis.

2



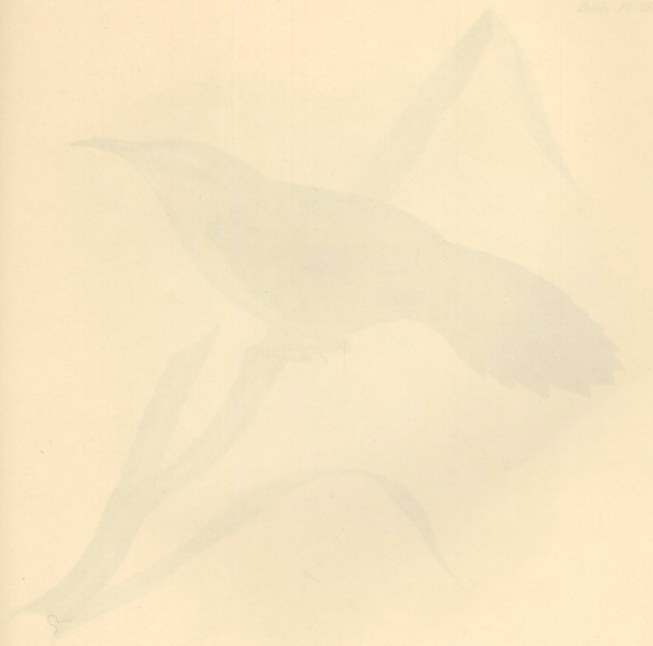
Sparganium angustifolium

2



Synalaxis flavogularis.

Plate 11



Fregata aethiops

2



Limnornis curvirostris.

28

Butcher's B.



Longhorned reed

2

Birds. Pl. 26.



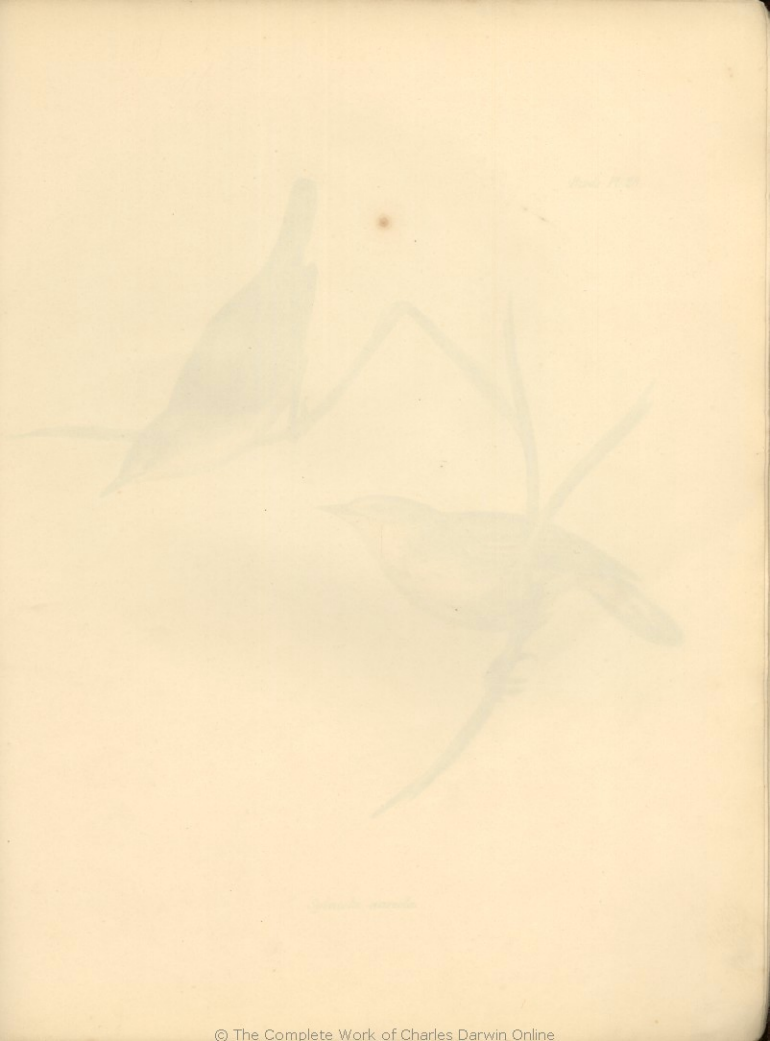
Linnæus rectirostris.



