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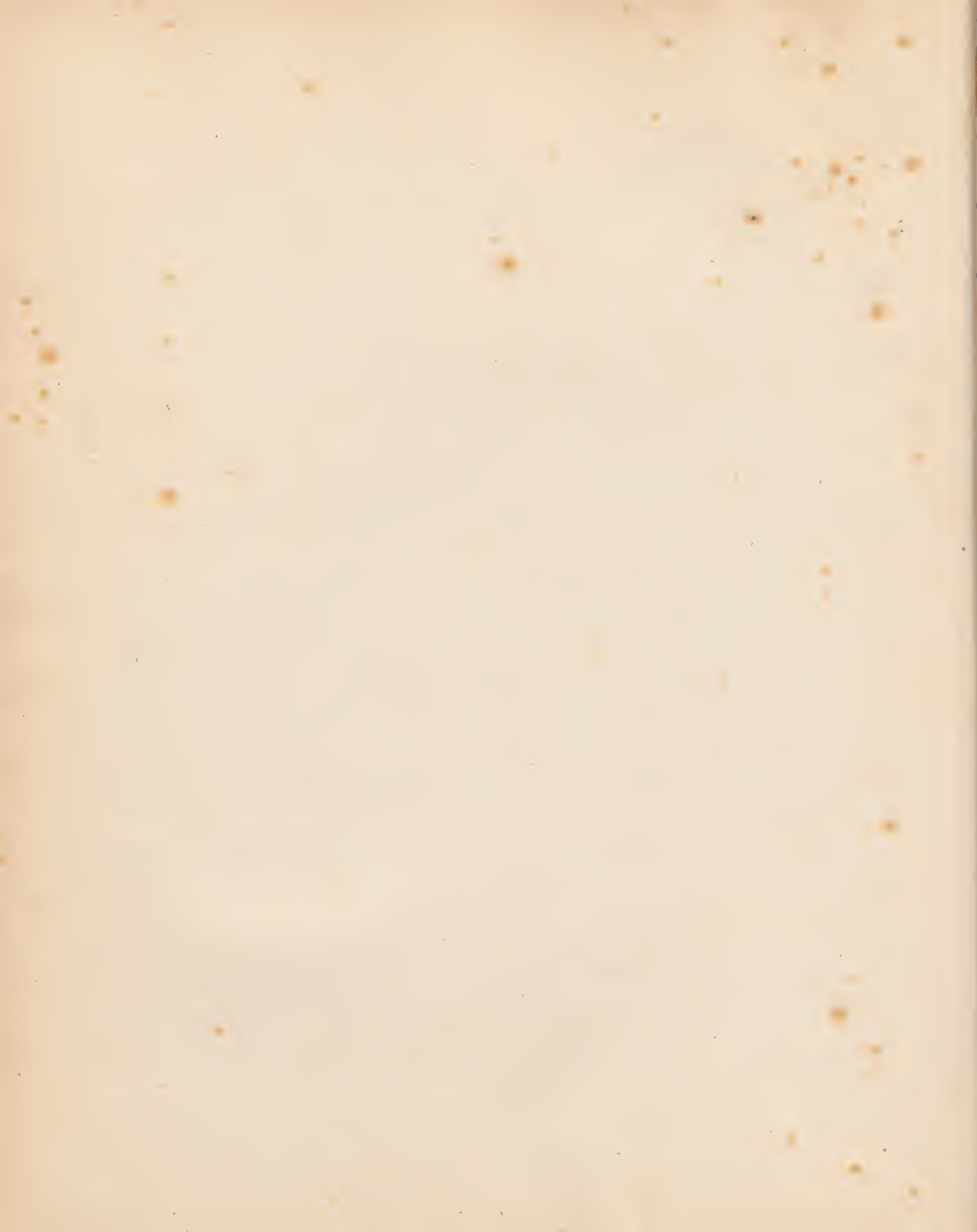
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ILLUSTRATIONS
OF THE
ZOOLOGY OF SOUTH AFRICA;

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.”

BY ANDREW SMITH, M.D.,

DEPUTY INSPECTOR GENERAL OF ARMY HOSPITALS;

DIRECTOR OF THE EXPEDITION.

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REPTILIA.

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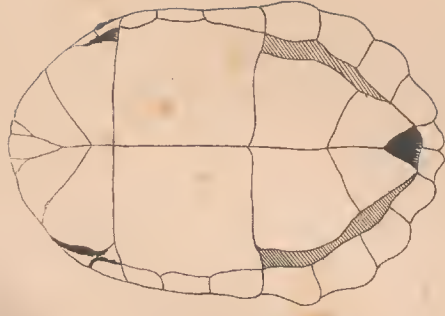
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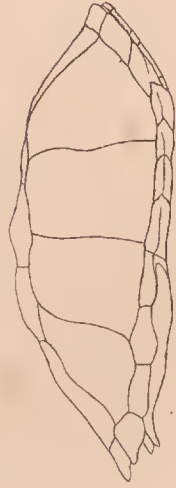
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* For Tarentola read Pachydactylus.

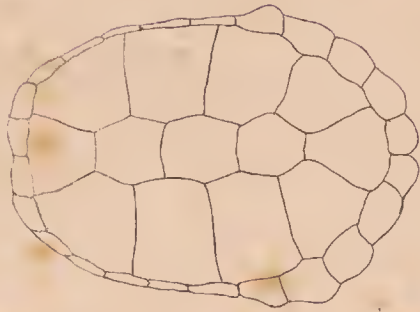




Des. Engle, Lith. in the Queen



STERNOTHERUS SINUATUS.
Reptilia.—Plate I.



STERNOTHERUS SINUATUS.—SMITH.

REPTILIA.—PLATE I. (MALE.)

S. capite pallidè stramineo-brunneo marmorato; capitis lateribus viridi-flavis; collo livido-brunneo pedibus stramineis maculis brunneis variegatis; testâ suprâ viridi-brunneâ, subtus aurantiâ, rubri-brunneo marginatâ; unguibus rubri-brunneis; mandibulâ superiori apice emarginato; inferiori apice acuminato, sursum productâ.

COLOUR.—Head above pale straw-yellow, finely marbled with brown lines; sides of head and lower jaw, greenish-yellow; neck livid brown; legs intermediate between wing and straw-yellow; nails reddish brown, occasionally inclined to yellow. Shell above dark greenish brown, the colour deepest towards the margin; the vertebral and the upper extremities of the costal plates tinted with livid grey; sternum, pale orange, variegated towards its edges with deep reddish brown, the latter colour most abundant upon the gular, the intergular, the anal, and the lateral parts of the abdominal plates; outer sides of upper and under jaws dark brown, with fine reddish brown vertical lines. Eyes straw-yellow.

FORM, &c.—Shell oblong, convex, and rather high; margin ovate, and broadest behind, where it is more or less sinuated. The second and third vertebral plates nearly horizontal and six-sided, the anterior edge of each narrower than the posterior; the fourth somewhat six-sided, the anterior edge broader than the posterior; the first somewhat four-sided, the anterior edge much broader than the posterior, and each of its angles sometimes produced so as to form on each side a triangular projection between the first costal and the anterior marginal plates; near the centre of the anterior edge of this plate is another triangular projection which enters between the two foremost marginal plates; the posterior dorsal plate somewhat of the same form as the anterior one, only narrower; the third and fourth plates with a central elevation towards their hinder margins. Costal plates higher than broad, four-sided, the first of these where it is in contact with the marginal plates very wide, which gives it a somewhat triangular appearance. Marginal plates twenty-four: the first, second, third, fourth, ninth, tenth, eleventh, and twelfth, four-sided, the fifth, sixth, seventh, and eighth, more or less five-sided, and on the anterior side of each at the very margin of the shell is a small triangular process, which is received into a corresponding cavity in the hinder edge of the scale immediately in front of it; margin between the fore and hinder legs obtuse, elsewhere thin and sharp. Sternum semicircular in front, deeply emarginate behind; a transverse joint between pectoral and abdominal plates; gular plates small and triangular;

STERNOTHERUS SINUATUS.

intergular plate five-sided; brachial plates rhomboidal; pectoral plates at their commissure with each other narrow, the posterior edges straight, the anterior oblique, owing to which circumstance the outer sides are much wider than the inner; anal plates triangular. Head broad and depressed; nose short and rounded; the fronto-nasal plates forming a portion of the hinder edges of the orbits; the frontal plate very large and inclined to six-sided; the parietal plates oblong, and broadest in front; the post-orbital plate small and oval. The apex of upper mandible emarginate with an obtuse tooth-like process on each side of the emargination; the tip of the lower mandible produced and directed upwards; under the chin two minute barbels. Neck and legs sparingly covered by small scales; the hinder edge of each fore leg towards the toes with a broad fringe of thin delicate plates; the toes short and armed with strong claws nearly straight and slightly concave below. The posterior edges of the hinder feet also with a continuous fringe of thin scales, the outermost toe rudimentary, the second and innermost nearly of equal length, and shorter than the third and fourth. Tail rather long, pointed and somewhat cylindrical.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from nose to hinder margin of shell	19	0	Breadth of shell across femoral plates...	9	3
of head and neck	5	6	Length of tail.....	2	5
of shell	14	5	of sternum from anterior to hinder edge	13	3
Height of shell	5	3			

The colours in the *female* are nearly similar to those of the male. In both sexes the head, neck, and anterior extremities, when retracted, are completely protected by the anterior portion of the sternum, which by means of the joint in front of the abdominal plates is closely applied to the anterior margin of the upper shell. The principal differences between this species and *Sternotherus ater* and *S. castaneus* will be found in the general form of the shell, the shape of the plates, and the structure of the tip of the upper mandible.

The first specimens of this tortoise were discovered in rivers to the north of 25° south latitude, and in situations only where the water was very deep. They were usually observed during the heat of the day lying upon rocks which projected above the surface of the water, and were so vigilant that it was almost impossible to approach them within a moderate distance, before they vanished. Many of them were struck by musket balls, yet no wounds which were thus inflicted ever appeared to impede their movements. At last, by means of hooks baited with flesh we succeeded in obtaining a few specimens, though against such means they were also guarded; for even where individuals existed in abundance, perhaps not one could be secured by four or five fishermen, after spending many hours in the pursuit. Between 24° and 25° they occurred in greatest abundance, probably from the circumstance that between those parallels the pools were deepest; to the north of the former parallel they appeared to be scarce, owing no doubt to the channels of the streams being there loaded with gravel and sand.





Das. & Steghe. Lith. in the Queen.

VARANUS ALBIGULARIS
(Reptilia—Plate 2)

VARANUS ALBOGULARIS.—DAUD.

REPTILIA.—PLATE II. (MALE.)

V. capite quadrangulâri, versus apicem attenuato; naribus obliquis angustis propè oculos positis; collo corporeque obesis; pedibus validis; caudâ versus basin subcylindricâ dein compressâ, supra carinatâ; capite colloque, subochreis brunneo-maculatis; fasciâ brunneâ ab oculo ad dorsum; corpore supra brunneo, fasciis, maculis lineisque subochreis variegatis, subtus subochreco, guttis brunneis sparso; caudâ fasciis brunneis subochreisque alternantibus fasciata.

VARANUS GILLII—*Smith*, South African Quarterly Journal, 1831.

COLOUR.—Head and neck intermediate between gamboge and ochre-yellow, the former and the sides and back of the neck finely freckled by small black spots; from the outer corner of each eye, a brown stripe extends along the neck, and terminates on the back immediately behind the base of the fore leg, where it is much broader than at its commencement; this stripe is generally darkest at its edge and lightest along its centre: between the terminations of these stripes there are in most specimens two large brown blotches separated from each other by a yellowish line. Back brown, crossed by three or four ochry yellow bands, which are, either in the form of continuous stripes or interrupted blotches, and is besides variegated by smaller spots, or wavy narrow stripes of the same colour; the larger bands and blotches sprinkled with small brown spots. The sides ochry yellow with small brown spots and vertical stripes, the latter continued from the brown of the back; belly the same colour as the sides, with a sprinkling of small brown spots. Tail beneath ochry yellow; above and on the sides marked by alternate brown and yellow bands, the former spotted with yellow, the latter with brown. The outer surface of anterior extremities ochry yellow, spotted with brown; the posterior extremities dark brown, spotted with ochry yellow; toes, the latter colour, with some indistinct brownish bars; nails dark horn-coloured.

FORM, &c.—Head rather small; neck and body robust and rather flattened; limbs thick and strong. The head is quadrangular, rather short, broad behind, and tapered towards the nose; nostrils oblique, linear, and situated near to the eyes; teeth somewhat cylindrical and strong, obtuse in some specimens, pointed in others; external ear, transverse and narrow; tail somewhat cylindrical towards the base, the remainder compressed above and surmounted by a distinct serrated carina with a slight channel along its upper surface; towards the tip of the tail this carina almost disappears. Upper surface of the head covered by flat somewhat circular scales, rather small, particularly over the eyes; lips and temples covered with small scales, on the

VARANUS ALBOGULARIS.

former oval, on the latter circular. On the nape and upper part of the neck the scales of a larger size than on any other part of the animal, and are besides more raised, with the granulations surrounding the discs very distinct. On the back and sides, the scales are disposed in waved transverse bands, and only differ from those of the neck in being of smaller size and less convex; on the tail they are arranged in regular rings; towards its base oval, and more or less completely margined by granulations; towards the tip oblong, subcarinated and almost without any edging. On the chin, throat, and sides of the neck, the scales are small and oval; on the breast somewhat circular, on the belly oval, in transverse rows, and only margined behind by granulations; on the outer and anterior sides of the limbs towards the body, they are oblong; towards the toes somewhat circular; all surrounded by granulations; on the inner sides again they are smaller and nearly circular. The inner toe of hinder foot very short and robust; the outer one much removed from the rest; on the fore foot the inner toe is shorter than any of the others, but longer than the corresponding one of the hinder foot.

DIMENSIONS.

	Feet. Inches.			Inches. Lines.
Length from the nose to the tip of			Distance between the fore and the	
the tail	2 8*		hinder legs	0 7
of the tail.....	1 6		Length of the fore legs to the apex of	
from nose to base of fore			the nail of the longest toe...	4 9
legs	0 5½		of the hinder leg to ditto.....	5 6

The *female*, as regards external appearances, differs but little from the male.

Though no specimens of this species were obtained south of Latakoo, yet there is reason to believe it occasionally occurs within the limits of the Cape Colony; it is, in all probability, the animal which is called the *Das adder* by the colonists, and which is so much dreaded under an idea of its being extremely venomous. It is usually discovered in rocky precipices, or on low stony hills, and when surprised seeks concealment in the chinks of the former, or in the irregular cavities of the latter; and when any inequalities exist upon the surface of the rocks or stones, it clasps them so firmly with its toes, that it becomes a task of no small difficulty to dislodge it, even though it can be easily reached. Under such circumstances, the strength of no one man is able to withdraw a full-grown individual; and I have seen two persons required to pull a specimen out of a position it had attained, even with the assistance of a rope fixed in front of its hinder legs. The moment it was dislodged it flew with fury at its enemies, who by flight only saved themselves from being bitten. After it was killed, it was discovered that the points of all the nails had been broken previously, or at the moment it lost its hold. It feeds upon frogs, crabs, and small quadrupeds; and from its partiality to the two former, it is often found among rocks near to springs or running streams, which fact having been observed by the natives, has led them to regard it as sacred, and not to be injured without a danger of drought.

* Specimens are occasionally obtained, which measure between four and five feet.





Day & Engle - in Van der Quere

BUCEPHALUS VIRIDIS
(Reptilia — Plate 37)



BUCEPHALUS VIRIDIS.—SMITH.

REPTILIA.—PLATE III.—(MALE.)

B. pallidè viridis; oculis brunneis; scutis abdominalibus 181; scutis subcaudalibus serie duplici collocatis circiter 101.

COLOUR.—Light grass-green, the abdominal plates with a slightly livid tint; eyes dark brown.

FORM, &C.—Head moderately elongated, distinctly quadrangular and broader than the neck; nose slightly rounded; nostrils small, nearly circular, and directed outwards and backwards; eyes large, and situated rather nearer to the tip of the nose than the angle of the mouth: gape wide; upper lip with seven plates on each side, lower with ten. Nasal plate triangular, apex directed backwards; anterior frontal plates two, somewhat triangular; posterior frontal plates large quadrangular, the outer posterior angle rounded; vertical plate triangular, the apex behind, rounded; occipital plates large, irregular and narrow behind; palpebral plates somewhat six-sided, the two middle sides longest. Gular plates large, two in each row. The posterior or mobile and grooved teeth of maxilla, eight on each side, from two to three lines in length, and slightly curved; four of each group placed for immediate use, the rest recumbent between those and the inner portion of the spongy sheath which envelopes the whole; the fixed or anterior teeth of maxilla small and slightly curved, their points directed backwards; those of the palatal arches and lower jaw somewhat similar. Body gradually increasing in size till near the middle, from thence it tapers to the point of the tail, which is armed with a horny aculeus; the figure of body and tail subcylindrical, slightly flattened below. Skin as far as the tail loose, and only slightly connected with the subjacent parts by a delicate cellular membrane; towards the head superabundant, and forming on each side of the neck a longitudinal fold, which disappears when the gullet is distended. On the tail the skin is firmly connected to the parts beneath. Scales immediately behind occipital plates short, broad, and imbricate; from those to the base of the tail they are disposed in slightly waved transverse bands, each of which bands includes scales of several different forms; the one immediately on the centre of the back is narrow towards the base, broad and semilunar at the

BUCEPHALUS VIRIDIS.

extremity, with a faint carina along its centre, the lateral ones oblong, each with an obtuse angular or semilunar point, and a carina extending from the base, and terminating on the upper edge of the scale before reaching its apex; the two scales of each row nearest to the abdominal plates broad and subtriangular, the points rounded, and the longitudinal carina with which each is marked terminates on its lower edge behind its point. The scales on the tail are short, broad, distinctly imbricate, and somewhat five-sided, characters which they retain to its extremity; abdominal plates, 181; sub-caudal scales, 101 in each row.

Unless when the skin is distended, the scales of the transverse rows overlap each other so much, that only the inner edge of each is left uncovered; at such times the scales appear linear.

DIMENSIONS.

	Feet.	Inches.
Length from the tip of the nose to the extremity of the tail...	4	9
Length of the tail.....	1	2
Circumference of the thickest part of the body	0	3

The only specimen of this species which we obtained was found near to Old Latakoo, and at the time of its discovery was in a half torpid state, and coiled up among some dry grass which was interweaved with the slender branches of a small shrub. According to the natives, it ascends trees to rob the nests of birds, and its occurrence is by no means rare in that country during the summer season. Although a celebrated Herpetologist has expressed his belief* that snakes with the general characters of the species just described, ought to be retained in his genus *Dendrophis*, yet it appears to me that their position in it would be equally inappropriate, as it would be in the restricted genus *Coluber*. Besides the species now described, there are at least four others inhabiting South Africa; and though they have been regarded by the author just alluded to as only varieties of one species, nevertheless, I am more convinced at present than when I submitted descriptions of them to the public,† that each ought to be regarded as distinct from the others. Supposing *Bucephalus typicus*, *Bellii*, *gutturalis* and *Jardinii*, to be only varieties of one species, how are we to explain the circumstances of their being all found in a similar climate and in similar descriptions of country, yet, nevertheless, in very different localities, and each propagating individuals like itself, which as far as we know never vary. In proportion as our knowledge of the more intricate details in the scheme of nature becomes extended, it will probably be discovered that each genus is regulated to a certain extent upon a plan peculiar to itself, and that in some genera the distribution of colours, not less than the peculiar tints, will furnish excellent specific distinctions. As regards *Bucephalus*, I feel disposed to consider it one of such genera.

* *Physionomie des Serpens* par II. Schlegel, page 238. Hague, 1837.

† *Zoological Journal*, Vol. iv. page 441, May 1829.





ECHIDNA INORNATA
(Reptilia . Plate 4.)

ECHIDNA INORNATA.—SMITH.

REPTILIA.—PLATE IV.

E. supra flavo-brunnea, subtus brunneo-flava, brunneo marmorata; caudâ supra fuseo-variegatâ; capite distincto oblongo cordiformi; scutis abdominalibus 140; scutis subcaudalibus serie duplici collocatis circiter 24.

LONGITUDO $13\frac{1}{4}$ unc.

COLOUR.—Back and sides dark yellowish brown; belly brownish yellow, sparingly sprinkled with brownish dots; tail above indistinctly marked with dull brown spots or bars.

FORM, &c.—Head oblong, heart-shaped, and rounded at the nose, above flat, with a slight hollow between the eyes, depending upon the superciliary arches being considerably elevated; temples convex and bulging; nostrils close to the extremity of the head, their openings directed forwards and outwards; eyes lateral, and approaching the nostrils; neck considerably narrower than the hindhead; the body increases in size till within about four inches of the anus, where its thickness is greatest, from thence it tapers gradually to the latter. The tail is very short and slender, and terminates in a fine point. The scales on the nose and sides of the head in front of the eyes rounded, slightly convex, and smooth; on the top of the head, and on the space under the eyes and temples, they are rather oblong and slightly carinated; the eyes surrounded by a complete ring of small plane scales. On the neck, body, and tail, the scales are oval and slightly convex, each with a strong carina along its centre, and are disposed in oblique rows across the back; on the tail and hinder part of the body, the points of the scales reach, or even overlap the base of those directly behind them, whereby the carinae are contiguous and form a series of delicate uninterrupted longitudinal ridges. On the remainder of the body they are more apart, and the continuous ridges do not exist.

DIMENSIONS.

	Inches.
Length from the tip of the nose to the extremity of the tail.....	$13\frac{1}{4}$
Length of the tail	$1\frac{1}{4}$
Circumference of the thickest part of the body.. ..	$2\frac{3}{4}$

ECHIDNA INORNATA.

This snake was killed in the Sneeubergen, or Snow-mountains, which are situated immediately behind the village of Graaff Reynet, and was presented to the expedition party by J. Lieb, Esq., the government surveyor of the district.

Little is known of the habits of this Snake, save that, like the other species of the genus, it is indolent, and heedless of the approach of man.

In addition to the species here figured, we shall, during the progress of these illustrations, have occasion to furnish representations of two others—the one *Vipera ocellata*, Smith,* (not Latreille), the other yet undescribed. The former has a projecting cylindrical scale, from a line to a line and a half in length upon each eye-brow, and is readily to be distinguished from *Vipera cornuta*, Daud, by having the under surface of the tail, whatever may be the age of the specimen, covered with scales nearly similar in form to those on the remaining portion, and faintly carinated. The latter, *Vipera atropoides*, exhibits a manifest resemblance to *Vipera atropos*, Daud, having, like it, two rows of black spots along the middle of the back, and some irregularly coloured variegations on the sides. It differs, however, in many material points, more particularly as regards the form and proportions of the head, and the arrangement of the scales, especially around and near the eyes.

Taking these into consideration, we will in future have to record six species of the genus *Vipera* as inhabitants of South Africa, viz., *Vipera arietans*, Merr.; *V. atropos*, Latr.; *V. cornuta*, Daud; *V. inornata*, Smith; *V. ocellata*, Smith; *V. atropoides*, Smith: or if we adopt the subdivisions proposed by Merrem and Wagler, which, in the present state of the science, may probably be employed with advantage, these species will stand:—*Echidna arietans*,—*E. atropos*,—*E. inornata*,—*E. atropoides*,—*Cerastes cornutus*, and *C. ocellatus*.

The vipers, and one or two species of *Elaps*, are the only snakes of South Africa which permit themselves generally to be closely approached without evincing any apparent concern; the others either manifest a disposition to act on the offensive, or to fly; even an unusual noise, without its cause being visible, is sufficient to ensure the retreat of the innocuous ones. The different species of *Naia* and the *Elaps lubricus*, Merr., but particularly the former, are always ready for the fight, and when their haunts are invaded, they often advance upon the intruder with the head and anterior part of the body almost perpendicular, the neck expanded, and an expression sufficiently indicative of the malignant purpose they have in view. To witness such a proceeding, once fell to my own lot. Walking in the vicinity of Graham's Town, I happened to excite the attention of a *Naia Haemachates*, which immediately raised its head, and warned me of my danger by the strength of its expiration; it then commenced an advance, and had I not retired, I should, in all probability, have suffered, provided I had not been fortunate enough to disable it, which possibly would not have happened, considering that the species, in common with others of the genus, is extremely active. Even though I retired, I was not satisfied the danger was past, as the flight of this snake's enemy does not always put a stop to its advance, when once commenced. An officer of the Cape corps, upon whose accuracy the most implicit reliance was to be placed, informed me that he once was chased twice round his waggon by an individual of the same species, and the pursuit might have been prolonged had not a Hottentot disabled the enraged reptile by a blow from a long stick.

* Magazine of Natural History, New Series, No. 14, page 92.





LYCODON CAPENSIS
(Reptilia.—Plate 5)

LYCODON CAPENSIS.—SMITH.

REPTILIA.—PLATE V. (FEMALE.)

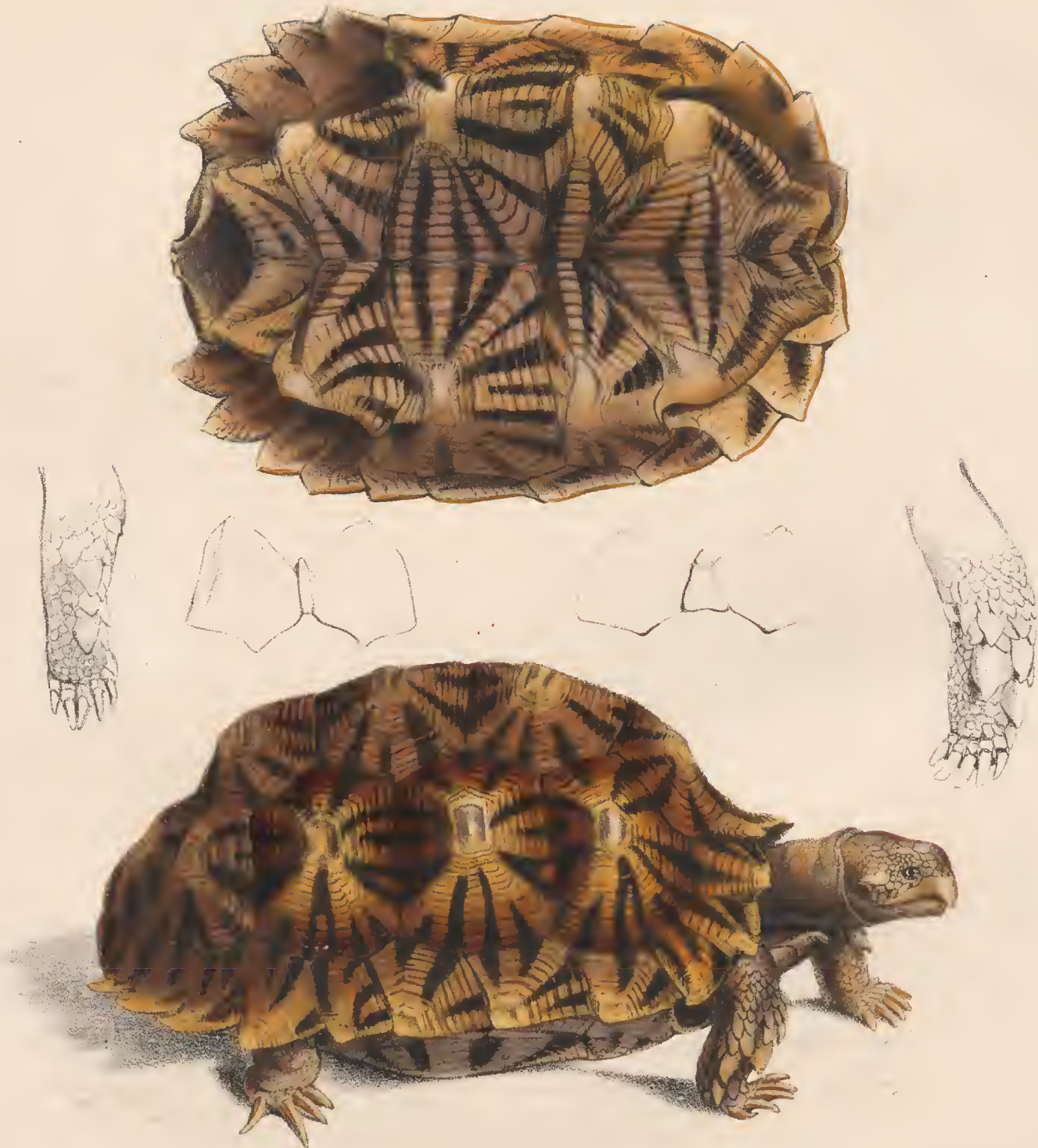
L. suprâ nitidè nigro-viridis, purpureo tinctus; capite lineis albis reticulato, corporis squamis ad apices albis: infrâ viridi-flavus; scutis abdominalibus 178; squamis subcaudalibus 37.
LONGITUDO corporis 12 unc.; caudæ 2 unc.

LYCODON CAPENSIS, South African Quarterly Journal, No. 5, page 18, June 1831.
LYCODON HORSTOKII, Schlegel, Physiognomie des Serpens, 1837.

COLOUR.—The upper surface of the head, the back and the upper parts of the sides glossy blackish green, faintly flushed with purple, and delicately variegated with white; the latter colour is in the form of slender delicate lines upon the head, which are so interwoven as to exhibit a fine reticulated appearance; on the other parts it occurs in the shape of minute specks, one close to the point of each scale. The upper lip, the lower parts of the sides, and the under surface of the body and tail, greenish or wine yellow, the latter with a longitudinal, zig-zag, dark stripe along its centre. Eyes livid green.

The above were the colours of the individual represented in the plate, but such are not the colours most commonly exhibited by specimens of this species. All the individuals which I have seen, excepting the one described, have had the upper parts of a shining greenish brown colour, the head without variations, and the scales along the middle of the back less distinctly marked with white specks than those of the sides; the subcaudal stripe was also wanting.

FORM, &c.—Head rather short, somewhat ovate and much depressed, its sides slightly convex, more particularly towards the hindhead, which is not distinct from the neck; pupils vertical and of an oval form; eyes small, with two scales at the posterior angle, and one at the anterior; vertical plate large and triangular, occipital plates long and also somewhat triangular. Body subcylindrical, and slightly thicker at the middle than at the neck; from the former it tapers gradually to the tip of the tail, which is pointed. The scales are short, somewhat quadrangular, obtuse at the points, and disposed in transverse rows, each row, according as it may be traced, will appear either oblique, or bent and forming two sides of a triangle, the apex of which will be situated on the middle of the back. One or two of the maxillary



TESTUDO SEMISERRATA.
(Reptilia _Plate 6)

TESTUDO SEMISERRATA.—SMITH.

REPTILIA.—PLATE VI.

T. suprâ brunneo-nigra; scutarum areolis et radiis ab illis divergentibus, subochreis; infrâ flavâ radiis brunneo-nigris variegatis. Scuto nuchale triangulare; pedibus anterioribus paulum supra unguem anticè squamis magnis tuberculis obtectis; mandibulâ superiore uncinatâ.

LONGITUDO testæ 5 unc.

COLOUR.—Shell above deep reddish or brownish black, with numerous ochrey or brownish yellow variegations, which are partly in the form of irregular blotches and partly of radii, the breadth of which is greatest at the margins of the plates. On the dorsal and costal plates, the areolæ are principally of a yellowish tinge, and from each ten or more yellow radii diverge and terminate by joining others of a similar description which intersect the surrounding plates. In the last-named plates one radiation generally proceeds from the anterior and another from the posterior edge of each, while three or four extend from the lateral sides, and those from the parts first mentioned, together with one from each of the lateral angles, generally divide into two limbs before they reach the margins of the plates, and by this arrangement several oblong black spots appear inclosed within these radii. The marginal plates are generally marked with three radii, the hindermost in many instances bifid prior to its joining the costal plates. Nuchal plate broadly edged and tipped with yellow. Beneath, the shell is yellow variegated with brownish black radii, each of which proceeds from the areolæ, when they exist, and increase in width as they approach the circumference of the plates; their direction is either straight or oblique, and from the manner in which they join each other, the under-surface of the shell appears varied with waved, angular or arched black stripes. Upper and under mandibles greenish yellow. Eyes dusky black. The scales of the head are a pale straw yellow, those of the neck greenish brown; the legs pale yellowish brown, with the large tubercular scales of the fore-legs and the *discs* of the small flat scales of all the legs dull yellow; claws yellowish. Tail dull greenish brown.

FORM, &c.—Shell oblong ovate and above moderately convex; its lateral outline as formed by the marginal plates is rather strongly serrated in front and behind, on the sides but slightly; its dorsal outline strongly arched towards the nuchal and caudal plates, slightly along the middle of the back. The surface of the shell above the lateral margins uneven, but none of the plates palpably projecting, as is the case in *Testudo geometrica*, *T. tentoria*, &c.; areolæ smooth and slightly depressed, the other parts of the plates rough

TESTUDO SEMISERRATA.

and irregular from their being strongly cut by numerous polygonal grooves. Nuchal plate triangular; the first and fourth dorsal plates pentagonal, the second, third and fifth hexagonal, but the form of the last is very different from the other two; the caudal plate pentagonal, its apex slightly incurved; the first costal plate rather irregular in shape and generally octagonal, some of the sides very short and indistinct, second and third plates hexagonal, the fourth pentagonal. The anterior and posterior marginal plates somewhat triangular, the intermediate ones subquadrangular; those of the first description, particularly the four last of each side, with prolonged points, each of which are inclined obliquely backwards. The sternum is slightly convex, and its anterior and posterior extremities bifurcate; the gular plates are somewhat diamond-shaped; the humeral ones large and quadrangular; the pectoral ones narrow where they are in contact with each other, and from thence gradually increase in breadth to their outer margins which are two-sided; the abdominal plates are large and square; the femoral ones broader at their outer than their inner edges, and the caudal ones are quadrangular, the outer and hinder angle being slightly prolonged and rounded at the tip. Upper surface of head closely covered with small flat and irregular-shaped scales, those immediately over eyes smallest; upper mandible cut by several vertical furrows and strongly hooked at the point, its cutting edge waved and finely dentated; lower mandible pointed, the point ascending. Neck closely coated with minute granular scales; fore-legs covered with subovate scales, among which, above the claws, are interspersed a few large tubercular ones, the form of one of which, the largest, is nearly that of a shell of the genus *Crepidula*; hind-legs coated with small delicate scales, and, internally, each has at its base a strong conical tubercle; claws of fore-feet rather short and nearly straight, those of the hinder feet much longer and slightly curved. Tail short and conical, with a small, prominent, conical tubercle on each side of its base. The length of the largest shell we obtained was nearly five inches, and as specimens of the same size, as well as of others much smaller, occurred in great abundance, we had reason to consider the largest as examples of full-grown individuals.

The districts between Latakoo and the Tropic of Capricorn abound in individuals of this species.

The shape of the nuchal plate and the form of the tubercular scales upon the fore-legs, are characters by which *Testudo semiserrata* is readily to be distinguished from *T. geometrica*, to which it closely approximates. For the appearances of these parts in both species, see Plate, *a a* *Testudo semiserrata*; *b b* *Testudo geometrica*.



VIPERA CAUDALIS
(Reptilia Plate 7)

VIPERA (CERASTES) CAUDALIS.—SMITH.

REPTILIA.—PLATE VII.

V. *suprà* flavo-rubra, maculis aurantio-brunneis variegatis; *subtus* roseus; capite cordiforme, maculis duabus sagittiformibus notato, cujus una inter oculos, altera super occiput; supercilio singulo squamâ aculeatâ armato; squamis subcaudalibus caudæ aliis squamis subsimilibus.

LONGITUDO, corporis cum capite, $12\frac{1}{2}$ unc; caudæ, $1\frac{1}{2}$ unc.

Vipera ocellatâ, *Smith.* Magazine of Natural History, new series, vol. ii. Feb. 1838, p. 92.*

COLOUR.—Above yellowish red, spotted and variegated with other colours; beneath pale rose-red with a pearly lustre. The principal spots are disposed in three irregular rows along the back; those of the centre row oblong, and somewhat quadrangular; those of the other two more or less circular: They are of an orange-brown colour, and some of them are partially, others completely edged with straw-yellow; those of the middle row are in the first condition, being only margined anteriorly and posteriorly; those of the others mostly in the state last described, and the majority of them have besides a lilac coloured point toward their centre. The sides of the body are faintly freckled with small *nebulæ*, or irregular spots of the same colour as those of the back, only of a much paler tint, without variegations, and rarely placed alike in any two specimens. The upper and lateral parts of the head are variegated with similar colours, only disposed, after a different fashion, viz. in the form of angular or arrow-shaped markings on the top of the head, and on the sides in vertical bars. The former are generally two in number, one between the eyes, and the other on the occiput, and both are commonly margined anteriorly with cream-yellow. The vertical bars usually amount to four on each side, three of them cut the upper-lip, and the fourth generally terminates immediately behind the angle of the mouth. Besides the arrow-shaped marks with which the top of the head is variegated, there are usually two, or even more, circular spots intermediate between the markings particularised, and these are also frequently edged with cream-yellow. Eyes reddish orange.

In some specimens the ground colour of the upper parts is much darker than that above described, differing but little from the tint of the spots which, in such cases, are but indistinctly seen. In others again, the prevailing

* As it does not appear probable that the genus *Vipera* will ultimately be divisible into subgenera, I have thought it advisable to substitute for *ocellatâ*,—a term which under such circumstances would cause some confusion,—that of *caudalis*.

VIPERA (CERASTES) CAUDALIS.

colour is quite different, being a steel or ashy grey, with the spots much darker, and tinted with the same hue. The character of the markings upon the head is also subject to great variation, and even sometimes it is entirely different.

FORM, &c.—Head distinct from the neck; body thick in proportion to its length; tail short, tapered, and pointed. The angles of the jaws are very divergent, giving a great width to the hind head; the anterior portion of the head is much narrower, the nose rounded, and the nostrils situated near its apex, each in the centre of a thick and projecting scale. Eye-brows arched, and each near its middle armed with a slender, pointed, and slightly recurved spine, of about a line or a line and a quarter in length. The scales of the anterior parts of the head, particularly around the eyes, are very small, and those between and immediately behind the nostrils are imperfectly carinated. On the hind-head they are of the same oval form as on the body, and distinctly carinated. On the back and sides they are arranged in longitudinal rows, and from the points of the scales of each row over-lapping the base of the ones immediately behind them, the *carinæ* form continuous ridges, generally about twenty-seven in number. The row on each side next to the abdominal plates consists of larger scales of a different shape and without *carinæ*. The scales of the tail resemble those of the body, and the two rows coating its under surface, which, in the majority of snakes, are different to those above, are in this species nearly alike, the only difference being, the *carinæ* are not so developed. Abdominal plates 149, subcaudal scales 27 pair; length of adult specimens about 14 inches, of which the tail generally forms nearly the ninth part.

Dry sandy districts constitute the favourite *habitats* of this viper, which manifests all that indolence of character so remarkable among the various species of the genus, and on account of which they are more dreaded by the native of South Africa, than even snakes possessed of more virulent poison, but disposed to action on the approach of danger. According to good testimony, this species will continue for days together in one position, and as it never seeks to avoid danger, however imminent, its presence is rarely discovered unless when trampled upon, and the offending parts wounded by its fangs. Though generally inactive, it is by no means so when injured; its movements are then performed with activity; and when once it seizes the obnoxious object, it retains its hold with great determination, and some considerable exertion is often required to detach it. The same may be said of most of the vipers, in which respect they differ materially from *Naias*. The various species of the latter, immediately after they inflict a wound, detach themselves, and fly to a place of concealment; while the vipers, even when detached by force, continue upon the spot where they fall, or remove but slowly from it.



TESTUDO VERROXII.
(Reptilla Plate 8)

TESTUDO VERROXII.—SMITH.

REPTILIA.—PLATE VIII.—MALE.

T. testâ supra nigro-brunnâ, maculis, radiisque pallidè ochreo-flavis variegatis; infrâ flava, fasciâ longitudinali brunneâ inter scutas gulares et anum; capite suprâ subflavo; pedibus anterioribus anticè squamis imbricatis magnis tectis; scutis marginalibus angulum scutis costalibus formantibus.

LONGITUDO testæ 3 unc. 8 lin.

COLOUR.—The upper surface of the shell liver-brown, variegated with rays and blotches of a colour intermediate between straw and ochre-yellow; the under surface yellow, with a broad irregular liver-brown band, extending from the gular plates to the anus. The yellow blotches, which are nine in number, one towards the centre of each of the dorsal and costal plates, are very irregular in form, and include not only the whole of the *areola*, but also some portion of each plate in front of it. The rays, all of which proceed from the *areolæ*, and extend partly towards the outer, partly towards the inner sides of the plates, are four or five upon each plate, four at least generally reach to the edges of the plates near their angles; the fifth, where it exists, is commonly shorter, and situated between the two external rays of each costal plate. Each marginal plate has two yellow rays, which diverge from the *areola*, and approach or actually reach the point of junction with the costal plates, diverging as they proceed; the *areola* and outer edge of each of the plates are also yellow; the *areola* and lateral edges of the caudal plate are yellow, and from the former, two yellow rays proceed, one to each of its anterior angles. The brown band, which extends along the under surface, is very irregular or deeply broken on the edges, and in several places variegated or clouded by shades of a lighter and brighter tint. Towards the anterior edge of several of the marginal plates beneath, there is a small brown mark, more or less pointed posteriorly, and a few others of a similar form proceed inwardly from the outer margins of the pectoral and costal plates. The top of the head, and the upper and lower mandibles dusky yellow; the neck greenish-yellow, freckled with brown. The large scales covering the fore-legs anteriorly livid-yellow, the smaller ones partly brownish-black, partly greenish-yellow; hinder legs and tail greenish-yellow; claws a dark horn colour.

FORM, &c.—Shell, viewed from above, five-sided, anteriorly truncated,

TESTUDO VERROXII.

posteriorly pointed; upper aspect convex, under slightly arched towards the sides, flat in the middle; upper surface somewhat irregular, owing to the slight gibbosity of each plate; *areolæ* nearly flat; surface of plates marked with polygonal grooves; marginal plates more inclined to a horizontal direction than the costal ones, by which inclination an obtuse angle is formed by the two, and an appearance produced as if the first-named formed a sort of edging or cornice to the latter. First dorsal plate five-sided, anteriorly pointed; second, indistinctly seven-sided; third, fourth, and fifth, six-sided, the length of the sides in each plate different; first costal plate six-sided, the remainder irregularly five-sided; second marginal plate somewhat triangular, the remainder more or less quadrangular; nuchal plate short, rather broad, anteriorly emarginate, superiorly grooved along the centre, the sides, transversely ribbed. Shell below bifid anteriorly and posteriorly; gular plates sub-triangular; humeral, abdominal, and anal ones nearly square; pectoral and femoral ones quadrangular, the outer sides much wider than the inner ones. Upper mandible slightly hooked at the point, and its cutting edges finely dentated; lower with the point curved upwards. Head and neck covered with small scales; fore-legs anteriorly coated with large flat imbricate pear-shaped scales, elsewhere by irregularly shaped smaller ones; hinder legs and tail covered with small scales, and at the base of the latter, near the outer and hinder angle of each anal plate, there are two pointed horny tubercles, one behind the other. Claws short, straight, pointed, and slightly depressed.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.	
Length of the shell above	3	8		Breadth of the shell across the abdominal		
below	3	4		plates	3	0
				Height of the shell	2	4

Nothing is known of the *female*.

The position of the marginal in relation to the costal plates furnish us with a character by which this species is at once to be distinguished from *Testudo geometrica* and *T. semiserrata*. From *Testudo tentoria*, Bell, which has also the marginal plates disposed at an angle with the costal ones, it is to be distinguished by the greater flatness of its dorsal and costal plates, the greater size and different characters of its nuchal plate, by the figure of the shell, which in *T. tentoria* is oval, by the thinness of the large scales of the fore-legs, and other less conspicuous peculiarities.

Inhabits the districts of South Africa, near the sources of the Garriep or Orange River.



PYTHON NATALENSIS
(Reptilia. Plate 9)

PYTHON NATALENSIS.—SMITH.

REPTILIA.—PLATE IX.

P. capite supernè maculâ olivaceo-brunnecâ sagittiformi notato; capitis lateribus subflavis, lineâ longitudinali olivaccâ maculâque coloris ejusdem infra oculos variatis; dorso, lateribusque olivaceo-brunneis, maculis, striis, fasciis-que pallidè flavo-brunneis variegatis; et caudæ lateribus fasciâ longitudinali nudatâ eodem coloris; infra purpureo-album; labii superioris scutis quatuor, duabus utrinque proximis scuto nasali, emarginatis foraminibus formantibus, corporis squamis parvis et in lineis obliquis collocatis.

LONGITUDO corporis cum capite 10 ped. 11 unc.; caudæ 16 unc.*

PYTHON NATALENSIS, Smith.—South African Quarterly Journal, new series, p. 64. Oct. 1833.

COLOUR, &c. Though the colours of this snake are distinctly marked, yet the mode in which they are distributed, will require to be apprehended more from the coloured figure, than the letter-press description. The principal tints with which it is marked, are three—dark olive brown, dull yellowish brown, and purplish white,—the two first colours are confined to the upper and lateral parts; the last to the lower portions of the sides and belly. The dull yellowish brown, is perhaps the predominating colour on the first third of the reptile; and the olive brown by much the most abundant on the other two-thirds. On the top of the head, reaching from the nose to the occiput, is an arrow-shaped spot of the latter colour; and from that spot, posteriorly, a band of the same hue extends along the back, gradually widening as it proceeds, and having its edges on each side waved, or irregularly scalloped. On this band, reaching the commencement of the second third of the body, its width increases greatly; and in this enlarged form, it extends to the tip of the tail; its edges throughout much waved. The yellowish brown occurs in the form of irregular bars, or of waved blotches, or stripes on the first thirds of the back, and on the last two-thirds, in the shape of stripes or blotches in the olive-brown, excepting towards and on the tail, where it assumes the form of a waved, longitudinal band on each side. The sides of the head are yellowish-brown; and each side is marked with a longitudinal olive-brown

* Specimens of a much greater size are occasionally obtained.

PYTHON NATALENSIS.

stripe, and a large similar-coloured blotch, the first commencing at the nostril, and ending above the angle of the mouth; the latter situated immediately below the eye. The lower parts of the sides are also marked with irregular olive-brown spots. Lips yellowish white; eyes dark brownish red; spurs near *anus*, livid white. The olive-brown and yellowish-brown markings are, when imbedded in each other, generally surrounded by a margin of a different tint to the general colour of the spots; where they are olive-brown, the edging is generally darker; and when yellowish-brown, generally lighter. The whole surface of the snake has a strong metallic gloss in certain lights.

FORM, &c. Body fusiform. Head depressed, and scarcely distinct from the neck; much broader behind, than before the eyes; gape large; two labial plates of the upper jaw on each side of nasal plate emarginated anteriorly, so that the lip in front appears perforated by four irregular holes; pupils circular; teeth long, pointed, slightly curved, and gently reclined; the anterior-most ones of each row longest; intermaxillary ones short, slender, and pointed; anal spurs about two lines in length, slightly curved, and pointed. The muzzle superiorly, the lips, the belly, and the under surface of the tail are covered with large plates; the other parts of head and body with scales. On the top of the head they vary in size, several of them immediately over, as well as before and behind the eyes, being much larger than the others around them: on the body they are small, ovate, and slightly imbricate, those of the three lowermost rows, on each side of abdominal plates, very large. Abdominal plates narrow transversely, their breadth little exceeding the scales immediately on each side of them; their form, however, is different—the plates posteriorly are square, the scales semicircular. The subcaudal scales are in two rows, and larger than those with which the sides of the tail are covered; shape the same. Abdominal plates 269; subcaudal scales 77. Length of body and head 10 feet 11 inches; of tail 16 inches. The large plates, mentioned as covering the muzzle superiorly are seven in number; a triangular one immediately behind nasal plate, the apex of which, posteriorly, is received between the two plates next in succession, and which are also somewhat three-sided, their base in contact with the middle pair, the shapes of which are quadrangular; the last pair semicircular behind, and terminate; about a quarter of an inch in front of a line drawn so as to connect the eyes.