Fregata aquila



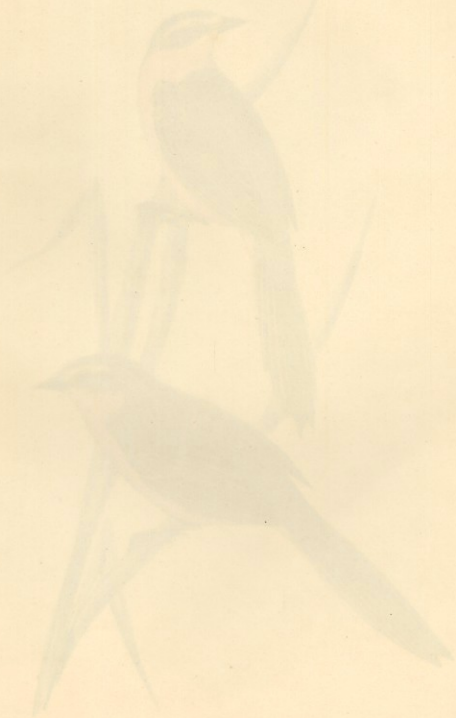
Dendrodracus leucosternus



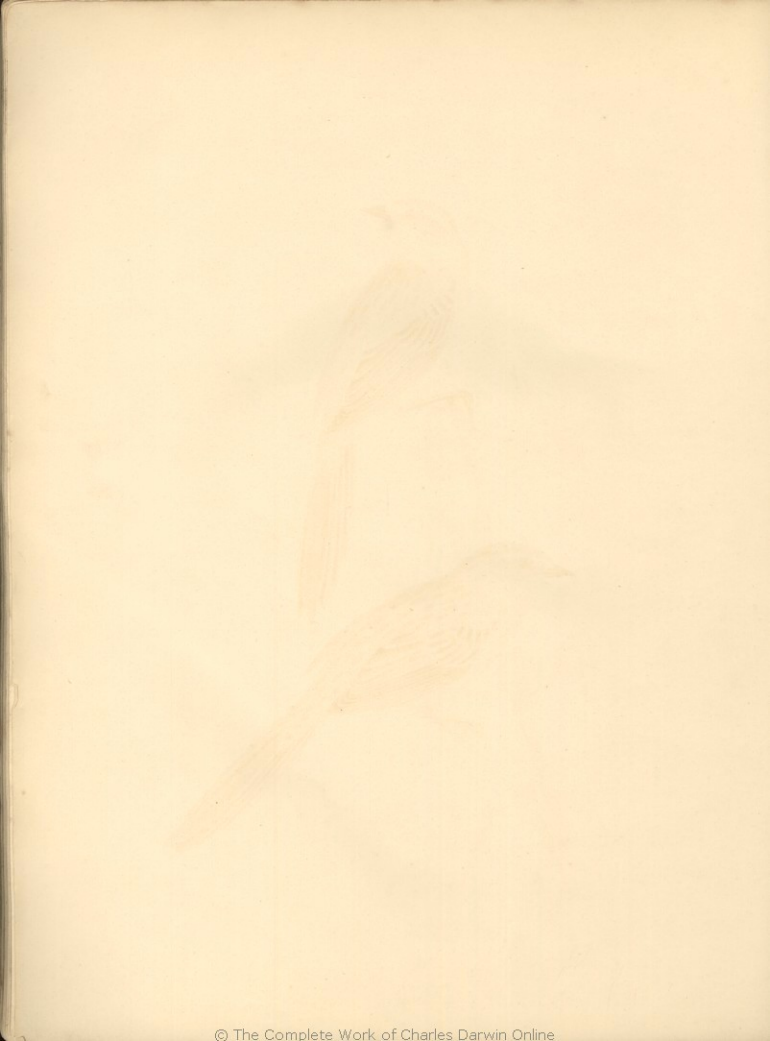


Sylviola aureola.