This snake, or at least one resembling it in size, was formerly an inhabitant of the districts now within the Cape Colony, and the traditions of the older Hottentots abound with instances of its miraculous powers. At present it is not to be found within hundreds of miles of the boundaries of the Colony, and few specimens have been obtained nearer than Port Natal. It occasionally attains a very large size, and, according to the natives, individuals have been seen

PYTHON NATALENSIS.

whose circumference was equal to that of the body of a stout man: we have ourselves seen a skin which measured twenty-five feet, though a portion of the tail part was deficient. It feeds upon quadrupeds, and for some days after swallowing food, it remains in a torpid state, and may then be easily destroyed. The South Africans, however, seldom avail themselves of these opportunities of ridding themselves of a reptile they view with horror, as they believe that it has a certain influence over their destinies; and affirm, that no person has ever been known to maltreat it without, sooner or later, paying for his audacity.

Owing to the difficulty of discriminating between certain species of *Python*, we are not prepared to maintain this reptile to be distinct from the Indian species (*Python bivittatus*, Schlegel). The characters which have been assumed as indicative of specific differences, do not appear to us to have been of sufficient value; the modifications to which they are liable in different specimens, of whose specific identity no doubt can exist, show some other characters must be discovered before certainty can be attained. The Indian species is doubtless an inhabitant of Africa, and there are several specimens of it, both from India and Western Africa, in the museum at Fort Pitt, Chatham, which are precisely similar. Between these, however, and the species we have just described, there are several well-marked differences. The scales of *Python Natalensis* are proportionally smaller than in the individuals above mentioned; their form is also different. The labial *fossæ* are more numerous in young specimens, from Western Africa and India, than in those of a similar age from South Africa; in the latter they are two upon each side, in the others, four or five; the plates on the head, also, are differently shaped and differently disposed. The pattern of the markings, when viewed in detail, is also distinctly different, though there is a sort of general resemblance. Persons who have opportunities of examining species of *Python* would do well to ascertain if the labial *fossæ* vary in number in different individuals of the same species and of the same size, also whether their number diminishes as age advances.



BUCEPHALUS CAPENSIS.
(Reptilia Plate 10)

BUCEPHALUS CAPENSIS.—SMITH.*

REPTILIA.—PLATE X.

B. supra viridi-brunneus aut viridi-niger, squamis prope scuta abdominalia flavo-maculatis; infra flavus, tæniolis viridi-nigris transversis variegatus; labiis mandibulæque partibus inferioribus pallidè flavis.

SCUTA ABDOMINALIA, 189; squamæ sub-caudales, 106—106.

LONGITUDO corporis cum capite, 3 ped. $5\frac{1}{2}$ unc.; caudæ, 14 unc.

BUCEPHALUS JARDINI, *Smith*, Zoological Journal, vol. iv. p. 442.

DISPHOLIDES LALANDII, *Ducernoy*, Ann. de Sci. Nat. tom. 26. p. 150.

DENDROPHIS COLUBRINA, *Schlegel*, Physion. des Serpens, p. 238, 1837.

COLOUR.—The upper and lateral parts of the head above the upper lip, and the upper parts of the body and tail vary from dark greenish brown to greenish black; † the lower parts of the sides in general more or less variegated with yellow or greenish yellow spots, one spot towards the centre of each scale, with the carina crossing it longitudinally. The upper and lower lips, and the under surface of the lower jaw, particularly towards the angle of the mouth, lemon-yellow with an orange or buff tint. The belly and under surface of the tail yellow with narrow transverse dark coloured bars, the former is the predominant colour in the majority of specimens met with, and is of a tint intermediate between lemon and orange-yellow; in many examples the two colours are nearly in equal proportions, the one being profusely mottled with spots of the other. In the specimens in which the narrow bars are distinct, each plate, and also each subcaudal scale, have one bar near to their hinder edge, and the bars vary in colour from brownish black to greenish black; the margins of the plates and the scales are semi-transparent, and of a dull amber tint. Towards the tip of the tail the subcaudal scales are gene-

* Having satisfied myself that the four snakes I described many years ago in the Zoological Journal as so many distinct species are in reality only varieties of one species, I have here rejected all the specific names by which I proposed on that occasion to designate them, and adopted a new one with a view to lessen as much as possible the chance of confusion.

† In some specimens, we find the colour distinctly greenish brown, in others, greenish black or brownish black, and in many it is intermediate between these colours.

BUCEPHALUS CAPENSIS.

rally without the yellow variegations, and are everywhere of the same tint as the edges of those which are situated nearer to the base of the tail. Eyes, shining brown. In some specimens of this variety very faint remains of yellow markings are occasionally to be seen upon the scales of the back and sides, clearly indicating that had they been secured in an early stage of their existence, they would have required to have been classed with the variety next to be described.

FORM, &c.—Head distinct from the neck; body moderately slender and fusiform, the thickest part rather nearer to the head than the tip of the tail; form subcylindrical, the belly flattened and very broad; tail long, tapered, and pointed, its figure somewhat cylindrical, the under surface slightly flattened. The head is short, rather clumsy, and distinctly quadrangular, its breadth and height nearly equal; the upper surface is slightly convex, the sides almost perpendicular, with a slight longitudinal concavity in front of the eyes; the nose is obtuse, almost truncated; the lips are coated, each with a row of large quadrangular scales. The mouth is armed with six rows of teeth, and the two or three last teeth of each *maxillary* row are much larger than any of the others, and grooved throughout their whole length. They point almost directly backwards, and are either firmly fixed upon the maxillary bones or slightly moveable, and are in a great measure concealed by the pulpy sheath, with which they are encircled. Within this sheath there are also a number of recumbent fangs, evidently destined to supply such of the fixed ones as may from time to time disappear. All the rest of the teeth are small, cylindrical, recurved, and pointed. The salivary* and lachrymal glands are moderately large. The eyes are very large, the corneæ slightly convex, and the pupils circular. The nostrils are situated towards the middle of the nasal plates, nearly circular, and opening outwards and backwards. The plates covering the upper surface of the head are ten in number; the rostral one is rather small, subtriangular, or indistinctly five-sided, its apex lies between the anterior frontal plates, and its base forms the margin of the upper lip, and is indented with a deep crescent-shaped emargination; the anterior frontal plates are four-sided, the hinder and outer sides longest; the posterior frontal plates considerably larger than the anterior ones and of an irregular quadrangular shape, the irregularity depends principally upon the elongation of the anterior and outer angle of each scale which extends down-

* M. Duvernoy is of opinion (*Annal. de Scienc. Nat.* tom. 26. p. 149.) that the anterior portion only of the glandular structure which is found under the integuments of the upper lip is for the secretion of saliva: the posterior portion, he thinks, is distinct from the anterior, and is adapted for the secretion of poison. We have tried, but in vain, to discover grounds for entertaining a like opinion.

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wards on the side of the head to join the loreal scale between the anti-ocular and rostral scales, the hinder sides of the posterior frontal plates are slightly arched or indistinctly two-sided; the vertical plate is indistinctly six-sided, the two hinder sides extend backwards and inwards, and terminate in an obtuse angular point which lies in contact with the line where the two occipital plates join, the lateral sides of the plate are longest; the palpebral plates are rather narrow and lengthened, the lateral sides of each are nearly parallel, the anterior extremity somewhat rounded, and the hinder one, which is the broadest, indistinctly two-sided, the innermost of the two sides being considerably longer than the outermost; occipital plates large, irregularly five-sided, and considerably wider at the base than the apex, the last, though nearly square, is nevertheless slightly two-sided. Rostral scale small, oblong, and quadrangular; loreal scale also small and quadrangular; anterior ocular scale quadrangular, concave, and broadest posteriorly, its upper and hinder angle extending in the form of an angular elongation between the posterior frontal and palpebral plates, in which situation it forms a portion of the covering of the upper surface of the head. Post-ocular scales three, forming a semicircle round the outer canthus of the eye; temporal scales four or five in number, smooth, unequal, in regard of size, and somewhat six-sided. The scales on the back and sides of the neck, close to the occipital plates, small and smooth, some of them quadrangular, others more or less diamond-shaped, all rather irregularly disposed; the scales behind these are carinated and disposed in arched transverse rows, the convexity of each row towards the head. The form, &c., of the scales vary at different parts of the rows; the one which, from its situation, may be called the dorsal scale is narrow towards the base, and broad and semicircular at the point, this scale has a distinct carina extending along its centre. The scales on each side of the dorsal one are somewhat ovate, their points either angular, subtruncate, or obtuse, the upper edge of each of these scales is nearly a straight line, the lower, very convex, and much arched; the carina close to the superior edge, and generally terminating on the upper margin at some distance behind the points of the scales; the two scales nearest to the abdominal plates on each side are larger than the others, very wide at the base, and rounded at the point, their figure is somewhat triangular; the carina in these is nearly central. The hinder margin of each row of scales overlaps more or less of the base of the row immediately behind it, and the outer edge of each of the scales which compose the rows is more or less covered by the inner edge of the scale immediately external to it, and in this way there is a double kind of imbrication. As far as the base of the tail the above are the characters and

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mode of arrangement of the scales. On the tail, however, different characters exist, the scales covering it, instead of being carinated, are quite smooth like those on the temples and nape, and are more or less six-sided, one side being always formed by the base, and another by the apex, the last is generally very short, and scarcely to be appreciated in many of the scales, more particularly in those towards the tip of the tail. The point of the tail, in many specimens is formed of a scaly pointed tubercle, in others it is covered with a number of small imbricate scales. The abdominal plates are slightly arched, the convexity backward, their extremities arched or slightly semi-circular; the subcaudal scales are disposed in two rows, and each scale is distinctly six-sided till near the point of the tail, where they become more or less distinctly four-sided: in the six-sided scales the sides forming the extremities are much shorter than the two middle ones. The skin of the neck, and of rather more than the first half of the body, is more than sufficient to enclose the parts contained within it, and is very loosely attached to the parts it encloses; in consequence there is a superabundant portion, which portion is usually disposed in two longitudinal folds, one at each side of the abdominal plates; these folds are always in existence, except when the gullet and stomach are fully distended with food. On the sides and back of the head, and also on the hinder portion of the body and tail, more especially on the latter, the skin is not more than sufficiently extensive to cover the parts it encloses, and in these situations it is firmly and closely united to the subjacent parts. The usual length of an adult specimen of this variety is from $4\frac{1}{2}$ to 5 feet, of which the tail generally forms between a fourth and a fifth part: individuals are occasionally found, however, exceeding 6 feet. The following are the measurements of the specimen figured, and of two others now before us; also the number of abdominal plates and subcaudal scales existing upon each:—

SEX OF SPECIMEN.	LENGTH FROM NOSE TO BASE OF TAIL.		LENGTH OF TAIL.		SUBCAUDAL PLATES.	SUBCAUDAL SCALES.
	Ft.	In.	Ft.	In.	No.	No.
Male	3	11	1	0	188	65-65
Male	3	$5\frac{1}{2}$	1	2	189	106-106
Female	3	9	1	1	184	94-94

The *Female* is never so freely variegated with yellow on the sides as the male, and many specimens are met with in which merely the centre of each of the scales adjoining the abdominal plates is faintly tinted with greenish yellow. The yellow of the abdominal plates is also of a duller tint in the female, and often with a strong tinge of green.



BUCEPHALUS CAPENSIS. Var A
(Reptilia. Plate II)

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VARIETY A.—Plate XI.

BUCEPHALUS BELLI, *Smith*, Zoological Journal, vol. iv. p. 442.

COLOUR.—The upper parts of the head greenish black, variegated with yellow spots and waved angular lines,* the lateral parts yellow or greenish yellow. The back, the sides of the body, and the upper and lateral parts of the tail blackish green, or greenish black, the two first crossed with narrow irregular greenish yellow lines, one line to each row of scales; and formed of a series of small oval spots, one of which exists near the centre of each scale. On the tail, instead of transverse lines, there are a series of irregularly disposed yellow spots, one toward the centre of each scale, generally larger than those which exist upon the scales of the body. The abdominal plates are of a greenish yellow colour, and each is marked near to its hinder edge by a narrow transverse greenish black line, immediately before which, in many individuals, there is a whitish one with a mother-of-pearl tint. Subcaudal scales greenish yellow, narrowly edged with greenish black. Eyes silvery grey, grass-green, or clear brown. The depth of the ground-colour varies considerably in different specimens of this variety, as does also the tint of the light markings; in some, the former colour approaches to olive-green, or even grass-green.

FORM, &c.—The figure of the head and body, and the appearances of the scales and character of the skin the same as particularized in the description of Plate X. The following are the measurements, &c. of four specimens of this variety:—

SEX OF SPECIMEN.	LENGTH FROM NOSE TO BASE OF TAIL.		LENGTH OF TAIL.		ABDOMINAL PLATES.	SUBCAUDAL SCALES.
	Ft.	In.	Ft.	In.	No.	No.
Male	3	5½	1	2½	187	117-117
Male	3	2	1	2¾	191	117-117
Male	3	3	1	3	177	125-125
Female	2	4	1	0	184	125-125

The *Female* is coloured nearly as the male.

* In many specimens of this variety the upper surface of the head is yellow, or greenish yellow, mottled with greenish black spots or lines.

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VARIETY B.—PLATE XII.

BUCEPHALUS TYPICUS, *Smith*, Zoological Journal, vol. iv. p. 441.

COLOUR.—The head, the back, the sides of the body, and the upper parts of the tail, a clear reddish or yellowish-brown, the depth of the tint different in different individuals, but always lightest at and towards the extremities of the abdominal plates. The under surface of the head, the belly, and the under parts of the tail, either a pale wood-brown, or a wine-yellow, and more or less variegated with small spots of yellowish brown. Eyes in some silvery grey, in others light grass-green.

FORM, &c.—The general figure of this variety as well as the shape of its head, and the characters and distribution of its scales and plates, the same as in the varieties already described. The following are the measurements, &c., of two specimens :—

SEX OF SPECIMEN.	LENGTH FROM NOSE TO BASE OF TAIL.		LENGTH OF TAIL.		ABDOMINAL PLATES.	SUBCAUDAL SCALES.
	Ft.	In.	Ft.	In.	No.	No.
Male	3	7½	1	3	190	116-116
Male	3	5½	1	2½	178	101-101

The *Female* of the same colour and figure as the male.

YOUNG.—PLATE XIII.

BUCEPHALUS GUTTURALIS, *Smith*, Zoological Journal, vol. iv. p. 442.

COLOUR.—The upper and lateral parts of the head, above the upper lip, clear yellowish brown, inclined to honey-yellow; the upper and lower lips cream-yellow. The back and upper part of the sides greenish black, variegated with narrow transverse bars, consisting in part of small greenish white spots, and in part of narrow longitudinal lines; the spots are situated towards the outer edges of the scales near their points, and never exceed one on a scale; the lines are in the course of the carina, and rarely extend beyond its base. The lower portions of the sides of the body, and the under surfaces of the body and tail, cream-yellow, freely freckled, or marked with livid yellowish brown and the throat besides is variegated with one or more transverse blotches or bars of a reddish orange colour. In many specimens the hinder edge of each abdominal plate is marked with a narrow



BUCEPHALUS CAPENSIS. Var B.
(Reptilia-Plate 12.)





BUCEPHALUS CAPENSIS. (Young)
(Reptilia Plate 13)



BUCEPHALUS CAPENSIS.

dark coloured bar. The upper and lateral parts of the tail olive-brown, with a purplish tint. In some individuals the last half, or even the last two-thirds of the body, is also of the last mentioned colour, and the parts of the back only towards the head are of the greenish black hue.

FORM.—The figure and arrangement of the scales are the same as in adult specimens. The head is broader in proportion to the neck than in a full-grown specimen, and the eye is very large. The following are the measurements, &c., of three young specimens :—

SEX OF SPECIMEN.	LENGTH FROM NOSE TO BASE OF TAIL.		LENGTH OF TAIL.		ABDOMINAL PLATES.	SUBCAUDAL SCALES.
	Ft.	In.	Ft.	In.	No.	No.
Male	0	10 $\frac{1}{4}$	0	3 $\frac{3}{4}$	180	103-103
Male	1	4 $\frac{1}{2}$	0	6	188	112-112
Female	1	8	0	9 $\frac{1}{4}$	175	91-91

The colours of the *Female* scarcely differ from those of the male.

It is only within the last few months, during which I have been from time to time occupied in attentively examining all the specimens I collected in South Africa, of what is commonly called the *Boom-slange*, that I have been able to satisfy myself of the accuracy of M. Schlegel's conclusion, namely, that the four reptiles I had described as so many species, were only varieties of one species. At the time I penned the descriptions which were published in the Zoological Journal of London, in 1829, I had seen but comparatively few individuals of each sort, and not an instance of one partly coloured after one fashion, and partly after another. I have now, however, examined several individuals so circumstanced; and from having found the anterior parts coloured, as in the variety A, and the hinder parts as in the variety B, or *vice versa*, I am consequently compelled to consider this snake as one which varies extremely in regard of its colouring; and, therefore, to cancel the remark I have made in reference to the group, in my observations upon *Bucephalus viridis* (*Reptilia*, Plate III.), which, it may be remarked, will require now to be viewed simply as a variety of *B. Capensis*. The figures now published will give an accurate idea of four of the most distinct varieties, and the only ones which we have met with, which do not exhibit more or less of the colouring of two, or even of three, of the different varieties.

The same reasons which induced us in 1829 to consider the *Boom-slange* as a fitting type for a distinct group, still incline us to hold it as such; and we must see better grounds than those advanced by M. Schlegel, before we consider it can be classed with propriety in *Dendrophis*. The peculiar form and arrangement of the scales of this snake afford characters by which it is to be readily distinguished from the species of that genus; and the singular character of the rudimentary fangs which exist at the hinder extremity of the maxillary rows of teeth, also concur to justify its removal. As this snake, in our opinion, is not provided with a poisonous fluid to instil into wounds which these fangs may inflict, they must consequently be intended for a purpose different to those which exist in poisonous reptiles. Their use seems to be to offer obstacles to the retrogression of living animals, such as

BUCEPHALUS CAPENSIS.

birds, &c., while they are only partially within the mouth; and from the circumstance of these fangs being directed backward, and not admitting of being raised, so as to form an angle with the edge of the jaw, they are well fitted to act as powerful holders, when once they penetrate the skin and soft parts of the prey which their possessors may be in the act of swallowing. Without such fangs escapes would be common; with such they are rare.

The natives of South Africa regard the *Boom-slange* as poisonous; but in their opinion we cannot concur, as we have not been able to discover the existence of any glands manifestly organized for the secretion of poison. The fangs are enclosed in a soft pulpy sheath, the inner surface of which is commonly coated with a thin glairy secretion. This secretion possibly may have something acrid and irritating in its qualities, which may, when it enters a wound, occasion pain and even swelling, but nothing of greater importance. The *Boom-slange* is generally found upon trees, to which it resorts for the purpose of catching birds, upon which it delights to feed. The presence of a specimen in a tree is generally soon discovered by the birds of the neighbourhood, who collect around it, and fly to and fro, uttering the most piercing cries, until some one, more terror-struck than the rest, actually scans its lips, and almost without resistance becomes a meal for its enemy. During such a proceeding the snake is generally observed with its head raised about ten or twelve inches above the branch round which its body and tail are entwined, with its mouth open, and its neck inflated, as if anxiously endeavouring to increase the terror which it would almost appear it was aware would sooner or later bring within its grasp some one of the feathered group. Whatever may be said in ridicule of fascination, it is nevertheless true that birds, and even quadrupeds, are, under certain circumstances, unable to retire from the presence of certain of their enemies; and, what is even more extraordinary, unable to resist the propensity to advance from a situation of actual safety into one of the most imminent danger. This I have often seen exemplified in the case of birds and snakes; and I have heard of instances equally curious, in which Antelopes and other quadrupeds, have been so bewildered by the sudden appearance of Crocodiles, and by the grimaces and contortions they practised, as to be unable to fly or even move from the spot, towards which they were approaching to seize them.



DECEMBER ANNUUS
Reptilia. — Platte 141



COLUBER CANUS.—AUCT.
REPTILIA.—PLATES XIV. XV. XVI. and XVII.

ADULT.—PLATE XIV.

C. suprâ livide nigro-brunneus, subtus pallide nigro-purpureus; apicibus squamarum versus scutas abdominales nigro-brunneis; scutarum abdominalium marginibus posterioribus pallidioribus; oculis brunneis.

LONGITUDO ADULTI, 5 ped. 10 unc. ad 7 ped.

AMMOBATES AFRICANUS EX GUINEA, *Seba*, Thes. tom. ii. p. 82, fig. 2.

COLUBER AMMOBATES EX GUINEA, *Shaw*, General Zoology, vol. iii. part ii. p. 481.

COLUBER CANUS, *Merr.* Beitr. vol. iii. p. 15, pl. i.

————— *Schlegel*, Essai sur la Physionomie des Serpens, p. 155, pl. 6, fig. 7 & 8.

COLOUR.—Above deep livid blackish brown; below pale livid blackish purple, with two or more of the rows of scales on each side of abdominal plates of the latter tint, except their tips, which are of the colour of the back; the hinder edge of each abdominal plate, and of each subcaudal scale is lighter than the parts in front of it, semi-pellucid, and has a pearly lustre. Eyes dark liver-brown. These are the markings and colours most frequently observed in adult specimens, but many individuals occur in which the colour of the upper parts is of a lighter shade than the one described, and others in which it is much darker, being actually a livid black, with a shining gloss. The gloss is observed to prevail in a greater or less degree in every specimen.

VARIETY A.—PLATE XV.

COLOUR.—The head, back, and sides greenish brown, variegated with blackish brown spots, disposed in three or four longitudinal rows, one along each side, the other two, whether connected or separate nearly in the course of the centre of the back. When they are united so as to appear one irregular row, the points of junction are the inner (mesial) and anterior angle of a spot of one side, and the inner (mesial) and posterior angle of one of the other side, hence exhibiting a tessellated appearance or a likeness, in arrangement, to two rows of dark squares on a chess-board: the spots are either of a uniform colour throughout, or they are varied with small marks or serrated lines of a white or yellowish white colour. The lower parts of the sides and the under parts intermediate between a straw and wine-yellow; the abdominal plates, particularly those at a distance from the head, blotched, or

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extensively marked with a livid hair-brown colour; the hinder edges of the abdominal plates semi-pellucid and shining; the tips of the scales covering the lower parts of the sides, are similar in colour to the back. Sides of the head the same colour as the upper surface, the tint lighter, and each is marked with two somewhat vertical stripes, one directly under the eye, the other between the hinder canthus of the eye and the angle of the mouth. Eyes light reddish brown.

VARIETY B.—PLATE XVI.

COLOUR.—The back and upper portions of the sides reddish orange; the tint deeper at some parts than at others. The parts so coloured are crossed with irregular broad bars of a pale brownish red colour, and these bars are narrowly edged here and there with dark blackish brown; the latter colour, wherever it exists, is confined to the base of the scale, immediately external to the transverse bars. The lower parts of the sides light reddish orange, shaded with brownish purple red, and vertically crossed by the prolongations of the brownish red bars already noticed, which as they descend become lighter, and are marked towards their terminations, which are near the abdominal plates, with an irregularly shaped spot of a lemon-yellow colour, and not unfrequently with a second of blackish brown, immediately or at some little distance below the light mark. The lower portions of the sides and belly intermediate between sienna and lemon-yellow, and the latter is variegated by many of the abdominal plates being coloured transversely with livid hair-brown. Sides of head similar in colour to the belly, and each is marked with two vertical stripes, disposed as described in Variety A; eyes light reddish brown.

YOUNG.—PLATE XVII.

COLUBER CANUS, *Lin. Mus. Ad. Fr. i. p. 31. t. ii. fig. 1.*—*Shaw's General Zoology*, vol. iii. part ii. p. 499.

COLUBER MARGARITACEUS, *Merr. Beitr. ii. p. 42. pl. 9.*—*Daud. Rept. vi. p. 419.*

COLOUR.—Above pale yellowish brown, variegated with quadrangular spots, and irregularly waved and serrated longitudinal bands of a deep orange-coloured brown; most of the spots are darkest at the margin, which is umber-brown, and exterior to this colour there is generally a narrow edging of pearly white. Head above light yellowish brown, variegated particularly along the centre with deep orange-coloured brown. The sides of the head, the lower portions of the sides of the body, and all the under parts pearly white; the sides are marked with reddish orange, or orange-brown spots in

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the form of a cross, and the under parts with transverse blotches of the latter colour, either at the extremities of the plates, or towards their centres, or at both. In some specimens the spots are disposed in four regular rows; in others they are in two rows, one on each side, and each spot shaped like a sand glass, being narrow in the middle, and widest at the extremities.

FORM, &c.—Figure subfusiform, and somewhat quadrangular in young and middle-aged individuals; subcylindrical in adults; head quadrangular, rather small, posteriorly as wide as the neck, anteriorly narrow, and terminating in an obtuse point; side of head behind eye convex; portion of the side in front of eye flat and perpendicular. Gape rather large, and the angles of the mouth considerably behind the eyes. From the head the body gradually increases in thickness till it reaches its extreme, which is generally about midway between the nose and anus; from that point it gradually decreases towards the tail, which is in most specimens thicker and shorter, in proportion to the total length, than in the majority of reptiles of this genus. The point of the tail, particularly in adult specimens, is commonly blunt and rounded. The plates covering the upper surface of the head, including the labial, a portion of which is so reflected as to cover the anterior extremity of nose, are ten in number, viz. 1 labial, 2 nasal, 2 frontal, 2 supra-ocular, 1 vertical, and 2 occipital plates; the labial at its base, which constitutes a portion of the edge of upper lip is notched, the notch being a curve, the convexity of which is directed upwards; the shape of this plate is triangular, its apex reaching the point at which the nasal plates come in contact anteriorly; the vertical plate somewhat triangular, and more or less distinctly six-sided; its apex lying between the occipital plates; labial plates of upper lip six or seven, those towards angles of mouth largest, of lower lip eleven or twelve, exclusive of the central one, covering the apex of the lower jaw; postocular plates generally two, anti-ocular plates one or two. Eyes small and deeply set; nostrils small, widest behind, pointed in front, and situated much nearer to the point of the nose than the eye. Scales of the body rhomboidal and disposed in rows, which run obliquely across the body from the abdominal plates on one side to those of the other, each row generally consisting of twenty-seven scales; subcaudal scales six-sided, the two central sides longest; the tip of the tail usually covered with a hard elastic, and somewhat horny sheath, the apex of which is either blunt or aculeated. The abdominal plates vary in number in different specimens, ranging from 172 to 209; the subcaudal scales from 60 to 84, and there is no reason for supposing that the number is in proportion to the size of the specimen. The usual length of an adult specimen is from five to six feet, but individuals are frequently obtained which measure even more than seven feet.

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Scarcely are any two specimens of this snake marked and coloured alike : hence, as regards it, neither the form of the spots nor the tints of the colours are of any real value as diagnostic characters. Though such is the case, it must, nevertheless, be admitted, that there exists in specimens certain general resemblances which enable the eye that has become familiar with the appearance of one or two specimens to recognize without much difficulty, all the other modifications which present themselves. The colours most commonly noticed in adults are those represented in Plate XIV.; but many individuals are obtained in which the colours are lighter, and others in which they are much darker. The variety figured in Plate XV. is less common, and although some diversity occurs in the arrangement of the spots in different specimens, yet there is never that discrepancy which is calculated to raise a doubt as to the identity of any two real examples of the variety. Comparatively rare as this variety is, the one represented in Plate XVI. is still less frequently procured, and specimens so coloured are very seldom obtained ; that is, the ferruginous tinge is rarely seen of such a depth, though specimens in which it exists of a lighter hue are not very uncommon. The young, as figured in Plate XVII., exhibits the appearances most characteristic of that age ; and although many examples are procured in which the configuration of the spots and the fashion of the bands are more or less varied, yet there is that in all of them which clearly indicates their species. The colours of the young are also variously modified, but not to such a degree as those of adults or half-grown specimens.

Each of the kinds represented are considered by the European settlers and the aboriginal inhabitants of Southern Africa as distinct species, and that figured in Plate XIV. is known throughout the colony by the appellation of *Zwarte Slang*, or black snake. Adults and middle-aged individuals are generally found upon dry plains, especially those of which the soil is loose and sandy, and whose surface bears a moderate sprinkling, at least, of dwarf shrubs. The young, again, are commonly discovered upon stony hillocks or rising ground in the neighbourhood of plains. Full and half-grown specimens conceal themselves up in holes or subterranean burrows, except when hunger or a desire to bask in the sun urges them to appear above ground ; and if they are discovered whilst so engaged, they generally fly to the nearest hiding places. Though such is their general habit, it often occurs that they act otherwise, and await the approach of man without any appearance of fear. On such occasions they manifest considerable boldness, and if pressed or closely assailed they prepare for battle, by raising the head and eight or ten inches of the body almost perpendicular, at the same time alternately darting the tongue out of the mouth, and retracting it with great velocity. When in the first instance they fly, it sometimes happens, if they be pursued, that they suddenly turn upon their pursuers, and evince a disposition to act on the defensive. The strength of a full-grown specimen is very great, and I have myself, more than once, had my hand benumbed by permitting one to wind its body spirally round my arm while holding its head in my hand. The moment it is satisfied that its body is properly coiled, it throws the muscles into a state of violent contraction, which produce a degree of pressure that immediately becomes almost insupportable. The consequence of such pressure is soon evident ; the parts below those, round which the body is turned, become benumbed and powerless ; the fingers lose their ability to detain the head, and the moment the latter gets free, the body is instantly uncoiled by the will of the reptile, which then falls to the ground.



COLUBER CANUS. (var. A.)
(Reptilia.—Plate 15)



COLUBER CANUS. (var. B.)
(Reptilia. Plate 16)



COLUBER CANUS, (YOUNG)
(Reptilia.—Plate IV)



N A I A H A J E. (Var. A.)

(Reptilia.—Plate, 18)



NAIA II J E. Var B
(Reptilia. Plate 12)



SEPIA...
Plate 20



N A I A H A J E. (Young
(Reptilia. — Plate 21)

NAIA HAJE.—*Merrem.*

REPTILIA.—PLATES XVIII., XIX., XX., AND XXI.

N. flava aut purpureo-brunnea; partibus inferioribus pallidioribus sæpe maculis transversis rubro-brunneo-notatis; figurâ subcylindraceâ, versus caudam fortiter attenuatâ.

LONGITUDO inter 5 et 6 pedes.

ECHIDNA FLAVA, *Merr.* Tentam. System. Amph. p. 154.

NAIA NIGRA, *Smith.* Magazine of Natural History, vol. ii. 1838.

GEEL COPELL, BRUIN COPELL, and SPUUGH-SLANG of the Cape colonists.

COLOUR.—The majority of the specimens of this species, which are found in South Africa, are either entirely yellow or purplish brown, though a considerable number occur, also, in which both these colours exist more or less distinctly in the same individual. The depth of the general colour varies considerably in different specimens, particularly in those exhibiting the yellow colour, being observed of every shade between straw-yellow and clear reddish yellow. In specimens which are partly of a yellow and partly of a purplish brown colour; the latter tint is generally found upon the head, neck, and upper parts of the tail. In all the three kinds, the upper parts are always of a deeper tint than the lower parts, and in the majority of specimens the belly is mottled, from being more or less crossed by irregular blotches, or incomplete bars of a reddish brown colour. The abdominal plates, and the subcaudal scales have a slight pearly lustre, and in some they approach almost to a pearly white.

FORM, &c.—Figure nearly cylindrical, with the belly a little flattened; the greatest thickness of the body is rather nearer to the head than the tip of the tail, and from the thickest part it tapers towards both extremities, the decrease in thickness occurring more rapidly, and to a much greater degree, towards the latter than the former; so that the tail towards the tip is scarcely so thick as a common writing quill. The head is considerably wider than the neck, the greater width arising principally from the lateral bulge which exists on each side of the hindhead, and which gives to this snake its peculiarly hideous and savage appearance. The width of the head is much greater than its depth; its upper surface is flat, and the occipital scales appear very large

NALIA HAJE.

as compared with the other plates; they are irregularly five-sided, two sides referable to the external margin of each, one to the point, one to the base, and the fifth extends the whole length of the inner side. The sides of the head before the eyes are nearly perpendicular, behind the eyes prominent and convex: the nose is rather blunt, and the nasal plate, which is large, has towards the margin of the lip a deep semicircular concavity, the convexity of which is directed upwards; antocular scales one, postocular scales generally three; the last but one of the labial scales of the upper lip very large, and in adult specimens generally reaches as high as the postocular scales, and covers a portion of the sides of the head, the remaining parts of the sides are covered by a few large irregular scales, excepting in young specimens, in which these scales are out of proportion small, as compared with what they are in adults. The scales of the hindhead and the commencement of the neck irregular as regards size, each with four distinct sides, and two other more or less developed, according as the base and apex of each scale are more or less pointed. The scales on the other parts of the neck and body are lengthened, rather narrow, and of a more or less ovate form, and are disposed in lines, which may either be traced as running obliquely across from one side of the abdomen to the other, or as forming angles on the middle of the back, with the point of each angle considerably behind the extremities of these lines, which will be understood best by reference to the appearances exhibited in the plates. Approaching the tail the scales change their character, though they retain the same mode of arrangement; instead of being ovate they assume a somewhat quadrangular form, diminish in length and increase in width, and the sides constituting the base and apex are oblique. On the tail, again, they exhibit a different figure, one more approaching to that of the scales of the hindhead being more or less six-sided, the two sides constituting the base and apex being more or less developed: the point of the tail is either blunt or acuminate, and in either case is covered with a corneous sheath. The skin of the neck is loose, and too capacious for the parts it has to cover: hence, when not excited, the exuberant portion is disposed in two folds, one along each side, close to the abdominal plates. The skin of the body is moderately loose, but not too large for the parts beneath it, and that of the tail is intimately united to the internal parts, and not to be raised in the least, except the connecting membrane be destroyed. The abdominal plates are moderately wide, and the posterior edge of each is longer than the anterior, and terminates in an angle between two of the scales of the inferior lateral row: the subcaudal scales six-sided, the angle formed by the union of the two external sides received between two of the

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lateral scales, and the internal angle between two of the subcaudal scales of the other side. The number of abdominal plates varies from 200 to 227, and the number of subcaudal scales from 53 to 67. The eyes are rather large, and though not sunk in the orbit, appear rather deep from the sides of the upper lip, and the supraorbital scales being very protuberant.

VARIETY A. (PLATE XVIII.)

Ground colour either a pure or a reddish yellow, the depth of the tint different in different individuals, but always lightest on the under parts. The variegations, which consist of narrow longitudinal spots, or streaks, are of an umber-brown or reddish brown colour, and vary in respect of number in every individual specimen; in some examples they are numerous, and on some places confluent; in others they are few, and hardly to be perceived, those snakes being just in the stage which precedes their becoming what would be regarded as specimens of yellow Copells, already described. The abdominal plates, and in some individuals the subcaudal scales also, are more or less mottled with umber-brown, or reddish brown variegations, which always extend transversely, instead of longitudinally, and sometimes pass from one extremity of the plate to the other. Eyes chesnut brown.

VARIETY B. (PLATE XIX.)

Ground colour a rich umber-brown, more or less freely mottled with stripes, spots, or blotches of gamboge-yellow and bright chesnut-brown. The abdominal plates are generally a dull brownish purple-red, and towards the head, generally tinted here and there with yellowish brown, and spotted with yellowish white. The tail, both above and below, generally livid blackish brown. Eyes deep chesnut brown.

VARIETY C. (PLATE XX.)

Colour an uniform livid blackish brown, the livid tinge strongest on the under parts, forming almost a sort of purplish slate-colour, which is very dark and shining towards the head. The abdominal plates posteriorly have each a light semipellucid margin, and the base of each plate, which is covered by the plate in front of it, and also the portions of the scales of the back and sides, which are generally covered by the adjoining scales, are of a bright chesnut colour, best seen in dried skins. Eyes bright chesnut-brown.

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YOUNG. (PLATE XXI.)

Colour intermediate between straw-yellow and pale cream-yellow, the only variegations being two brownish-red collars upon the throat, the extremities of each of which are visible upon the sides of the neck above ; and those of the last collar are generally connected by a narrow angular bar, of the same colour as the collar itself, as is shown in Figure A. Eyes light chesnut-brown.

If this reptile be specifically different from the *Naia Haje* of Northern Africa, I have not, after closely comparing them, been able to discover the differences which, in my opinion, could justify me in regarding them as distinct. I have not been able to perceive greater discrepancies between some of the Cape individuals and those collected in Egypt, than I have been able to find between some of what may be regarded the more typical examples of Southern Africa and others of the same country, which may be viewed as presenting aberrant or less common characters. The young of the Cape reptile exactly corresponds with the young of *Naia Haje*, as figured by M. Geoffroy.*

The appearances of the more common sorts of this snake being easily to be imagined, I have not thought it necessary to figure them ; but those of the varieties, being more intermixed and complicated, I have represented the three principal ones, believing that all others which occur in South Africa, will be but modifications of one or other of them. Of the varieties figured, the one of Plate XVIII. is the most common, next to it that of Plate XIX., and the one most rarely met is shown in Plate XX. The latter is known throughout the Cape colony by the name of *Spuugh-slang* (spitting snake), and is so called from the power it is supposed to possess of ejecting its poison to a distance. All the Cobra de capellos of Southern Africa distil poison from the points of their fangs when they are much irritated, and are able to eject a portion of it beyond the mouth by a forcible expiration ; but that any greater power than that is possessed by the *Spuugh-slang*, I am not disposed to believe ; nevertheless the contrary is strongly maintained both by the European and native inhabitants. Both of these affirm that the snake in question is able to cast its poison to a distance of several feet, especially if the wind be blowing so as to favour its object ; and that it often projects it into the eyes of unwelcome intruders, and thereby occasions a degree of inflammation, which not uncommonly terminates in loss of sight.

In the Cape Colony the varieties of the Cobra de Capello are all regarded as highly dangerous ; and many severe, if not fatal consequences, are the results of their bite. They are all savage and bold, and when assailed, they generally resist rather than fly, and they not unfrequently even act on the offensive. They climb trees with great facility, and often take to the water out of choice. In the liquid element their progress is rather slow, and during their residence in it the head and a portion of the neck is always kept raised a little above the surface. Whenever they are excited or irritated they, like the common species of India, inflate the loose skin of the neck, and extend it laterally, so as to exhibit an appearance as if the neck was edged on each side with a thin semi-circular appendage. They feed upon small quadrupeds, birds, and eggs, and in search of the latter, they ascend trees to rob nests.

* Descrip. de l'Egypte Atlas, Rept. plate 7. fig. 3.



LYCODON GEOMETRICUS.
(Reptilia. Plate 22)

LYCODON GEOMETRICUS.—SCHLEGEL.

REPTILIA.—PLATE XXII. ADULT AND YOUNG.

L. suprâ subcastaneus; infrâ pallide flavus, latere duabus lineis longitudinalibus anticè notato; capite suprâ lineâ flavâ marginatâ, et lineâ coloris similis inter oculum et oris angulum; capite depresso; corpore subcylindraceo; squamis anticè hexagonis elongatis, posticè brevibus subhexagonis.

LONGITUDO a naso ad anum 26 unc.; caudæ 6 unc. 6 lin.

LYCODON GEOMETRICUS, *Physionomie des Serpens*, par Schlegel, page 111.

COLOUR.—Back and upper portion of sides intermediate between yellowish brown and umber-brown, the colour of the sides being separated from that of the back by a narrow cream-yellow band, which commences near the hind head and is lost before it reaches the tail. Below the brown of the side, which exhibits the appearance of a longitudinal stripe, there is a second cream-coloured band about the width of the first, but neither so distinctly defined nor so lengthened, rarely reaching to the middle of the body. Behind, where this second line does not exist, the lower edge of the brown gradually fades into a light-brownish purple-red. Lower portion of sides and under parts straw-yellow. Besides the yellow bands already mentioned there is one of a brighter tint edging the lateral and anterior parts of the upper surface of the head, and another extending between the outer corner of the eye and the angle of the mouth; there are also some more or less vertical lines of the same colour on the upper lip.

YOUNG.

The ground colour sienna-yellow glossed with purplish red, and the back and the sides towards the head are freely variegated with several rows of spots of a brownish red colour. Line edging the upper surface of the head, and one between the eye and the angle of the mouth bright yellow, the former is connected with its fellow of the opposite side by a narrow transverse yellow line; upper and under lips pale yellow vertically barred with brown. Under parts pale straw-yellow.

LYCODON GEOMETRICUS.

FORM, &c.—Head depressed, subtriangular. Body subcylindrical, and tapered from the middle toward each extremity; the decrease in thickness towards the head is but trifling, while in the opposite direction it is very considerable. The head is slightly broader than the body, and the neck is more flattened than the portions behind it. The tail is pointed, its under surface flat, and its upper semi-cylindrical. The scales towards the head are long, narrow, and six-sided; about the middle they are much broader and shorter, but still somewhat six-sided, which is also the figure of those of the tail and body near to it. The anterior teeth of the maxillary row and also those of the lower jaw considerably longer than the hinder ones. Greatest thickness of the largest specimen I have seen about that of a man's thumb. Abdominal plates, 208. Subcaudal scales, 71 in each row.

DIMENSIONS.

	In.	Lines.
Length from the front of the nose to the anus	26	0
of the tail	6	6
Circumference at thickest part	2	8

This snake, which is rarely seen in South Africa, resorts to dry and arid situations; its movements are moderately quick, and its food, at least a part of it, consists of lizards.



LYCODON GUTTATUS.
(Reptilia...Plate 23)

LYCODON GUTTATUS.—SMITH.

REPTILIA.—PLATE XXIII.

L. suprà obscure flavo-brunneus carneo-tinctus, dorso lateribusque effuse guttis brunneis variegatis; infrà ochraceus; capite suprà lineis brunneis variegato, duabus transversis, reliquis longitudinalibus; maculis duabus oblongis pone nucham; squamis subquadrangularibus in lineis obliquis ordinatis.
LONGITUDO e naso ad anum 13 unc.; caudæ 3 unc. 6 lin.

COLOUR.—Above dull yellowish brown with a pink gloss, the upper parts profusely variegated with several rows of dark spots, the two rows of spots along the centre of the back almost circular and largest, the spots of the other rows smaller and irregular in shape; each of the spots, particularly of those of the two middle rows, consist of two colours, viz. an external ring of an umber-brown hue, and a centre of light reddish brown. Top of the head pale yellowish brown, variously variegated,—across the hindhead there extends a narrow reddish brown line, and another of the same tint is observed between the eyes, the latter has its extremities directed backwards and extended upon the hindhead; between these lines two or three longitudinal lines of small dots, and in front of the one which runs between the eyes there are two narrow longitudinal brown lines extending to the tip of the nose. The extremity of the transverse line, which crosses the hindhead, is joined to another line of the same colour which proceeds from the outer edge of the eye, and from the point of union a single line is prolonged for a short distance along the side of the neck. Between the hindhead and the commencement of the circular spots of the back there are two narrow oblong blotches, the colours the same and similarly arranged as those of the spots of the back. The colour of the under parts pale ochrey yellow. Eyes dark brown.

FORM, &c.—Figure lengthened and slender; the greatest thickness of body about midway between the nose and the anus, from thence it tapers considerably towards both extremities. Head slightly depressed; the sides of hindhead slightly bulging, giving to the latter a superiority of width over the

LYCODON GUTTATUS.

commencement of the neck. Tail slender, and tapered to a sharp point. The front teeth of the maxillary row and of the lower jaw rather longer than the rest. Scales small, somewhat diamond-shaped, and disposed in oblique rows between the centre of the back and the abdominal plates; on and approaching the tail, they are much broader than they are towards the head, and not so regularly shaped. Behind the eye two scales, in front one, and anterior to the latter a very small frenal. Abdominal plates, 196. Subcaudal scales, 72 in each row.

DIMENSIONS.

	Inches.	Lines.
Length from the point of the nose to the anus	13	0
Length of the tail	3	6
Circumference at the thickest point	1	6

This snake, so far as I know, has not been found within the limits of the colony of the Cape of Good Hope, and the only specimens I acquired were obtained during the movements of the expedition party beyond Kurrichane, and were all found in rudely constructed stone-walls. It was of a mild disposition, and scarcely attempted to escape when the fabric was demolished in which it was concealed.



1. CORDYLUS MICROLEPIDOTUS.
2. CORDYLUS MICROLEPIDOTUS.
(Reptilia—Plate 24)

CORDYLUS MICROLEPIDOTUS.

REPTILIA.—PLATES XXIV. XXV. AND XXVI.

C. dorso maculis flavis in ordinibus transversis ornato; caudâ superne flavo-variegatâ; cervice, dorso, lateribusque squamis parvis plus minusve carinatis et in seriebus transversis, ordinatis; caudâ superne squamis carinatis spinosis armatâ; poris femoralibus verrucosis in ordinibus duabus aut tribus dispositis.

CORDYLUS MICROLEPIDOTUS, Cuv. Reg. Animal. 2d Edit. vol. ii. f. 33.

CORDYLUS MONTANUS,—MELANOTUS,—ALGOENSIS,—et SUBVIRIDIS, Smith, Mag. Nat. Hist. vol. ii. page 32.

(VAR. Fig. A. Plate XXIV.)

COLOUR.—The upper and lateral parts of the head clear brownish red, the former marked with a longitudinal narrow line of a pale reddish orange colour over each eye; the sides of the head in front of the eyes and the lips pale brownish yellow. The upper surface of the back and the tail livid brownish red, the former variegated with short transverse stripes or spots of an ochre-yellow colour, so disposed as to form several broken bands;—between the hinder legs and on the neck immediately behind the head the bands are sometimes continuous; the sides of the upper surface of the tail are sparingly mottled with short, narrow, yellow streaks, and a band of the same colour is often observed extending from the side of the neck and arching over the base of each fore-leg. The sides of the body intermediate between gall-stone and ochre-yellow, and vertically barred by several triangular prolongations of the dark colour of the back, which in some specimens reach to the margin of the abdomen; the sides and under-surface of the tail gamboge-yellow,—the former marked with many narrow vertical liver-brown bars. Belly and under surface of extremities intermediate between gamboge and sienna-yellow; upper surface of extremities pale gamboge-yellow irregularly barred with reddish-brown. The sides of the neck with two distinct and more or less vertical spots of a darker colour than the back, and the space between the *rami* of the lower jaw is a livid blue. Eyes chesnut brown.

(VAR.—Fig. B. Plate XXIV.)

COLOUR.—The upper surface of the head and the temples chesnut-brown; the back orange-coloured brown variegated with transverse bars of quadran-

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gular light yellow spots, those near the centre of the back smallest; sides superiorly the same colour as the back, inferiorly deep reddish orange and partially barred by prolongations of the dark colour of the higher parts of the sides; the sides of neck marked with three distinct dark liver-brown spots, one directly behind the *meatus externus*. The space between *rami* of lower jaw livid blue; the belly and under surface of extremities sienna-yellow clouded with deep reddish-orange; under-surface of tail dull reddish-orange; upper surface of extremities light orange-brown. Eyes chesnut-brown.

(VAR. Plate XXV.)

COLOUR.—(*Male*. Fig. A.)—The upper surface of the head light brownish-orange shaded with umber-brown, the back dull yellowish brown finely variegated with many longitudinal rows of small liver-brown spots; the sides of the body intermediate between orpiment-orange and tile-red, and variegated here and there with short liver-brown streaks; the sides of the head before the eyes the same colour as the upper surface of the head; sides of lower jaw pale reddish orange shaded with umber-brown; temples deep reddish orange, and the sides of the neck with two or more deep liver-brown blotches. Tail dull yellowish brown irregularly mottled with umber-brown; space between *rami* of lower jaw livid blue; belly and under-surface of tail ochrey yellow tinted with green; legs and toes pale reddish orange, the fore legs spotted sparingly with light-brown, the hinder ones spotted or barred with umber-brown. Eyes deep reddish brown.

Female, (fig. B.)—The upper surface of head and the temples a yellowish hair-brown with the edges and centre of the scales lightest; back liver-brown freely variegated with short longitudinal stripes of a colour intermediate between oil-green and ochre-yellow; the sides of the lips and the body the same colour as the spots of the back, and the sides of the latter is variegated with several rows of dark umber-brown dots and some light umber-brown blotches. The extremities externally coloured like the sides and freely mottled with umber-brown spots most numerous towards the toes. Tail liver-brown mottled with dull yellowish green; space between *rami* of lower jaw livid blue; belly and under surface of tail ochrey yellow with a greenish tinge. Eyes dull reddish brown.