PLATE IV



Hirundo lunifrons





Ammodramus longicaudatus



Andropogon scoparius

Birds Pl. 30



Ammodramus aethiops

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UNDER THE AUTHORITY OF THE LORDS COMMISSIONERS OF HER MAJESTY'S TREASURY

ILLUSTRATIONS OF THE ZOOLOGY OF SOUTH AFRICA:

Consisting chiefly of Figures and Descriptions of the Objects of Natural History collected during an Expedition into the Interior of South Africa, in the years 1834, 1835, and 1836, fitted out by
"The Cape of Good Hope Association for Exploring Central Africa."

TOGETHER WITH

A SUMMARY OF AFRICAN ZOOLOGY,
AND AN INQUIRY INTO THE GEOGRAPHICAL RANGES OF SPECIES IN THAT QUARTER OF THE GLOBE.

BY ANDREW SMITH, M.D.

SURGEON TO THE FORCES, AND DIRECTOR OF THE EXPEDITION.

Prospectus.

THE Cape of Good Hope is now acknowledged to be one of the greatest avenues as yet opened for the researches of the Naturalist. Our Colony in that part of Southern Africa is the key to a large portion of an extensive continent which is still but very partially explored; and the field to which it admits the scientific traveller is rich to exuberance in the variety and novelty, both of animal and vegetable life.

Stimulated by the prospect of Discovery in a quarter so fertile in interest, "*The Cape of Good Hope Association for Exploring Central Africa*" was established in 1833; and in 1836, an Expedition fitted out by that body, consisting of thirty-four persons, and directed by Dr. Smith, after an absence of nineteen months, and penetrating as far as 23° 28' South latitude, returned to Cape Town laden with a variety of curious and important specimens in Natural History, &c.

Previously to this period little information has been furnished, in a shape calculated to enable the public to form accurate ideas of the various animated beings by which these regions are inhabited. The splendid publication of *Le Vaillant*, no doubt, should be mentioned as forming an exception, *pro tanto*; but this includes only a portion of the Birds of the most southern extremity of the country, and a work therefore extensive enough to comprehend the various departments of Zoology is still a desideratum.

The Members of *The Cape of Good Hope Association for Exploring Central Africa* found themselves, on the return of the recent Expedition, in a situation to supply at least some portion of the existing deficiencies; but their funds, even if it had been possible to divert them to such an object, were altogether inadequate to defray the expense of laying the result of their labours before the world. Under such circumstances, it was decided that Dr. Smith, the director of the Expedition, should be authorised, on his arrival in England, to wait upon Lord Glenelg, for the purpose of making him acquainted with the position and views of the Society, in the hope that Government might be induced to assist in the publication of their materials.

This hope has not been disappointed. At the recommendation of the Secretary of State for the Colonial Department, the Lords Commissioners of Her Majesty's Treasury have been pleased, by a pecuniary grant, to enable the Society to publish the result of its labours, without infringing upon the funds raised solely for the purposes of discovery; and in a form which, while it places the work within reach of most of the friends and promoters of science, will not, it is hoped, be found inconsistent with the interest and importance of the subject.

The materials for the work now offered, under such patronage, to the public, will consist of pictorial illustrations of between three and four hundred subjects of the animal kingdom, all of which have been collected to the south of 23° 28' South latitude; and will comprise,

First, and principally, unknown animals;

Secondly, animals known, but not yet figured; and

Lastly, such as have been imperfectly figured; but of which the Association is in possession of accurate drawings.

The Entomological portion of the work will be from the pen of W. S. Macleay, Esq., who has kindly undertaken that department. The rest of the descriptions will be furnished by Dr. Smith, who will add a summary of African Zoology, and an inquiry into the Geographical ranges of species in that quarter of the Globe.

Conditions of Publication.

The Work will appear periodically; and it is estimated, that the whole will be completed in about thirty-four parts, price, on an average, Ten Shillings each. As it will be necessary that the plates be published promiscuously, they will be arranged in five divisions, viz. MAMMALIA, AVES, PISCES, REPTILIA, and INVERTEBRATA. The plates of each of these divisions will be numbered independently, and the letter-press descriptions left unpagod, so that on the work being completed, they may be arranged either agreeably to the general classified order which will accompany the last number, or according to the particular views of the purchasers.

The whole of the Plates will be engraved in the highest style of Art, from Drawings taken expressly for this Work, and beautifully colored after Nature.

* * * THE FIRST SIX PARTS ARE NOW READY.