(VAR.—Plate XXVI.)

COLOUR.—(*Male*. Fig. A.)—The middle and hinder parts of the head superiorly, and the back a yellowish hair-brown, freckled with liver-brown,



CORDYLUS MICROLEPIDOTUS. A Male. B Female
(Reptilia.—Plate 26.)



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the centre of each scale being of the latter colour ; the upper surface of the head anteriorly oil-green. The sides of the lips and body a light yellowish emerald-green, and the latter is partially barred with a number of narrow prolongations of the dark colour of the back ; the sides of the neck with two dark liver-brown spots, the anterior one waved, the hinder one vertical. Tail pale liver-brown, irregularly spotted with sulphur-yellow ; belly livid greenish yellow ; legs and toes oil-green barred with liver-brown. Eyes deep reddish brown.

Female and young.—(Figs. B. and C.)—The upper surface of head and back pale umber-brown, the sides of the former finely edged with pale oil-green, and the discs of plates finely dotted with the same colour ; the back variegated with a number of small irregular pale oil-green spots. Sides intermediate between oil-green and ochre yellow, and marked with several longitudinal lines of small liver-brown spots ; sides of head yellowish hair-brown. Tail oil-green mottled with somewhat square umber-brown spots ; extremities the same colour as the sides and speckled with umber-brown spots. Belly straw yellow with a greenish tinge. Eyes deep reddish brown.

FORM, &c.—Head rather depressed and subtriangular, its upper surface posteriorly level, and anteriorly sloped towards the nose ; its sides in front of the eyes nearly perpendicular, behind them convex and bulged, particularly posterior to the angles of the mouth ; the hinder edge of the temples armed with two or three compressed tubercular looking scales, which project outwards and backward, and conceal more or less the external openings of the ears. The forms of the plates and scales of the head vary a little in the different varieties, and even in individuals of the same variety, as will be seen on referring to Plate XXX.* The plates of the temples differ considerably in size and configuration, being in some like scales, in others like lengthened plates, and such variations are even exhibited by specimens of the same variety. The neck and body like the head is somewhat depressed, and the latter bulges considerably on each side. The skin of the neck, particularly the portions which cover its side is loose, and more or less folded or deeply wrinkled, and between these wrinkles are situated the very

* Fig. 1, the upper surface of the head of specimen, figured Plate XXIV. 1 ;—1 a, the side of the head of ditto. Fig. 2, the upper surface of the head of specimen figured Plate XXIV. 2 ;—2 a, the side of the head of ditto ;—2 b, femoral pores of ditto. Fig. 3, the upper surface of the head of specimen figured Plate XXV. A ;—3 a, the side of head of ditto ;—3 b, the femoral pores of ditto. Fig. 4, the upper surface of the head of specimen figured Plate XXVI. A ;—4 a, the side of head of ditto ;—4 b, the femoral pores of ditto.

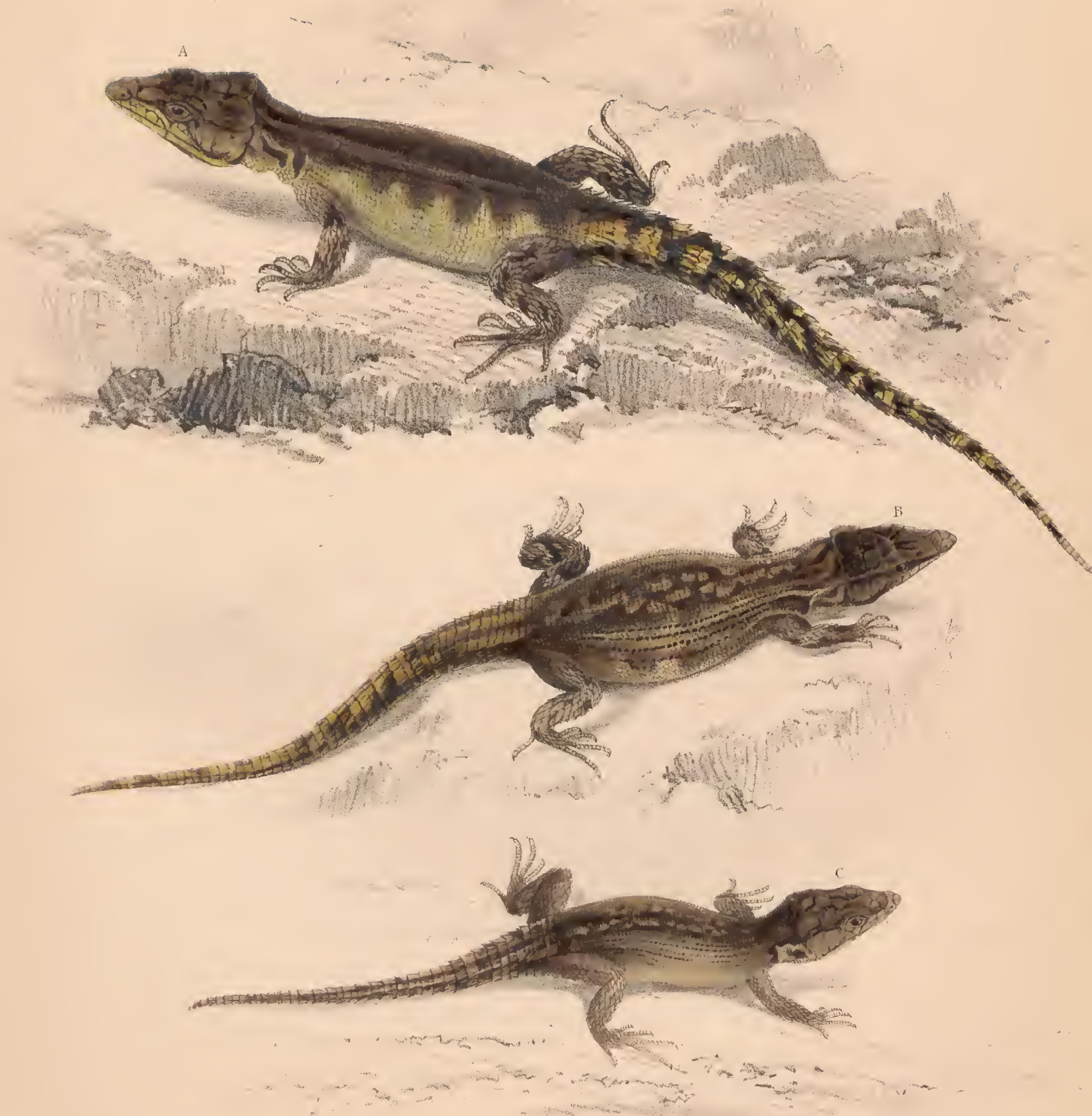
CORDYLUS MICROLEPIDOTUS.

dark blotches described in treating of the colouring of this lizard; other folds, though not so distinctly marked, are observed to traverse the upper surface of the neck, and, like those of the sides, evidently result from the skin on these situations being more extensive than the parts it is destined to cover, in order to permit the head to move freely. The skin of the back of the neck, and of the back and sides of the body, is covered with two descriptions of scales, the one description considerably larger than the other, more or less orbicular, and disposed in rows, which can be traced either longitudinally or transversely, and each of these scales is more or less carinated, particularly towards its posterior edge, the *carinæ*, however, are less acute in adult specimens than in young ones, and less on the sides than the back, probably from the effects of friction. The second description of scales occur in the interstices between the ones just described, and are very small, somewhat circular, and without keels, and the sides of the neck are entirely coated with scales of this description. The superior and hinder surfaces of the leg are covered with somewhat diamond-shaped scales, all of which are strongly keeled, and the keel of each posteriorly forms a sharp elevated spine; the scales coating the under and anterior surfaces of the fore-legs smaller than those on their upper part, and with less distinct keels. Those of the anterior and inferior surfaces of the hinder leg, large, flat, somewhat quadrangular, and without keels. Feet rather slender, and covered with keeled scales. Toes long, delicate, and free. Claws short, curved, pointed, and laterally compressed. Chin and anterior part of throat covered with small, somewhat quadrangular scales; posterior part of throat and space between fore-leg coated with large, imbricate, irregular scales, not in distinct rows; rest of under part of body with ten rows of four-sided plates, the greatest length of each plate transversely. Tail rigid, and very hard, thick at the base, from whence it tapers to a fine point; above it is flat and rather broad, below narrow and slightly rounded, hence its section exhibits somewhat of a triangular form, two angles being formed by the edges of the upper surface, and the third by the under surface. The scales on this part of the reptile are disposed in rings, towards the base each ring consists of two circles of scales, and towards the apex only of one; all the scales of the upper and lateral parts are carinated, and the *carinæ* are most developed in those situated over the lateral angles, particularly towards the base of the tail, where they terminate posteriorly in prominent sharp spines. On the lower parts of the sides, and on the centre of the upper surface, the keels are much less marked, and are not prolonged into acute spines;

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towards the point of the tail the keels are acute, but do not end in spines. Where the rings consist of two circles of scales, the scales of the circle nearest to the body are always smallest, and the keels but scarcely visible. The under-surface of the tail, towards its base, coated with two rows of flat square scales, towards the point with keeled ones, like those of the sides and upper surface. *Meatus externus* large, vertically ovate, and opening outwards and backwards, under the projecting edge of the temple. Nostrils small, circular, and placed near to the apex of the muzzle. Eyes moderately large, rather deeply set, and the eyelids, particularly the lower ones, covered with small granular scales. Femoral pores in one, two, or three rows, each of a circular shape, and its interior consisting of a sort of fungoid texture, which generally protrudes beyond the investing membrane. Full-grown specimens of this species vary from twelve to eighteen inches in length, and the tail generally measures more than the other parts.

Each of the varieties figured appears to be restricted to its own localities; and, as far as my observations extend, no specimens of two varieties are ever found in the same districts. All the varieties inhabit rocky situations, and where they have a choice they invariably prefer precipices, and the stoney walls of difficultly accessible ravines. In these situations they wander carelessly in search of food and warmth, unless alarmed by what they may regard as enemies. On being closely approached in their retreats they seek concealment under rocks, or in crevices; and when they get into such positions they are with difficulty captured, as by aid of the prominences on the hinder edge of each temple they hold on with a tenacity which is quite surprising, and by them they occasionally offer such an effectual resistance to the force applied from behind, that the tail breaks off from the body before the reptile is secured. The variety represented in Plate XXIV., Fig 1, is found on Table Mountain, and the hills near Cape Town; that on the same plate, and lettered 2, is an inhabitant of rocky precipices at and around Algoa Bay. The variety represented in Plate XXV. occurs on the hills between the principal branches of the Orange River, to the eastward of Phillopolis; and that figured in Plate XXVI. is found on the top of the high mountainous range, which extends behind Kafferland and the country of Natal.



CORYLIUS MICROLEPIDOTUS. A. Male. B. Female. C. Young
(Reptilia Plate 26)

CORDYLUS FASCIATUS.—SMITH.

REPTILIA. PLATE XXVII. FIG. 1.

C. superne nigro-brunneus, dorso maculis flavis fere confluentis in ordinibus transversis variegato; caudâ superne flavo-maculatâ; gulâ livido-cæruleâ; gutture ventreque viridi-flavis; caudâ inferne sub-flavâ; capitis lateribus postice squamis tribus tuberculosi armatis, super aurem externam porrectis. LONGITUDO e naso ad basin caudæ 4 unc. 4 lin.; caudæ 5 unc. 2 lin.

CORDYLUS (PSEUDOCORDYLUS) FASCIATUS, Smith, Mag. of Natural History, vol. ii. p. 32.
CORDYLUS MICROLEPIDOTUS, Dum. et Bib., Erpet. Général, tom. v. p. 361.

COLOUR, &c.—The upper and lateral parts of the head, the back, the sides and the upper and lateral parts of the tail liver-brown, with ochreous or cream-yellow variegations, the liver-brown lightest on the head. The yellow variegations of the upper surface of the head consist of narrow, irregular, broken stripes, principally on the sides towards the nose; on the neck and back they are in the form of quadrangular spots, disposed in transverse rows, varying in each from eight to ten in number; on the sides the yellow occurs as a waved longitudinal line, and on the tail it is in large, irregular-shaped, spots arranged in two rows, one row along each upper angle.

FORM, &c.—Head rather large, neck narrower than the hind head, body rather bulky and subcylindrical; the tail depressed at the base, and cylindrical near the point. The upper surface of the head flat and faintly rugose, the shape of the plates represented in Plate XXX., Fig. 5. The sides of the head before the angles of the mouth nearly perpendicular, and the temples convex and bulging; the posterior edge of each armed with three tubercular and somewhat pointed scales (Plate XXX. fig. 5a), which project outwards and backwards over the external ear; the other scales on the temples of two descriptions, those towards the centre large, flat, and irregular, in form; those around the edges small, granular, and somewhat keeled. Scales of the upper lip six in number, not reckoning the rostral one; the hindermost somewhat keeled, those of the

CORDYLUS FASCIATUS.

lower lip also six, the last two strongly keeled. The scales on the back and sides of the neck, and those along the middle of the back small and granular; those on the sides of the back and on the sides of the body considerably larger, and each with a small horny tubercle near its centre, which also exists on each of those of the neck and middle of the back;—all the scales are disposed in transverse rows, the rows on the neck less distinct than those on the body. Scales covering the fore-legs, except beneath towards the body, and those on the upper surface of hinder legs somewhat diamond-shaped, each carinated, and the carina elongated posteriorly and forms an acute raised spine; under surface of hinder legs coated with smooth, moderately-large, somewhat quadrangular scales, and the hinder surface with granular ones. Tail covered with hard rugged scales, disposed in distinct rings, and each ring composed of two rows of scales; the scales of the first, or basal row, smallest, and but slightly carinated, those of the other strongly carinated, and on the upper angles and sides of the tail particularly, the keels are very prominent posteriorly, and form strong sharp spines. Scales between *rami* of lower jaw small, flat, quadrangular, and disposed in longitudinal rows; on the under surface of the neck subovate, imbricate, and arranged in oblique rows. The plates covering the under surface of body are placed in transverse rows, fourteen in each. Pre-anal space covered with flat irregular-shaped scales, the hindermost ones the largest; the base of the tail on each side close to anus, armed with a pointed tubercular scale projecting outwards, and differing in character from those which follow it. Feet moderately large; toes long and slender, and each armed with a short pointed and curved nail; scales covering under surface of feet small and tubercular. Femoral pores in two or more rows rather irregularly placed, and their sheathes elevated and warty (Plate XXX. fig. 5 b). The largest specimen which I have seen—the one described—measured nine inches and a half in length.

Doubts may be entertained of the propriety of regarding this as distinct from *Cordylus Microlepidotus*; yet, when the scales of the neck and centre of the back are examined, and contrasted with those on the same parts of the species just named, sufficient differences are observable to justify my regarding them at present as probably distinct. Dumeril and Bibron regard them as identical,* and it is just possible they may have had an opportunity of examining a greater number of specimens than I have had, and hence have arrived at a just conclusion.

Two of the three specimens I have examined were obtained on the rocky hills in the neighbourhood of Graham's Town; and the third, which is in the Museum at Fort Pitt, was, I believe, obtained from the same locality. Having never seen a specimen alive, I know nothing of its habits.

* Erpetologie Général, tom. v. p. 363.



1 CORDYLUS FASCIATUS
2 CORDYLUS CAPENSIS
(Reptilia Plate 27)

2

CORDYLUS (HEMICORDYLUS) CAPENSIS.—SMITH.

REPTILIA. PLATE XXVII. FIG. 2.

C. capite, dorso, lateribus, extremitatibus caudâque supernè profunde purpureo-brunneis ; gutture, pectore, ventre caudâque inferne brunneo-rubris ; pedibus inferne-pallidiflavo-brunneis ; squamis dorsi magnis quadrangularibus et carinatis, laterum parvis granulosis.

LONGITUDO e naso ad basin caudæ 4 unc. ; caudæ 5 unc. 9 lin.

HEMICORDYLUS CAPENSIS, Smith, Magazine of Natural History, vol. 2. p. 32.

ZONURUS CAPENSIS, Dum. et Bib. Erpet. Général, tom. v. p. 360.

COLOUR.—The head, back, sides, extremities, and upper and lateral parts of tail purplish brown ; throat, breast, belly, and under surface of tail dull brownish red ; under surface of feet pale yellowish brown.

FORM, &c.—Head subtriangular, the anterior half tapered to the nose, which is slightly rounded or obtuse, its upper surface slightly convex, its sides anteriorly perpendicular, posteriorly convex and bulged. Neck considerably narrower than the hind-head with the skin covering it loose, and forming a large longitudinal fold on each side, extending from the angle of the jaws nearly to the fore-leg. Body subovate and depressed. Tail thick at the base and depressed, towards the point cylindrical and tapering. The plates covering the upper surface of the head smooth, and with well-defined edges, the form of each represented in Plate XXX. Fig. 6 ; labial scales of upper jaw eight, of lower jaw six, exclusive of the rostral and mental plates ; angles of mouth margined with minute almost granular scales. Scales of the temples rather large and in vertical rows, two or three in each row, and the lower one of the hindermost row is formed differently to the rest, being somewhat tubercular, and projected outwards and backwards over the external ear, (vide Plate XXX. fig. 6 a.) Scales of the back large, quadrangular, strongly carinated and disposed in transverse rows, generally ten in each row, the keels forming continuous delicate ridges ; the lateral and

CORDYLUS (HEMICORDYLUS) CAPENSIS.

upper parts of the neck, and the lower portions of sides covered with small, somewhat circular, prominent scales like small granulations, constituting a strong diagnostic character. The upper and anterior surfaces of the extremities coated with large somewhat diamond-shaped scales, each scale strongly carinated, the anterior and under surfaces of the fore-legs towards the body with small granular scales, and towards the toes with large and smooth ones; the under surface of the hinder legs covered with large smooth scales, excepting in front of the femoral pores, where they are small and somewhat circular, hinder surface coated with minute granular scales. Tail surrounded by circles of hard rugged quadrangular scales, each scale strongly keeled and each keel, especially towards the base of the tail, elongated posteriorly into a sharp prominent spine, most developed superiorly at the lateral angles; the keels of the scales on under surface of tail obtuse, only slightly indicated and without the elongations which on the upper and lateral parts form spines. Space between rami of lower jaws covered with scales of two kinds; those on the central portion quadrangular, rather large, and disposed in irregular rows, those at the sides, and which edge the lower jaw, small, and granular. Scales of the under surface of the neck moderately large, ovate, and irregularly placed; the plates on the under parts of the body arranged in regular transverse rows, eight in each. Pre-anal space covered partly with small and partly with large scales or plates; the large ones, which are two in number, lie immediately over the anus, and are four-sided. Femoral pores small, prominent, circular, closely set, eighteen in number on each side, and arranged in a single row, (Plate XXX. fig. 6 b.) Feet moderately large; toes long, slender, and armed with short curved and pointed claws; the scales of the under surface of the feet rather prominent, or subgranular. Nostrils small, circular, and opening laterally in the centre of the naso-rostral plates. The specimen described, the only one I have seen, measured nine inches and three quarters.

This species is rarely met with in South Africa, and the only specimen I saw in that country, and which is now in the museum of the Army Medical Department, at Fort Pitt, Chatham, was captured on the Hottentot Holland Mountain, near Cape Town, and preserved by Mr. Ford, surgeon of the 49th Regiment.



1 CORDYLUS POLYZONUS
2. CORDYLUS GRISEUS 3 VAR.
(Reptilia - Plate 28)

CORDYLUS POLYZONUS.—SMITH.

REPTILIA. PLATE XXVIII. FIG. 1.

C. superne flavo-brunneus, dorso maculis brunneis in ordinibus duobus longitudinalibus variegato ; maculis duabus nigro-brunneis pone aurem ; squamarum scribebus quadraginta inter nucham et basin caudæ. LONGITUDO e naso ad basin caudæ 4 unc. ; caudæ 5 unc.

CORDYLUS POLYZONUS, Smith, Mag. of Natural History, Vol. ii. p. 31.

ZONURUS POLYZONUS, Dum. et Bib., Erpet. Général, tom. v. p. 357.

COLOUR.—The upper surface of the head, the back, the sides, and the extremities intermediate between yellowish and chesnut-brown, the back variegated with irregularly shaped umber-brown spots, the majority of them arranged in two longitudinal rows ; behind the ear on each side of the neck two very deep liver-brown blotches. Tail dull yellowish brown, mottled sparingly with small irregular umber-brown spots. Toes light greenish brown. Belly and under surface of tail a rusty ochreous yellow ; sides of head wood-brown, shaded with yellowish and light umber-brown. Eyes deep reddish brown.

Var.—Above a uniform livid liver-brown without distinct variegations ; beneath light yellowish brown or livid yellowish brown.

FORM, &c.—Head rather small, the temples convex and laterally very prominent ; the neck rather narrower than the hind head, and convex superiorly ; the body depressed and subovate ; tail at the base, flat above, rounded below and towards the point cylindrical ; the hinder extremities rather long. The upper surface of the head irregular, the parietal shield rather concave ; the palpebral plates project considerably, and form arched eyebrows ; naso-rostral plates subhemispherical, and the nostril situated near their outer margin, so as to open laterally ; the form of the other plates, as represented in Plate XXX. fig. 7. Labial scales of upper jaw seven, the last two rather tubercular, those of the lower six, the last two horizontally compressed, and projecting later-

CORDYLUS POLYZONUS.

ally like two keels ; the scales of the temples hard, rugged, indistinctly keeled, and one over each external ear, somewhat triangular and prominent, so as to form a strong spine, extending outwards and backwards. Vide Plate XXX. fig. 7 a. Scales of the neck superiorly, and those of the back and sides rather large, quadrangular, and arranged in distinct transverse rows, about forty in number, each scale with an obtuse and slightly developed keel ; scales of the sides of the neck somewhat triangular, rather tubercular, and each with a prolonged apex directed outwards and backwards. The fore-legs and the upper and posterior surfaces of the hinder legs somewhat diamond-shaped and strongly keeled, each keel behind terminating in an acute point ; the scales of the under and anterior surfaces of the hinder leg somewhat hemispherical and smooth. Tail covered with rugged keeled scales disposed in rings, the keels of the upper and lateral scales most developed, and each posteriorly is prolonged and forms a spiny point, the latter most lengthened on those of the sides near to the body ; towards the tip of the tail the keels are distinct, but the spiny prolongations are hardly visible. Space between *rami* of lower jaw covered with small quadrangular scales arranged in longitudinal rows ; scales of under surface of neck subovate and disposed in oblique rows, those of under parts of body rather small, quadrangular, and in transverse rows, eighteen in each. Pre-anal space covered with small flat irregular scales, one on each side of the central scale of hindermost row larger than the others and five-sided ; immediately behind anus a transverse band of small scales not so distinctly marked as in *Cordylus griseus*, and at each of the anterior angles of this band there are two larger scales, one the innermost flat, the other tubercular and pointed. Feet moderately large ; toes rather strong and armed with short, pointed, and curved nails ; under surfaces of feet and toes covered with rugged tubercular scales. Femoral pores very small—(see Plate XXX. fig. 7 b)—about eighteen in number, and disposed in a single row, none projecting beyond the circumjacent scales, which affords a character by which this species is readily to be distinguished from *Cordylus griseus*. Adult specimens usually measure from nine to ten inches.

This species is rarely found within the boundaries of the Cape Colony, but specimens are readily procured to the north of the Orange River. In the districts it inhabits, it in some measure takes the place of *Cordylus griseus*, for though the latter is found in them also, it never occurs so abundantly as more to the southward. Like the last-named species it chiefly inhabits rocky hills, but it is also often found under solitary rocks or large stones.

The number of the transverse rows of scales on the back, the small size of the femoral pores, and the greater size of this reptile, are leading characters by which it is to be distinguished from the only other species with which it can be confounded.

CORDYLUS GRISEUS.—Cuv.

REPTILIA. PLATE XXVIII. FIGS. 2 and 3.

E. superne flavo-brunneus, subtus viride flavus; dorso lateribusque maculis striisve brunneis variegatis; extremitatibus maculis brunneis variis; squamarum ordinibus viginti-septem inter nucham et basin caudæ.

LONGITUDO e naso ad basin caudæ 2 unc. 8 lin.; caudæ 3 unc. 4 lin.

CORDYLUS GRISEUS, niger, et dorsalis, Cuv., Regne Animal, 2d ed. tom. ii. p. 33.

ZONURUS GRISEUS, Dum. et Bib., Erpet. Général, tom. v. fol. 351.

COLOUR.—The upper and lateral parts of the head, body, and tail yellowish brown deadened with brownish orange, the back and sides variegated with a number of irregular umber-brown blotches or short bars; tail slightly clouded or shaded with umber-brown stripes, and the extremities, particularly the hinder ones, variegated sparingly with umber-brown spots; under parts greenish yellow. Eyes reddish brown.

Var. Fig. 3.—The upper and lateral parts of the head, body, and tail, also the extremities bright purplish brown; the under parts pale buff orange.*

FORM, &c.—Head rather small and subtriangular, the temples convex but less prominent than in the other species; neck as broad as the hind head; body subovate and superiorly slightly convex; tail depressed at the base cylindrical towards the point, the latter acute; legs moderately long and slender. The upper surface of the head flat and slightly granular, the palpebral on the same plane with the other plates, the form of the plates represented in Plate XXX, fig. 8; the sides of the head anterior to the eyes nearly perpendicular, the upper lip rather protuberant, the sides behind the eye (the temples) slightly convex, and covered with irregular-shaped, rugose, and

* Besides this variety several others might be described, but as each is so easily to be recognized as approaching one of the two kinds noticed, it is not considered necessary to instance the many individual differences which occur in this species.

CORDYLUS GRISEUS.

almost keeled scales ; the two lying over the external ear tubercular, compressed (see Plate XXX, fig. 8 a,) and prominent. The scales of the upper surface of neck, back, and sides disposed in transverse rows, about twenty-seven in number, each scale quadrangular in shape, and slightly keeled, the keel posteriorly slightly prolonged beyond the edge of the scale ; scales of the sides of the neck triangular, spinous, and pointed ; scales of the tail arranged in circular rings and each scale strongly carinated, the *carina* on the upper and lateral surfaces elongated posteriorly so as to form prominent spiny points. The fore legs and the upper surface of the hinder ones covered with triangular carinated scales, each of which terminates in a projecting point ; the lower surface of hinder legs coated with quadrangular smooth scales, and the hinder surface with small granular ones. Scales between *rami* of lower jaw subquadrangular, smooth, and arranged in transverse rows, those of under surface of neck subovate, and arranged in slightly arched rows. Plates of under surface of body in distinct transverse rows, twelve in each, the middle ones larger than the lateral ones. Pre-anal space covered with subquadrangular scales, the two centre ones of the hindermost row largest ; immediately behind anus a band of small somewhat triangular scales, with two larger ones at each anterior angle, the inner one flat, the outer one tubercular, pointed, and projecting outwards. Feet small ; toes long, slender, and armed with short, pointed, and curved nails. Femoral pores (Plate XXX. fig. 8 b.) eight, arranged in one line, and each situated in a prominent warty elevation. Full grown specimens of this species usually measure from six to seven inches.

This species is very widely distributed over Southern Africa, and there is scarcely a stony knoll, a precipice, or an exposed rock which does not afford a habitat for one, two, or more individuals. In common with others of the genus, it seeks concealment under stones and rocks, or in the chinks between them, and when once lodged in such positions it is not easily captured. The colours of no two individuals are quite the same, therefore naturalists, who do not rest their specific characters upon other details, will of necessity be forced to recognize mere varieties as distinct species.



CORDYLUS CATAPHRACTUS
(Reptilia.—Plate 29)

CORDYLUS CATAPHRACTUS.—GRAY.

REPTILIA.—PLATE XXIX.

C. *superne pallide flavo-brunneus, dorsi medio leviter viridi-tincto; partibus inferioribus brunno-rubris flavo nebulatis; gula guttureque profunde brunneis flavo maculatis; extremitatibus caudaque flavo-brunneis.*

LONGITUDO e naso ad basin caudæ 5 unc. ; caudæ 7 unc.

CORDYLUS CATAPHRACTUS, Gray.

CORDYLUS MACULOSUS, Smith, Magazine of Natural History, vol. ii. p. 31.

ZONURUS CATAPHRACTUS, Dum. and Bib. Erpctol. Général, vol. v. fol. 355.

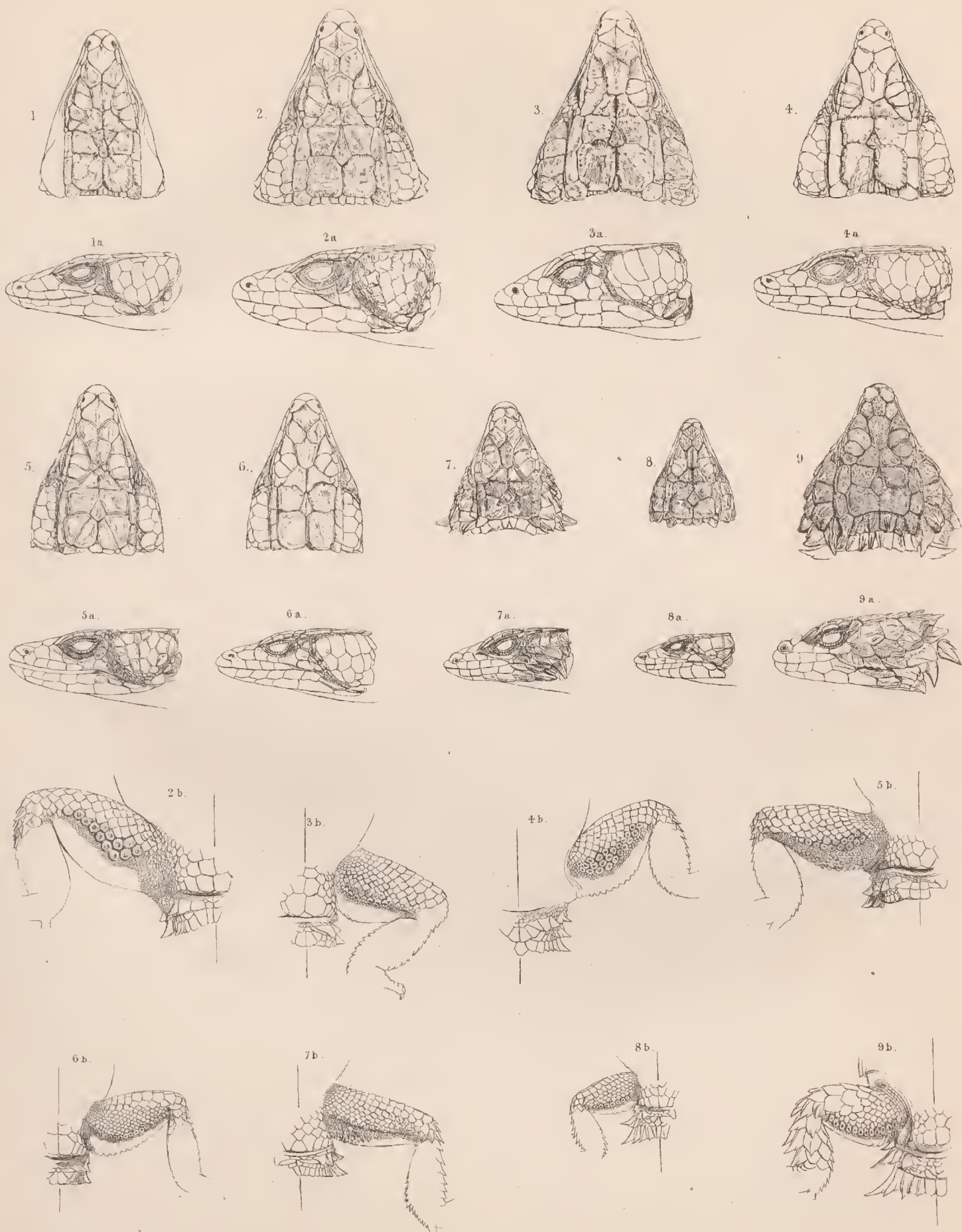
COLOUR.—The upper and lateral parts of the head and body intermediate between yellow and orange-coloured brown, darkest on the upper surface of the head, particularly towards the nose, the middle of the back faintly tinted with green. Tail and extremities clear yellowish brown. The belly and under surface of tail dull brownish red, clouded with dirty light yellow; space between *rami* of lower jaw and also the throat umber-brown, spotted with king's-yellow.

FORM, &c.—Head rather large and much depressed, its sides anteriorly nearly perpendicular, posteriorly convex, and laterally very protuberant; neck narrower than the head; body depressed and subovate; tail thick at the base, acute at the point. The upper surface of the head is flat, the plates covering it finely granular, and the shape of each will be best comprehended from an examination of Plate XXX. figs. 9 and 9 a. The scales of the temples are large, irregular-shaped, and tubercular, some of them almost keeled, and the hinder ones, which overlap the external ear, are prolonged so as to form acute spiny points. Labial scales of upper jaw six, the last three tubercular and carinated; those of lower jaw five, the last two horizontally compressed, thin and highly keeled. Nostrils near the apex of the muzzle each small, circular and opening in the centre of the naso-nostral plate, which is prominent and hemispherical. The sides and upper surface of the neck

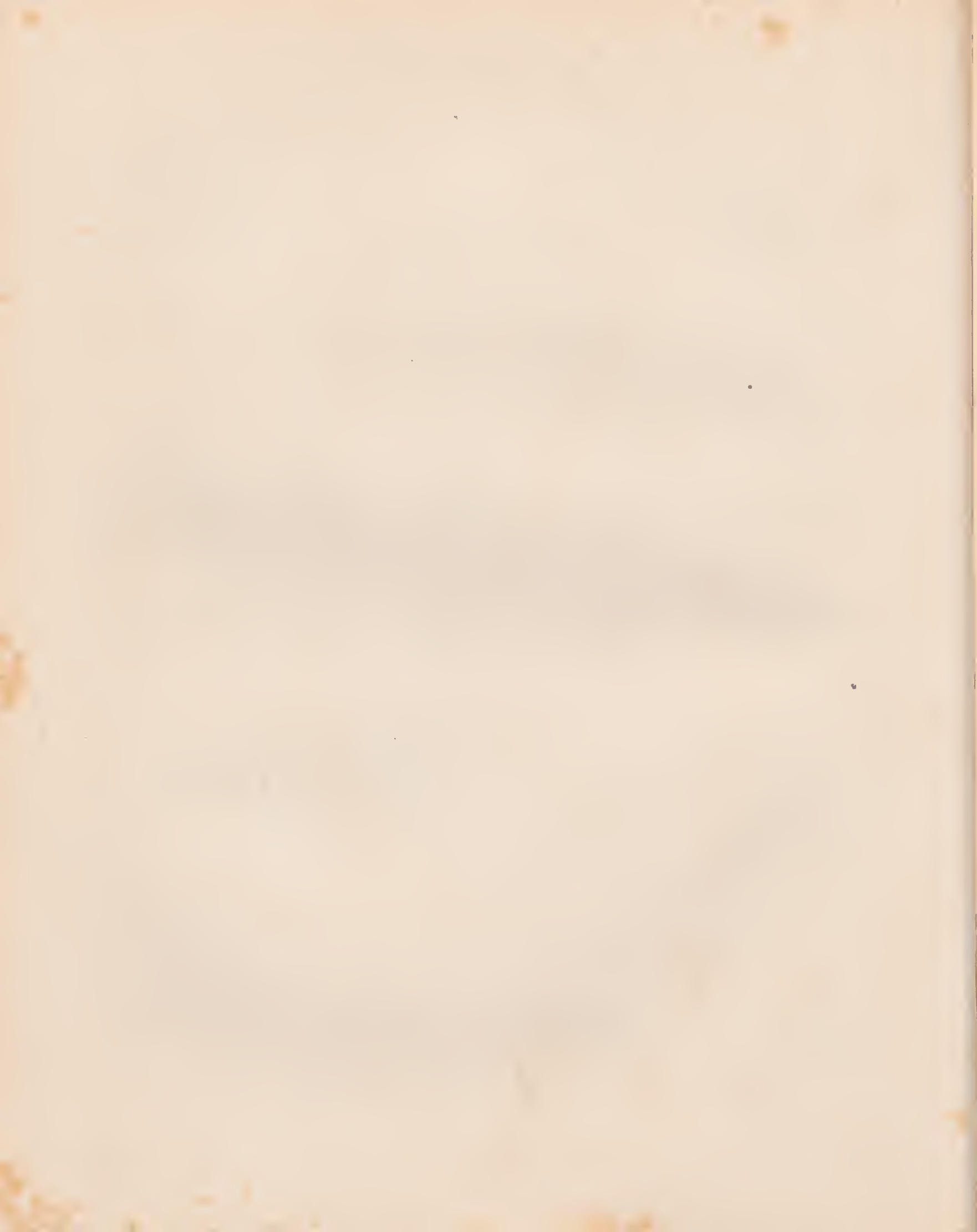
CORDYLUS CATAPHRACTUS.

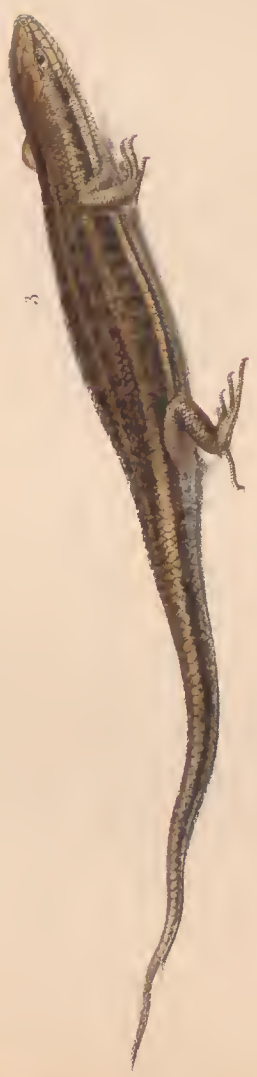
and body covered with transverse zones of rugged scales, each scale more or less distinctly carinated, and the *carinæ* of those of the lateral parts much prolonged, so as to constitute prominent spines, which on the neck project directly outwards, and on the sides of the body outwards and backwards. Tail encircled with rows of rugged keeled scales, the hinder extremity of the keels very strong, and produced so as to form high triangular spines. The scales of the fore-legs are somewhat triangular in shape and strongly keeled, the keels prolonged into spines; those on the under surface smallest; the scales on the upper surface of the hinder legs like those on the fore-legs, only larger; those on the anterior surface large, somewhat quadrangular, and quite smooth; on the under surface small and smooth; scales between *rami* of lower jaw small, somewhat quadrangular, and arranged in incomplete transverse rows, the four scales nearest to the mental plate much the largest; the scales on the throat rather large, somewhat quadrangular, and placed in arched rows, the convexity backwards; the scales of the belly are arranged in transverse rows, fourteen or sixteen in each, and are quadrangular in shape and perfectly smooth. Pre-anal space covered with smooth scales, irregularly shaped and disposed; space immediately behind anus with a transverse band of small irregular scales, and on each side the anterior angle of this band is bounded by a large solitary prominent and spiny scale. Feet small; toes and claws short, the latter much curved and pointed. Full grown specimens of this species sometimes measure twelve inches in length, and the tail in those instances is generally about seven inches long.

This species is rather rare in South Africa, and the only specimens which have come under my notice were obtained on the western coast of the Colony, towards the Namaqua country. It inhabits rocky precipices, and when disturbed in those localities, it endeavours to conceal itself under masses of stone, or in crevices which may exist in the rock. The remarks which will be found under *Cordylus microlepidotus*, will equally apply to this species; indeed it holds so firmly by means of the prominent spinous scales of the temples and sides, that before it can be extricated from its retreats, it is often necessary to displace the masses of stones between which it may have insinuated itself.



GENUS CORDYLUS.
(Plate 30.)





1. EUPREPES PUNCTATISSIMUS.
 2. EUPREPES SMYTHII
 3. 4. 5. EUPREPES OLIVIERII
 (Reptilia. Plate 31.)

EUPREPES PUNCTATISSIMUS.—SMITH.

REPTILIA.—PLATE 31.—FIG. 1.

E. superne rubro-brunneus aut nigro-brunneus, punctis subflavis effuse variegatus; dorso externe fascia longitudinali subaurantia marginato: subtus subflavus; gulâ guttereque livido-brunneis aut maculis livido-brunneis notatis; caudâ inferne brunneo-maculatâ; squamis tricarinatis, superne ad basin caudæ transverse longis.

LONGITUDO è nasi apice ad basin caudæ 3 unc.; caudæ $3\frac{1}{2}$ unc.

COLOUR.—The upper surface of the head deep reddish brown, the plates margined with umber-brown, or liver-brown or else mottled with bright yellowish brown; the back either deep reddish brown or pale orange-coloured brown, variegated with numerous minute reddish orange spots, or narrow longitudinal reddish orange lines, which commence at the occiput and terminate at or near to the base of the tail. External to these colours, on each side, a broad, rusty ochre-yellow band, which commences directly over the eye and terminates at or a little beyond the base of the tail; sides, below this band, orange-coloured brown, or deep reddish brown, lightest towards the abdomen. The under surface of the head and the throat is either light liver-brown or profusely freckled with brownish red spots; under parts of the body and inner surface of extremities cream-yellow. The outer surface of the extremities orange-coloured brown, freckled with yellowish brown or deep reddish brown. Tail above deep reddish brown or orange-coloured brown speckled with umber-brown; below, pale yellowish grey. Eyes deep liver-brown. The breast, and even the belly in some individuals, is sparingly freckled with pale brownish red.

FORM, &c.—Figure rather robust. Head quadrangular; the sides vertical; nose rather narrow and rounded. Body slightly depressed, back convex, sides rather protuberant. Tail, at the base, rather broad and depressed, elsewhere cylindrical, tapered to the point, which is slender and subacute. Extremities rather slender; toes delicate and rather long; nails

EUPREPES PUNCTATISSIMUS.

fine and much curved. Nostrils small, circular, and situated in the rostral canthus close to the nose, in the hinder part of the nasal plate,—the opening directed backwards and outwards. Eyes rather small, eyelids granular, the lower lid with a central semi-transparent disc. External ear opening nearly circular, in a line with the angle of the mouth, and its anterior edge fringed with two or three small pointed projecting scales. Rostral plate subtriangular, its apex rounded; supra-nasal plates narrow, broadest anteriorly where they are in contact; naso-rostral plate large and subrhomboidal; fronto-nasal plates quadrangular and not in contact. Frontal plate subrhomboidal, anteriorly slightly truncate, the two hinder sides prolonged and terminate in a narrow point; fronto-parietal plates small, quadrangular, and anteriorly in contact. Parietal plates large, somewhat four sided, the posterior side longest; inter-parietal plate four sided, the two sides in front very short, the others long; each parietal plate margined behind by a long, narrow, transverse plate. Palpebral plates four; the second, reckoning from behind much the largest; between palpebral plates and upper eyelid a row of five narrow plates, the second much the longest. Freno-nasal plate small, subtriangular; frenal plates two, subquadrangular. Plates of upper lip, exclusive of rostral, seven; of lower lip, exclusive of mental, seven or eight; post-mental plate entire and of the same size as mental. Scales of the back, sides, and outer surface of extremities six sided, rather longest transversely, the anterior and posterior sides shortest, each scale with three strong keels. Scales of the under parts of the head, body, and inner surface of the extremities also six sided, but without keels. Scales of the upper and under surface of the tail larger than those of the body, the former with five rather slight keels, the latter smooth. Length of an adult specimen, from nose to base of tail 3 inches, of tail $3\frac{1}{2}$ inches.

This lizard is found in the north-eastern districts of the Cape Colony, and also to the north and east of these districts, and is often associated with *Euprepes Smithii*. On observing the two so frequently, in numbers, in the same localities, I was at first disposed to consider the differences of colour as only sexual: however, a close examination soon satisfied me they were distinct species.

A reference to the upper surface of the tail, near its base, affords a ready means of distinguishing the one species from the other. In *Euprepes Smithii*, the scales are of the same size and figure as those of the back; in *E. punctatissimus* again, they are, measured transversely, nearly twice the width of those of the back; in the other direction they are as narrow, if not narrower, than those of the back.

EUPREPES SMITHII.—GRAY.

REPTILIA.—PLATE 31.—FIG. 2.

E. superne flavo-brunneus, lineis longitudinalibus sex variegatus; lateribus fascia longitudinali nigro-brunnea superne inferneque albo marginatâ notatis; subtus albus; squamis fortiter tricarinatis.

LONGITUDO è nasi apice ad basin caudæ 2½ unc.; caudæ 3½ unc.

COLOUR.—The upper surface of the head intermediate between light orange-coloured brown and yellowish brown; the plates more or less edged with umber-brown, and sparingly freckled with small spots of the same colour. Back and upper surface of tail dull yellowish brown, variegated with narrow, longitudinal, umber-brown or liver-brown bands. The bands, generally six in number on the back, commence at the hinder part of the head, and, with the exception of the two middle ones, terminate at or close to the base of the tail; these extend generally for some way along the middle of the tail, not usually distinct and continuous, but as two series of irregular pale brown spots. The back and tail is further variegated by the scales being edged with umber-brown, and the keels also being of that colour. On each side of the six dorsal bands is a broad longitudinal yellowish white stripe, which commences at the outer angle of the eye, and terminates a little beyond the commencement of the tail, ceasing to be well defined after it has passed the hinder extremities; below this is another broad band of a deep liver-brown colour, beginning at the angle of the mouth, and ending immediately over the origin of the hinder legs, which band is again edged below by a rusty white one, narrower than either of the two last described; inferiorly it is margined by a narrow liver-brown line. The outer surface of the extremities coloured like the back, and faintly variegated, the scales being edged with brown of a deeper tint. Upper lip white, under lip, and the under surface of the head, the body, the tail, and the inner surface of the extremities bluish white; the sides of the tail yellowish white.

EUPREPES SMITHII.

FORM, &c.—Figure rather slender. Head and body slightly depressed and subquadrangular; tail, at the base, depressed, elsewhere cylindrical and tapered, the apex slender and pointed. The head, posteriorly, nearly as broad as the neck; anteriorly, tapered to the nose, which is blunt and rounded. Rostral plate subtriangular, its apex, which is between the supra-nasal plates, acute; the latter plates somewhat triangular, broadest anteriorly, and in contact at the apex of the rostral plate. Naso-rostral plate large, rhomboidal; fronto-nasal plates rather small, subquadrangular, somewhat rounded externally, and nearly in contact internally. Frontal plate five sided, broadest anteriorly, its hinder extremity rounded; fronto-parietal plates somewhat five sided. Parietal plates large, four sided, the hindermost side much the largest; parietal plate somewhat quadrangular, anteriorly broad and subangular, posteriorly narrow and almost pointed. Palpebral plates four, the second, reckoning from before backwards, the largest; a line of four narrow plates between eyelid and palpebral plates. Two long narrow plates behind parietal plates. Freno-nasal plate small; frenal plates two, the hindermost largest. Labial plates, of upper lip, six, of lower, seven; submental plates, five, the one immediately behind the mental plate large and ovate; the others, two on each side, more or less irregularly shaped. Scales of body and tail six sided, externally and internally pointed, anteriorly and posteriorly truncated; the scales of the back, outer surface of extremities, and upper surface of tail, each, with three strong longitudinal keels: those of the sides, inner surface of extremities, and under surfaces, smooth. Extremities slender; the third and fourth toes of the fore feet nearly of equal length, and longest, the fourth toe of hinder foot much the longest; under surface of feet granular. Nostril situated in the hinder portion of the nasal plate; eyes small, eyelids granular externally, the lower with an oval semi-transparent disc. External ear opening ovate, its anterior margin with two projecting scales, which extend nearly across the opening. Pre-anal scales differ but little in shape from those of the abdomen. Length of an adult specimen, from nose to base of tail $2\frac{1}{2}$ inches, of tail $3\frac{1}{2}$ inches.

Inhabits arid districts to the north-east of the Cape Colony, and numerous individuals are often observed in the same locality. They seek concealment under rocks and stones which generally abound in the places to which they resort.

EUPREPES OLIVIERII.—DUM. ET BIB.

REPTILIA.—PLATE XXXI.—FIGS. 3, 4, & 5.

E. superne flavo-brunneus aut rubro-brunneus, dorso, caudâque ad basin fasciis tribus longitudinalibus subflavis, ordinibusque quatuor macularum nigro-brunnearum variegatis; lateribus inferne lineo longitudinali albo subtus nigro-brunneo marginato, notatis; squamis tricarinatis.

LONGITUDO è nasi apice ad basin caudæ 2 unc. 4 lin.; caudæ 4 unc.

Euprepes Olivierii, Dum. et Bib. Erpet. General, tom. v. p. 674.

Scincus vittatus, Aud. Descript. de l'Egypt, Hist. Nat., tom. i. pl. 2. Suppl. fig. 5.

COLOUR.—The upper surface of the head, the back, and the tail, superiorly pale orange coloured brown, or deep reddish brown; the back, and in some individuals the base of the tail, variegated with three pale buff-orange bands, and four series of umber-brown or liver-brown spots. One of the bands extends along the middle of the back; the other two, one on each side, immediately above the extremities, commence at or near the angle of the mouth, and terminate on the sides of the tail, in some individuals close to its base, in others considerably beyond it. The rows of spots, four in number, edge the white bands, one row on each side of the central, and one on the inner side of each lateral band; the spots are irregular in form, generally lengthened in young specimens, somewhat square in adults; the two rows of each side frequently coalesce, and form one irregular longitudinal band. On each side, immediately under the white band already mentioned, is a broad liver-brown band, more or less broken by white, narrow, irregular vertical lines, and below this another narrow white band, narrowly edged inferiorly with liver-brown; these bands commence near the angle of the mouth, and generally end at the hinder extremities. Spots similar in colour to those of the back occur on the upper surface of the tail, particularly towards its base, but as the individual advances in age they become less and less distinct, and at length often disappear altogether; in young specimens, even, the number is never considerable. The under parts of the

EUPREPES OLIVIERII.

head, body, and tail, the lips, and the inner surface of the extremities, pale sienna-yellow; the outer surface of the extremities the colour of the back, and finely speckled with yellowish brown. In young individuals the brown of the back is paler and brighter than in adults, and the dark spots are less regularly placed; on many the white vertebral line is scarcely visible; in some the lower part of the sides has a vermilion-red tint. Fig. 3 shows the colours of an adult female, 4 of a young female, and 5 of a young male.

FORM, &c.—Figure moderately robust. Head four-sided, tapered to the nose; body rather depressed; the back slightly arched, the sides rather protuberant; abdomen flat. Tail at and near the base subquadrangular, elsewhere cylindrical, and tapered to the point, which is slender and acute. The head, superiorly, is sloped to the nose, which is narrow and rounded. Nostril small, circular, and situated in the nasal plate. Eyes rather small; eyelids externally granular, the lower lid with a semi-transparent central disc. External ear-opening oblique and narrow, its lower extremity in a line with the angle of the mouth, and its anterior edge fringed with two or three narrow, projecting, pointed scales. The anterior and posterior extremities rather slender and subcylindrical; toes long and delicate, the fourth toe of the hinder foot much the longest; claws slender, much curved, and pointed. Rostral plate subtriangular, its apex rounded; supra-nasal plates narrow and anteriorly contiguous. Naso-rostral plate sub-rhomboidal, longest transversely, the anterior margin more or less arched. Fronto-nasal plates subquadrangular, not contiguous. Frontal plate sub-rhomboidal, the two anterior much shorter than the posterior sides. Fronto-parietal plates subquadrangular or five-sided. Parietal plates five-sided; interparietal plate rhomboidal, the two hindermost sides longest. Palpebral plates four, the second the largest. Frenal plates, two, quadrangular; naso-frenal small and subtriangular. Plates of upper lip, exclusive of rostral, and of lower, exclusive of mental, seven; the fifth of the former much the longest. Scales of the body and tail rather small, and somewhat six-sided, the posterior sides often short and arched; those of the back and sides, upper and lateral surface of tail, and of the outer parts of the extremities, three keeled, the keels on the back and the base of the tail strongly developed; pre-anal plates seven or eight in an arched row. Between each parietal plate and the dorsal scales, a long, narrow, transverse plate. Length from nose to base of tail, in the smaller individuals, figured 1 inch 6 lines to 1 inch 10 lines; in the larger, 2 inches 4 lines; length of the tail in the former, 2 to 2½ inches, in the latter, 3 to 4 inches.

EUPREPES OLIVIERII.

This species occurs throughout the whole of Southern Africa, but not so abundantly within the boundaries of the Cape Colony as beyond them. It inhabits dry, arid situations especially where the surface of the ground is thickly strewn with large stones, and in localities so circumstanced is often observed passing quickly between the stones, and when frightened seeking concealment under them.

The majority of the individuals I procured were either small, like that represented in Fig. 5, or a little larger, about or exceeding in size, Fig. 4. The remarkable preponderance of the smaller individuals, so different to what is observed in the case of other species of the group, led me to expect they were adults of a distinct species; but a careful examination of their characters, and those of a size even larger than that represented, Fig. 3 furnished no evidence to justify their being viewed as distinct from the latter, which are nowhere observed in anything like the same number. If the conclusion to which I have arrived be the correct one, I think it probable the latter may be a permanent variety, and I am the more inclined to hold this opinion from having noticed first that the smaller individuals have usually the sides, close to the abdomen of a dull vermilion red colour, whereas that tint is never observed in the larger ones; and, secondly, that the *ova* of the female, and the *testes* of the male in the small specimens, are found during the breeding season even more developed in proportion than in the larger individuals, evidently the result of a special influence which does not operate at other periods of the year, as may be seen by examining either sex after or before the breeding season.

With reference to this fact, I have examined many individuals of *Euprepes Meremii*, Dum. and Bib.* *Scincus trivittatus*, Cuv.,† a common lizard, in gardens at Cape Town, but have never found any of them prepared to propagate their species before they had nearly reached their full size. In support of the probability of the existence of a permanent variety of a smaller size, I may mention that such a variety does actually occur in the case of a species of *Ploceus*, which inhabits South Africa to the northward of the Cape Colony. In the districts in which these birds occur, individuals exist in abundance, differing in no respect from others with which they are associated, except in being one-third smaller. Both build their nests on the same reeds, construct them in the same manner, and give them the same form, the only difference is the nests of the one are considerably smaller than those of the other. The eggs of both kinds are also of the same colour, but those of the small variety are distinctly inferior in size.

On having carefully compared individuals of this lizard obtained in Southern Africa with specimens procured in Egypt, I have been able to discover slight differences in regard of colour, but none in other respects.

* Erpetologie Generale, tom. v. page 671.

† Regne Animale, 2nd edit., tom. ii. page 62.



VIPERA CORNUTA
(Reptilia — Plate 32)

VIPERA CORNUTA.—Auct.

REPTILIA.—PLATES XXXII AND XXXIII.

V. suprà purpureo-grisea, flavo-griseo-tincta; partibus superioribus ordinibus quatuor macularum castanearum variegatis; infrà subochrea, purpureo-brunneo-maculata.

LONGITUDO e naso ad basin caudæ 12 unc. ; caudæ 1½ unc.

HORNSMAN of the *Cape Colonists*.

COLOUR.—The ground colour of the upper and lateral parts lavender-purple, tinted with yellowish grey, and broken by four rows of somewhat quadrangular chesnut-brown spots, each spot freckled or spotted with liver-brown. The spots of the two central rows which extend along the back, are the most regular in form; those of the two other rows are smaller, less distinctly defined, and disposed irregularly, particularly towards the head and tail. Each spot is narrowly edged with bluish white, and the space between such of the spots of the central and lateral rows as are opposed to each other, is bluish white, tinted with pale Dutch-orange. The sides of the head are brownish red with an oval bluish white blotch on each temple, and an oblique yellowish white bar between the under eyelid and the edge of the upper lip. The under parts pale sienna-yellow, mottled with light liver-brown spots and dots. Eyes clear brown.

FORM, &c.—Figure rather robust, greatest thickness near middle of body. Tail short, conical, and pointed. Head posteriorly considerably broader than the neck, above it is slightly convex, between the eyes rather concave; the temples are much bulged and the muzzle broad and rounded; the upper lip is much more protuberant than the margin of the upper surface of the head. The eyebrows are curved and armed with a clump of lengthened spinous scales forming a sort of short horn. Fangs large and considerably curved. The neck is rather slender, and like the body is somewhat cylindrical. Tail flat below and subtriangular above. The skin covering the head and tail is firmly attached to the parts under it, that of the neck and body rather loosely.

VIPERA CORNUTA.

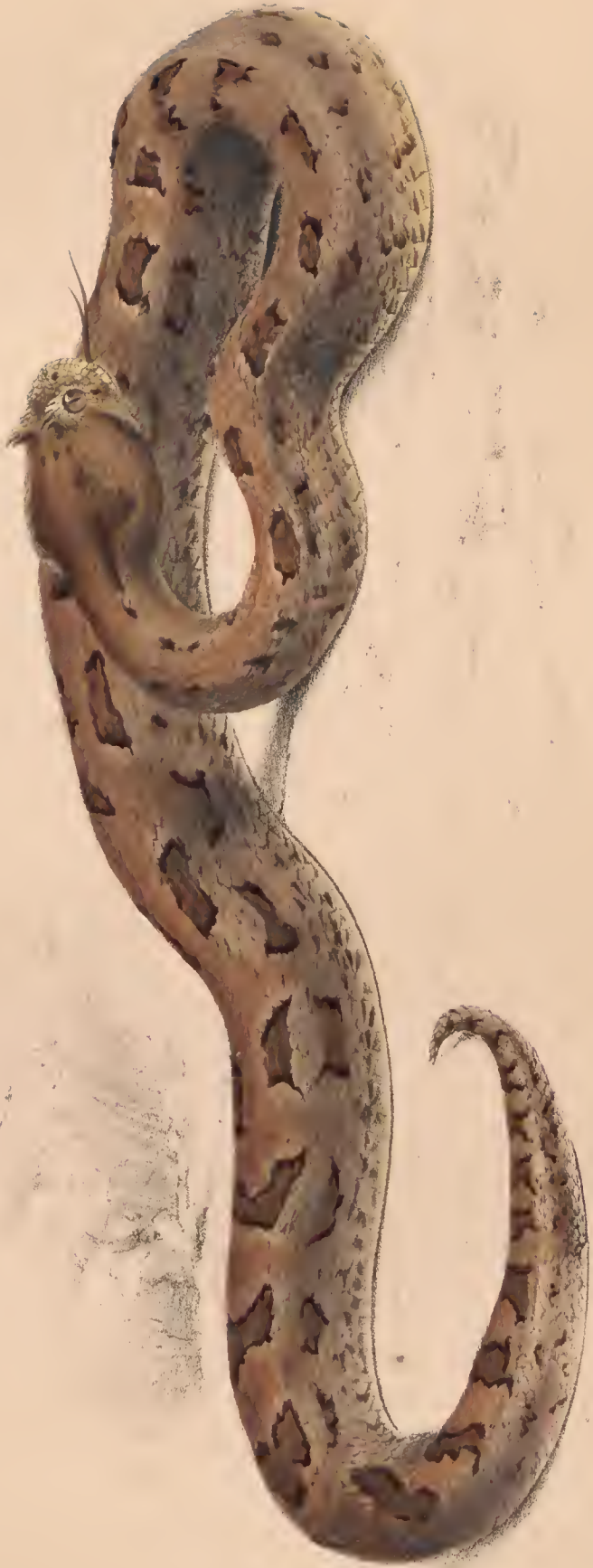
The scales of the temples and posterior parts of head ovate and carinated, of the upper and anterior parts, subcircular and carinated, and of the sides of the head before the eye, small and without keels. The scales of the body and tail ovate and all strongly carinated, except the row of each side of the body which adjoins the abdominal plates. On the body the scales are disposed in oblique transverse rows, twenty-five in each. The abdomen is rather flat and of moderate width, the subcaudal scales six-sided, and are replaced near to its tip by scales like to those on its upper surface; the scales between *rami* of lower jaw in front of abdominal plates small, somewhat five-sided and imbricate. Abdominal plates of individual figured, 125; subcaudal scales 25. Length from nose to tail 12 inches; length of the tail $1\frac{1}{2}$ inches.

VIPERA LOPHOPHRYS.—Cuv.

PLATE XXXIII.

COLOUR.—Rusty yellowish brown, variegated with four longitudinal rows of irregular, lengthened, blackish brown spots or stripes. The spots of the two middle rows are towards the posterior parts small and irregular and on the latter are in some places confluent, so as to form short waved transverse bars; the spots of the lateral rows towards the head are small, and on the tail, instead of being distinct, each row fades into a sort of irregular serrated or zig-zag dark line. Belly pale yellowish brown freckled with small somewhat quadrangular liver-brown spots. The sides of the head are faintly marked with two brownish red bars, one running obliquely from the outer canthus of the eye to the angle of the mouth, the other vertically from the inner canthus to the edge of the upper lip. Many of the spots of the body have their discs chestnut-brown, and several of them are edged more or less completely with bluish white. Besides the spots already described, several irregular sienna-yellow blotches exist principally between the central and lateral rows of dark spots.

FORM, &c.—Body lengthened, cylindrical, rather thicker at the middle than at the back of the head, or base of the tail; the latter is short and rather blunt at the point. The scales are strongly carinated and disposed in oblique transverse rows, 27 in each. The spinous scales over the eyes are rather long and



VIPERA LOPHOPHRYS
(Reptilia — Plate 88)

VIPERA LOPHOPHRYS.

flexible. In the specimen described, the length from the nose to the tail is 17 inches, and the length of the tail 2 inches 2 lines. The abdominal plates are 131; the subcaudal scales 28.

Vipera cornuta and *V. lophophrys* are, without doubt, identical; the latter is simply either the reptile of a more advanced age, or a variety peculiar to certain localities. The result of my experience inclines me to the latter conclusion, as I have never heard of specimens of *V. lophophrys* having been procured beyond the limits of Namaqua-land, a district of the western and southern division of the Colony. Even in that district examples are rarely to be procured; and though I was many months exploring in it, I only met with two individuals, and those were in fellowship, of equal size, marked exactly alike, and proved to be male and female. Those specimens I subsequently showed to the natives of other parts of South Africa, and received for answer, that they were the Hornsman, but of a different kind to that known to them, it being understood that the kind they spoke of, as that with which they were acquainted, was the *V. cornuta*. Upon these grounds I regard it as a variety of the locality mentioned.

On close examination of the two kinds or varieties, some individual differences are discovered, which, if they were permanent, might be regarded as indicating them to be of two species; but that not being the case, and as it appears the like variations occur even in the same variety, they cannot be regarded as suited to furnish specific characters. In the *Vipera cornuta* which is described, the rows of scales on the body consist of twenty-five, but in others I have counted only twenty-three. Hence, nothing important can be attached to there being twenty-seven in *V. lophophrys*.



N A J A H Æ M A C H A T E S .

(Reptilia — Plate 34.)

NAJA HÆMACHATES.—AUCT.

REPTILIA. PLATE XXXIV.

N. suprà nigro-brunnea, fasciis rufo-flavis, irregularibus, variegatis; infrà livido-nigra, anticè fasciis duabus tribusve transversis, notatis; squamis fortiter carinatis.

LONGITUDO e naso ad caudæ apicem, inter 2 et 3 pedes.

VIPERA HÆMACHATES, *Daud. Seba. Latreil.*

SEPEDON HÆMACHATES, *Merr. Wagler.*

NAJA CAPENSIS, *Smith.*

RING NEALS SLANG of the *Cape Colonists.*

COLOUR.—The ground colour of the upper and lateral parts either blueish brown or greyish brown, and variegated with a great number of narrow, jagged, or serrated and waved transverse bands, varying in tint from ochre yellow to light yellowish white. The space between the *rami* of the lower jaw, together with the throat, livid black or dull brownish red; the remainder of the under parts livid greyish black, crossed anteriorly with two or three broad transverse bars of a yellow or rusty white colour, and laterally variegated with irregular white spots. On the body the dark colour predominates greatly, but on the tail the two tints are almost in equal proportions, and disposed nearly in complete rings. Eyes dark brown.

Variety.—Ground colour dull blackish brown, crossed with numerous, narrow, deep blueish brown bars, only distinctly visible when the surface of the skin is cleared of impurities either with a moist cloth or a wet sponge. Until such cleansing shall have been practised the snake appears of an uniform dull blackish brown tint.

FORM.—Figure rather robust. Head scarcely broader than the neck, above flat, anteriorly rather narrow, and the upper lips protrude beyond the edge of the upper surface of the head, hence the eyes appear rather sunk, giving a malignant and savage expression. Nostrils large, and open backwards and outwards; no frenal scale; rostral plate triangular, its upper angle entering deeply between the anterior frontal plates; postocular scales three, antecular scale one; temporal plates large and irregularly shaped. Neck depressed

NAJA HÆMACHATES.

as broad as the head, and edged with a quantity of loose skin, which forms a fold on each side when the reptile is quiet and free from excitement, but when the case is otherwise, the fold is extended laterally, so as to form a broad fringe on each side, which constitutes what in snakes of this genus is denominated the hood. Body subcylindrical or subtriangular, and covered with a skin only loosely attached to the parts within it; the scales covering the skin are ovate, and all, excepting those of the two rows on each side nearest to the abdominal plates, strongly carinated. Tail short, subcylindrical, and pointed, the skin closely connected to the internal parts, and the scales towards its commencement slightly carinated, the rest smooth. Abdomen broad. The scales of the body are disposed in oblique transverse rows, nineteen in each. Length of specimen figured thirty-one inches, of which the tail measures four and a half inches. Abdominal plates, 129; subcaudal scales, 33. These were the numbers of the specimen figured; the following are those counted on others: 150—30; 143—43.

The range of this species is very considerable, and specimens of it have been found in almost every district of South Africa which has yet been explored. It appears to prefer localities in which the soil is loose, sandy, and coated with brush-wood: hence individuals are to be very readily procured on the sandy flats near to Cape Town and the coasts of the colony. It is one of the most vigilant of snakes, and its resting place can very rarely be approached before it is all activity, either commencing to fly, preparing to maintain its ground, or make an attack. When it flies it almost invariably seeks some subterranean retreat, which is in general discoverable without difficulty, from its being usually a resident of situations where the burrows of mice, moles, or other small quadrupeds exist in abundance. The aborigines, as well as the colonists, reckon this to be the most courageous of all the South African snakes, and they highly dread the power of its poison. When in confinement, and irritated, it evinces great ferocity, it opens its mouth so as to be in readiness to seize on any object that may approach within its reach, and while open the poisonous fluid is to be seen distilling in drops from the fangs, which are on such occasions always raised to the proper position for performing their functions. During such periods of excitement it often ejects, by some means, a portion of the fluid to a distance from its mouth; and the inhabitants even affirm that it is able to cast it more than several feet, and that in doing so it generally attempts to lodge it in the eyes of men or animals. Elsewhere I shall take occasion to remark more at length upon this reputed power.



CORDYLUS GIGANTEUS.
(Reptilia Plate. 35.)

CORDYLUS GIGANTEUS.

REPTILIA.—PLATES XXXV., XXXVI.

C. flavo-brunneus inferne pallidior, dorso caudâ supernè extremitatibusque supernè fusco-nebulatis; occipite, temporibusque postice spinis fortibus triangularibus in ordinè singula armatis; dorsi squamis leviter carinatis, laterium fortiter spinosis; caudâ supernè spinosissimâ; extremitatibus anterioribus inferne squamis tuberculosi; poribus femoralibus decem.

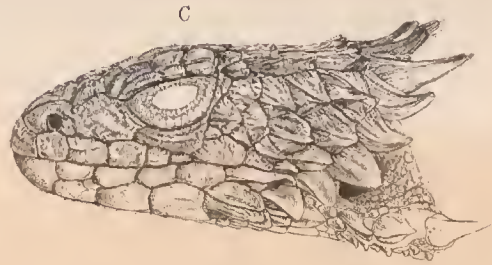
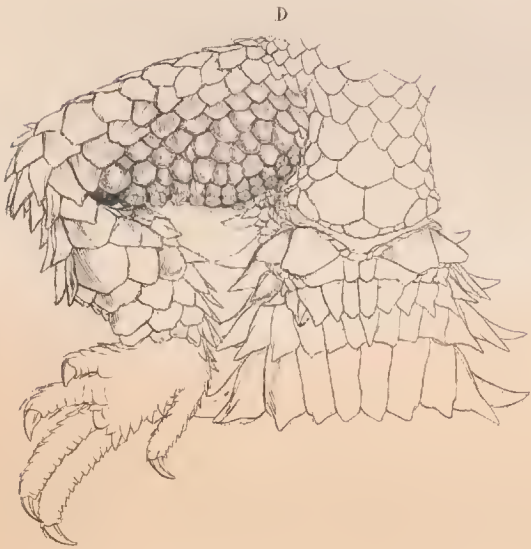
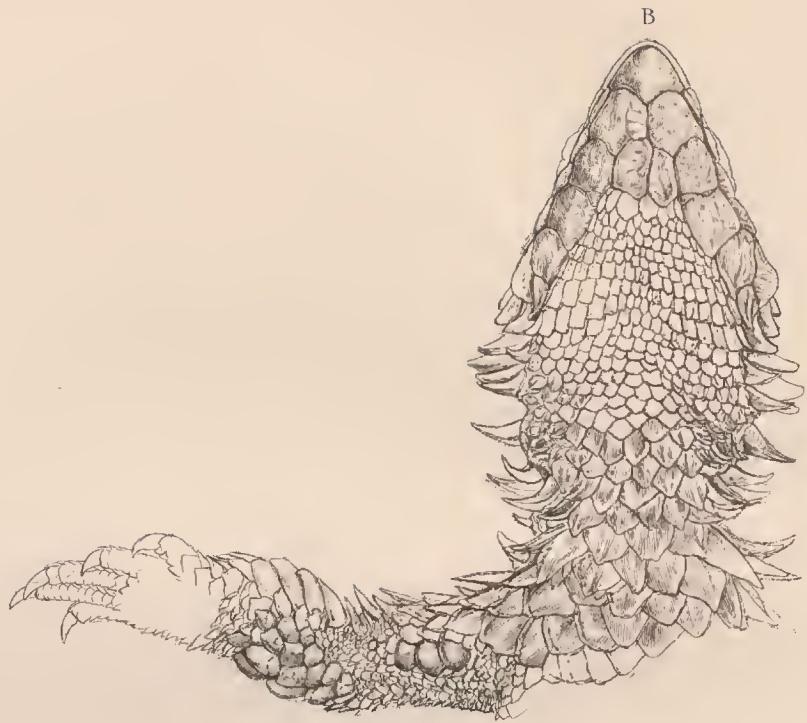
LONGITUDO e naso ad basin caudæ, 8 unc. Caudæ, 7 unc.

COLOUR.—The upper surface of the head posterior to the eyes, deep umber brown, anteriorly, towards nose, dark yellowish brown; the temples, posteriorly, of the former colour, anteriorly, yellowish brown; the lips and throat intermediate between sienna and straw-yellow; the sides of the lower jaw freckled yellowish brown. The back, sides of body, tail, and extremities, intermediate between sienna and honey-yellow, the tint on the back and upper surface of the tail darkest, and particularly towards and on the line of the spine, irregularly clouded with umber brown; the extremities are also more or less shaded or clouded with the same colour. Belly wine yellow; the scales in front of femoral pores, yellowish brown. Eyes reddish brown. Claws, umber-brown.

FORM, &c.—Figure robust, and aspect rugged and repulsive. Head rather flat, broad, and posteriorly bulging; the upper surface, behind eyes, nearly even,—before eyes, slightly convex, and in both places covered with very hard rough plates, those towards nose subtubercular; superciliary plates seven on each side, disposed in rows of threes, with the seventh placed behind them; the plates of the internal row largest, and with the exception of the seventh, are smooth and without striæ; nostrils cylindrical, and situated towards the hinder extremity of the nasal plates; labial plates small, eight above and five below, the last of the lower lip and the three last of

CORDYLUS GIGANTEUS.

upper sub-keeled, and unlike the oncs before them, which are quadrangular and flat. Hind head and temples posteriorly margined with a row of long striated somewhat triangular and pointed spines which extends from the base of the lower jaw of one side to the same part on the other; the four edging the hinder part of the head superiorly directed backwards and very slightly outwards, the five edging each temple outwards and very slightly backwards, and are considerably shorter than the former. The scales, four, covering the lower jaw very large, the three first quadrangular, the last somewhat pointed behind. Scales of temples large, imbricate, striated, triangular, and with the apex pointing backwards. The scales on the neck and body superiorly, and on the sides arranged in regular transverse rows, the base of each scale being flat, more or less quadrangular, and with a keel proceeding along its middle; the scales of the sides of the back, body, and neck terminate, is a strong triangular divergent spine; those on the sides of the neck longest, rather irregularly placed, and extend nearly directly outwards: as compared with the sides, the back is comparatively smooth, the scales being only rugose and faintly carinated. The scales of the upper and lateral parts of the tail in whorls, very rugged and hard, and each has a prolonged triangular spine directed outwards and backwards; the scales of the under surface long, narrow, five-sided, smooth, and pointed behind. The scales of the extremities superiorly and anteriorly flat at base, and each is surmounted by a divergent spine more or less developed; the spines of the fore legs towards the body prominent towards the toes, only faint; on the hinder legs the spines generally are strongly marked. The under and hinder surfaces of fore legs towards body are covered with small irregular, somewhat granular scales which anteriorly are edged near the body by a row of three very large tubercular scales very different from the others described: and besides these there is, towards the foot, on the opposite side of the under surface of the legs, a cluster of conical tubercles generally arranged in three or four longitudinal rows, and having their points inclined towards the toes. The feet and toes covered with triangular flat scales, those below slightly rugose. The under surface of hinder legs towards body is covered anteriorly with flat triangular scales, posteriorly towards femoral pores with slightly tubercular ones. The space between rami of lower jaw coated with small irregular roundish scales, the middle ones smallest, and anterior to them are four large plates in two rows, the two of the front row the largest. Scales of lower surface of neck trian-



CORDYLUS GIGANTEUS (young)
(Reptilia, Plate 36)

CORDYLUS GIGANTEUS.

gular, flat and imbricate ; those of breast and belly are of the same form and similarly disposed, but are more recumbent. Preanal space with a number of scales, three of which are very large and placed in the centre of the smaller ones, two in one row and the third in front of them. Femoral pores in one row ten or eleven in number, and each with an obtuse spongy point. Claws short, slightly curved and pointed. The commencement of the neck above and the sides of the body immediately in front of the hinder legs without spines.

Length from nose to base of tail, 8 inches : of tail, 7 inches.

YOUNG.—PLATE XXXVI.

COLOUR.—The upper part of the head posterior to the eyes, and the back and sides of the body intermediate between umber and liver-brown. The colour of the back and sides broken, however, by four or five narrow irregular bars of cream-yellow, the anterior part of the head light yellowish brown clouded with liver-brown ; the temples liver-brown, irregularly spotted with greenish-white ; tail above towards base deep umber brown, barred with cream yellow, below cream yellow and towards tip both above and below, pale orange red. Extremities barred alternately, cream yellow and liver-brown.

FORM.—Figure rather slender, and aspect not disagreeable from the scales not being developed and surmounted with the strong rugged spines which exist in the adult ; the form of the scales and the peculiarities they exhibit on different parts of the adult are also exhibited on the young, so that in knowing the characters of the former there is no difficulty in recognising the latter.

Inhabits the interior districts of Southern Africa, and is not unfrequently seen on the rocky pinnacles of the Quathlamba mountains, which separate the country of the south-east coast, from that of the interior. Another large lizard of this genus is said to exist among and on the mountains of Great Namaqualand ; but when specimens of this shall be obtained it will probably prove to be of the species here described.



B.



A.

GERRHOSAURUS FLAVIGULARIS, (A adult, B Young.)
(Reptilia - Plate 37)

GERRHOSAURUS FLAVIGULARIS.—WIEGM.

REPTILIA.—PLATE XXXVII.

G. superne flavo-brunneus, lineâ flava pone oculos incipiente et lineâ nigra in utroque latere marginata, illa versus apicem caudæ, his pone basin caudæ desinentibus; dorsi partibus mediis nigro brunneo variegatis et flavo-punctatis; corporis lateribus griseo-brunneis, nigro brunneo-maculatis et flavo-fasciolatis; mento gulâque flavis; pectore abdomineque cœruleo-albis; scuto occipitale rhombica.

LONGITUDO è naso ad basin caudæ, 3 unc. 6 lin.; caudæ, 8 unc.

CICIGNA SEPIFORMIS, *Gray*, Synops. Rept. Griff. Animal Kingdom of Cuvier, vol. 9.

SCINCUS SEPIFORMIS, *Merrem*, Versuch ein Syst. der Amphib, page 70.

PLEUROTEUCHUS CHRYSOBRONCHUS et DEJARDINII, *Smith*, Mag. of Zool. and Botany, vol. i. p. 143, et seq.

GERRHOSAURUS OCELLATUS, *Coct.* Magaz. Zool. Guer, cl. 111, pl. 4, et pl. 6, fig. 1.

COLOUR.—The upper surface of the head, the back, and the tail superiorly deep yellowish brown, the apical portion of the latter lightest; on the back and tail the ground colour is broken by various variegations partly yellow and partly liver-brown, on the middle of the back and base of the tail these variegations consist of one, two, or more series of small square yellow spots, each either placed upon a liver-brown bar or spot, or edged on both its sides with that colour. On the edges of the back and tail the same colours constitute the variegations, but instead of being in spots or bars they are in narrow longitudinal lines commencing near the outer angle of the eye and terminating beyond the last half of the tail; these lines are three in number on each side, viz.:—the middle one yellow, and the outer and inner ones liver-brown. On the tail these lines are rather indistinct and often broken. The sides of the body from the eyes backwards are greyish brown, profusely variegated with spots and irregular vertical stripes of yellow and liver-brown. Outer surface of fore legs light yellowish brown freckled with minute, umber-brown and yellowish white spots; the outer surface of hinder legs purplish brown and freckled with the same colours and in the same

GERRHOSAURUS FLAVIGULARIS.

manner as the fore legs; feet and toes yellowish brown. Under parts and inner surface of extremities livid cream-yellow, and the sides of the belly are marked with an irregular row of pale purplish brown spots; upper and under lips yellow, dotted with umber brown; chin and throat pale yellow. Eyes reddish brown.

FORM, &c.—Figure fusiform and the tail tapered to a fine point. Head small and tapered anteriorly, the nose obtusely pointed. Body somewhat quadrangular, the angles rounded and the back and sides slightly convex. Tail towards base quadrangular, towards point cylindrical. Frontal plate five sided, anteriorly triangular; vertebral plates four, the two middle ones the largest and all externally edged with a row of oblong narrow plates which form the upper margin of the orbit. Fronto-nasal plate large and diamond-shaped; the inner and hinder parts of the fronto-parietal and the anterior and inner parts of the parietal plates separated from each other by the intervention of a small diamond-shaped occipital plate. Temporal plates small, many-sided, and generally seven in number,—one in the centre, and six surrounding it. Labial scales six on upper jaw, and four on lower; the fourth scale of the upper the longest, and situated directly below the eye. *Meatus auditorius externus* narrow, vertical and in front partly concealed by a triangular or somewhat semicircular scale, which extends outwards and backwards from the hinder edge of temple. Lateral duplication of skin moderately developed. Scales of body and tail quadrangular and arranged in transverse rows, each scale with a central carina. Mental plates four, the two hinder ones the largest; the throat and breast covered with somewhat six-sided scales, in shape like two triangles joined at their bases. These scales are arranged in longitudinal rows, are slightly imbricate and larger on the breast than the throat. Plates of the belly disposed in transverse rows ten in each, of a quadrangular form and perfectly smooth. Preanal plates three in a single row, the middle one of a diamond-shape excepting that anteriorly it is truncate. Scales covering the under surface of tail at base quadrangular and smooth, towards tip triangular with their apex rounded. The fore legs are coated with smooth subovate and imbricated scales; the hinder ones anteriorly and inferiorly with large somewhat six-sided scales; posteriorly with small triangular and carinated scales. Femoral pores fifteen or sixteen, and protrude but very little beyond the scales lying anterior to them. Soles of the feet coated with small subgranular scales.

GERRHOSAURUS FLAVIGULARIS.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the nose to the base of			Length from nose to base of fore legs	1	2
the tail	3	6	between fore and hinder legs	2	2
of the tail	8	0	of fore legs to toes	0	7½
from nose to <i>meatus auditorius</i>			of hinder legs to toes	1	2
<i>externus</i>	0	10			

The colours of the *male* and *female* are nearly if not quite alike.

A variety of this species is occasionally procured in Southern Africa, on which only very few if any of the yellow and liver brown spots exist, which are described as occurring on the back and sides of the individuals more commonly obtained. This variety is represented by Wagler,* and all the specimens of it which I have seen had the chin and throat coloured as represented in his plate.

Both are found within the boundaries of the Cape Colony; but the one which is most profusely variegated is by far the most common. The former I have only seen in damp shady situations, abundantly coated with brushwood; the latter sometimes in similar situations, but more frequently in dry, arid plains, furnished with a considerable quantity of underwood. In whatever situations they are discovered, they always immediately seek concealment, and generally attempt it by burrowing under decayed leaves, or loose earth. The range of this species is extensive, and specimens were obtained by the expedition party, even as far north as the Tropic of Capricorn.

* Descriptiones et Icones Amphibiorum Auctor, Dr. J. Wagler, Plate xxxiv.





1.



2.

- 1 GERRHOSAURUS BIBRONI.
- 2 GERRHOSAURUS TYPICUS.

GERRHOSAURUS BIBRONI.—SMITH.

REPTILIA.—PLATE XXXVIII. FIG. 1. (MALE.)

G. *superne rubro-brunneus, lineis duabus sublatis et duabus angustis variegatis, his ad basin caudæ, illis versus apicem desinentibus; mento, gula, capitis lateribus, guttere, extremitatibusque anterioribus interne minatis; pectore abdomineque griseo-albis; scuto occipitale rhombica.*

LONGITUDO è naso ad basin caudæ 4 unc. 6 lin.; caudæ 6 unc.

COLOUR.—The upper surface of the head chesnut-brown; the sides and under surface of the head and the throat anteriorly vermillion-red; the back, the sides of the body, the upper parts of the tail, and the outer surface of the extremities intermediate between brownish red and deep orange coloured brown. The back is variegated with four yellow lines and the tail with two, which are the continuations of the two external lines of the back, and which commence above and over the eyes. These lines are wider than the other two which extend along the middle of the back, have a greenish tinge, and are very narrow and slightly broken; the latter commence at the hind-head and terminate at the base of the tail, and become less distinct as they recede from the head. The throat posteriorly, the breast, belly, under surface of tail and inner surface of extremities greyish white, the colour on the fore legs tinted with vermillion-red. Eyes deep chesnut-brown.

FORM, &c.—Figure moderately slender and fusiform; tail tapered to a point. Head quadrangular and tapered towards the nose, which is obtusely pointed. Body and base of tail quadrangular, the angles rounded, and the back and sides, but especially the latter slightly convex; tail towards the point cylindrical; internasal plate large, triangular, and diamond shaped. Naso-rostral plates small roundish, and the nostrils towards their lower margin. Fronto-parietal plates five-sided, sides unequal; parietal plates three-sided, the inner side arched with a small diamond shaped occipital plate situated partly between them and partly between the inner and hinder angles of the fronto-parietal. Palpebral plates four, the two middle ones the largest, and the whole margined externally by a row of narrow oblong plates which form the upper edge of the orbit. Temporal plates small, subcircular, and placed like stones in a pavement; scales of upper lip six, exclusive of the rostral plate, the fourth, reckoning from before backwards, the longest; *Meatus externus* small and vertical, broadest below, and anteriorly edged with a slightly projecting scaly plate. Lateral duplicature of skin, which extends

GERRHOSAURUS BIBRONI.

between angle of jaw and base of hinder leg, well developed. The scales of the back and sides quadrangular, and disposed in transverse rows, each with a strong keel along its centre, and others less developed towards the sides. Scales of the upper and lateral portions of the tail similarly shaped to those of the body, but have only the central keel, which forms a projecting point behind; mental plate large and semicircular behind; to this plate succeed four other plates, the two hinder ones the largest; the throat and breast are coated with large imbricate somewhat six-sided scales, broadest transversely, and arranged in longitudinal rows. The plates of the belly are disposed in transverse rows, eight in each, are of a quadrangular form and perfectly smooth. Scales of the lower surface of the tail rather long, narrow, and slightly rounded at the point. Fore legs slender and covered with smooth, imbricate, somewhat six-sided scales; hinder legs anteriorly and inferiorly with scales of a like description only larger, posteriorly, with small triangular ones strongly carinated, the carina forming the apex of each; scales on soles of feet small and slightly granular. Femoral pores twelve, and nearly quite concealed by the row of plates immediately in front of them. Preanal plates three in a row, the central one triangular with its apex pointing backwards. Toes of fore feet short and slender, the inner, that which corresponds to what is called the great toe, shortest, the second considerably longer, the third the longest, the fourth a little shorter than the third, and the outermost rather longer than the innermost. The third and fourth toes of the hinder feet are much longer than those of the fore feet, and the third exceeds considerably in length the fourth; the outer and second toes are also much longer than the corresponding ones of the fore feet.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the nose to the base of the tail	4	6	Length from nose to base of fore legs	0	11
of the tail	6	6	Distance between fore and hinder legs	3	0
from nose to <i>meatus externus</i>	0	9	Length of fore legs to toes	0	9
			of hinder legs to toes	1	2

Female.—As regards the colouring the two sexes are nearly alike, but the female is more robust than the male, and the tail proportionally shorter.

The only specimens of this Lizard which I have seen, were obtained towards the sources of the Caledon, one of the principal branches of the Orange River. They were all discovered in the dark and shaded ravines which form breaks in the Quathlamba mountains, and when they were pursued they sought concealment under the dead leaves and decaying wood which abounded in the ravines in question.

GERRHOSAURUS TYPICUS.

REPTILIA.—PLATE XXXVIII. FIG. 2.

G. superne aurantio-brunneus, inferne griseo-albus, lineâ flava pone oculos incipiente et lineâ nigro in utroque latere marginata, illâ versus apicem, his pone basin caudæ desinentibus; corporis lateribus nigro brunneo-umbratis et labeculis triangularibus variegatis, scuto occipitale quinquelaterale.

LONGITUDO è naso ad basin caudæ 4 unc. 6 lin.; caudæ 6 unc. 6 lin.

PLEUROTEUCHUS TYPICUS, Smith, Mag. Zool. and Botany, vol. i. p. 143.

GERRHOSAURUS TYPICUS, Dum. et Bib. Erpet. Général, tom. v. p. 383.

COLOUR.—The upper and lateral parts of the head, the back, and the upper and lateral parts of the tail deep orange-coloured brown, the two latter with two contiguous longitudinal stripes on each side, the external stripe the narrowest and pale cream-yellow, the internal deep liver-brown, fading at its inner edge into the tint of the centre of the back; the light stripe commences immediately over and above the eye, and terminates near the point of the tail, though on the latter it is not so defined as on the former; the dark one commences at the hind head, and is lost about the middle of the tail. The sides are variegated with several series of irregular light yellow spots, which are most distinctly defined between the fore and hinder legs, and in addition to these spots there are also others of a liver-coloured brown. The variegations on the sides of the tail are confusedly disposed, and in many places run into each other. The under parts and the inner surface of the extremities dull cream-yellow, inclined to greyish yellow. Eyes orange coloured brown.

FORM, &c.—Figure fusiform, the tail very long and slender towards the point. Head small, short, and tapered towards the nose, which is obtusely pointed. Body quadrangular, the angles rounded, and the back and sides but more especially the latter convex. Tail quadrangular towards its base, cylindrical towards the point. The naso-rostral plates sub-hemispherical, and the nostrils towards their centre; superciliary plates four in number, the two central ones the largest, and externally all are edged with a row of narrow, oblong plates, which form the upper edge of the orbit; fronto-parietal plates subcordate, the apical portion directed outwards; parietal plates four-sided, the inner side of each much shorter than the outer, and is as well as the hinder angle of the fronto-parietal separated from its fellow of the opposite side by the intervention of a small five-sided occipital plate; internasal plate large and diamond-shaped. Temporal plates seven or eight, each many-sided, and of various sizes, the smallest ones towards the centre. Scales of upper lip six in number, the fourth, from rostral plate; the longest, those of

GERRHOSAURUS TYPICUS.

lower lip four, the last but one much the largest. Scales of back and sides quadrangular, arranged in transverse rows, and each strongly carinated; the scales of the upper and lateral portions of the tail are of the same form as those of the back, similarly arranged and carinated. Lateral duplication slightly developed, space between *rami* of lower jaw anteriorly with four large plates, the two first the smallest; throat behind these and the breast coated with six-sided smooth imbricate scales, their greatest width transversely, and all arranged in longitudinal rows. Plates of the belly arranged in transverse rows, ten in each, of a quadrangular form, and each row lying over the base of the one behind it. Preanal plates, three in a single row, the middle one triangular, and its apex directed backwards. Scales of under surface of tail smooth, broadest at base tapered towards point, which is slightly rounded. Fore legs coated with smooth imbricate scales more or less six-sided; hinder legs anteriorly and inferiorly covered with scales of the same description but larger; posteriorly the scales are triangular and strongly keeled. Femoral pores sixteen, large, and prominent. Soles of the feet covered with very small somewhat oval scales. The toes of the fore feet short and slender, the innermost one very short, the second considerably longer, the third the longest, the fourth a little shorter than the third, and the outermost rather longer than the innermost. The third and fourth toes of the hinder feet, reckoning the great or inner toe one, are much longer than those of the fore feet, and the third exceeds considerably in length the fourth; the second and outermost toes are also much longer than the corresponding ones of the fore feet.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the nose to the base of			Length from nose to base of fore legs	0	11
the tail	4	6	Distance between fore and hinder legs	3	0
of the tail	6	6	Length of fore legs to base of toes ...	0	9
from nose to <i>meatus externus</i>	0	9	hinder legs to base of toes ...	1	2

The colours of the two sexes nearly the same.

The only specimens of this species which I possess were procured on the sandy plains which occur immediately to the south of the mouth of the Orange River. Over the sand of these plains they run with such extraordinary rapidity, that it is almost impossible for the eye to follow them in their flight. The instant they are discovered they seek a place of concealment, and that they generally find in the loose sand which is commonly found accumulated under the shrubs with which the district is furnished. In this sand they burrow with amazing rapidity, and it requires an experienced eye to trace their course in it, though that is seldom far below the surface.



ACANTHODACTYLUS CAPENSIS
(Reptilia. — Plate. 39. A. Male. B. Female.)

ACANTHODACTYLUS CAPENSIS.—SMITH.

REPTILIA.—PLATE XXXIX. *a*, MALE; *b*, FEMALE.

MAS. A. superne flavo-brunneus, lateribus nigro-brunneis, et macularum albarum seriebus duabus et lineis duabus longitudinalibus ejusdem coloris variegatis; partibus inferioribus ochraceis; digitis externe dentatis.

FEM. Superne pallide aurantius, lateribus rubro-aurantiis superne inferneque lineâ subalbida marginatis; partibus inferioribus ochraceis, versus latera nigro brunneo-tessellatis.

LONGITUDO e naso ad basin caudæ mas; 4 unc. 6 lin; caudæ 6 unc.

COLOUR, (MALE.)—The upper surface of the head, the middle of the back, and the upper surface of the tail intermediate between yellowish brown and reddish orange, the first irregularly mottled with dashes of umber-brown and the back is freckled with small liver-brown dots, and marked with a short line of the same colour from centre of hind head. The sides of the body and of the tail at its base liver-brown, variegated with two longitudinal white bands, the uppermost commencing at the hind head and ending a little way beyond the base of the tail; the lowermost begins below, and behind the eye is broken by the intervention of the *meatus auditorius externus*, and terminates in front of base of hinder leg: over the first of these bands there is a stripe of small roundish spots of the colour of the back, only lighter, and between them a longitudinal row of round rusty white ones. The sides of the belly below the lowermost white line the same colour as the sides, the remainder of the belly, throat, under surface of legs, and tail, pale ochre-yellow. Upper surface of extremities liver-brown freely speckled with irregular yellowish white spots; toes transparent yellowish brown above freckled with umber-brown. Sides of head umber-brown, the lips, a line under the eye, and the edges of some of the scales towards hinder parts of lower jaw straw-yellow.

FEMALE.—The upper surface of the head brownish yellow; the back and centre of the tail above intermediate between Dutch and deep reddish orange; the sides of body and tail near its base intermediate between orpiment-orange and tile-red, and these two tints are kept separate from each other by the intervention of a narrow longitudinal whitish band, which commences at the hind head and terminates about the commencement of the

ACANTHODACTYLUS CAPENSIS.

second third of the tail, being edged both above and below by a distinct shade of liver-brown, which is most distinct on the tail, and extends much beyond the end of the light line. Below the red of the sides there is a second longitudinal yellowish white line which extends between the *meatus auditorius externus* and the base of hinder leg. Belly, throat, and under surface of legs ochre-yellow; the sides of the belly below the second light line closely mottled with liver-brown. Upper surface of extremities liver-brown with many spots of the colour of the back; toes and claws transparent brownish yellow, the former above, speckled with umber-brown. Temples the same colour as the sides of the body; the remainder of the sides of the head umber-brown.

FORM, &c.—Figure of male rather slender, the body and base of tail slightly depressed, and the latter moderately long and tapered to a very fine point: the female is rather robust, and each individual part is on a larger scale than in the male. Head quadrangular, superiorly, towards the nose gently sloped, towards the nape level. Frontal plate narrow and widest anteriorly; fronto-parietal plates five-sided, the side which joins frontal plate very short. Inter-parietal plate somewhat quadrangular and widest behind; interfronto-parietal plate diamond-shaped, and a portion of it between the antero-internal angles of the parietal plates. Naso-rostral plate large and behind pointed, the point lying between the fronto-nasal plates. Palpebral plates two, forming an oval disc which anteriorly and posteriorly is edged with scales, one of which, over and in front of the eye is rather large. Temples slightly convex, and covered with small granular scales. *Meatus auditorius externus* semilunar and margined anteriorly with a few small spinous scales. Skin of body rather loosely connected to the subjacent parts, and often forms a longitudinal fold on each side of the body, extending from the ears to the hinder leg, also occasionally a circular one behind the head, the loose edge of which is directed forwards. Scales covering back and sides small, circular, closely set, and slightly convex; those on base of tail superiorly the same, on sides of tail towards its base triangular and keeled, each keel prolonged and ending in a spinous point. About an inch beyond the commencement of the tail the small scales give place to oblong and quadrangular ones, which are arranged in whorls, and each has a distinct keel, which in some parts is prolonged beyond the scale in the form of a spinous point. Scales of the extremities partly rather large, triangular, and keeled, partly very small and granular. Abdominal plates quadrangular and disposed in transverse rows, about twenty-eight in each. Gular collar immediately in front of sternum distinctly indicated, the

ACANTHODACTYLUS CAPENSIS.

posterior loose edge of the scales forming it, triangular or slightly semilunar. Preanal plates in two or three rows, the middle one of the two hindermost rows much the largest and somewhat six-sided. Femoral pores twenty-eight. Toes long, slender, and each externally edged with a serrated fringe consisting of slender pointed scales. Length of adult specimens generally about ten inches, of which the tail forms about six.

This lizard is found on the sandy districts of Great Namaqualand, and where the surface of the country is irregular it is generally met on the highest spots. Where small sand-hills occur, it resorts to them in preference to the other localities, and, from the peculiar assistance it derives from the serrated fringe which edge its toes, it runs over the loose sand on the steep surfaces of those slopes, with great rapidity. It feeds upon small insects.





PLATYSAURUS CAPENSIS
(Reptilia. Plate 40)

PLATYSAURUS CAPENSIS.—SMITH.*

REPTILIA.—PLATE XL.

P. superne griseo-brunneus, dorso fascis tribus subalbidis notato; capite corporeque fortiter depressis; corporis squamis parvis; poris femoralibus 18; caudâ versus basin depressa versus apicem cylindracea; partibus inferioribus, viridi flavis.

LONGITUDO è naso ad basin caudæ 3 unc. ; caudæ 4 unc. 8 lin.

COLOUR.—The upper portion of the head anteriorly, the centre of the hind head and its outer edges so far as the anterior extremity of each eyebrow greenish yellow; the other parts of the hind head light blackish green. Back and sides of body intermediate between hair and broccoli brown, the skin which is visible between the scales is darkest. Back varied with three longitudinal cream-yellow lines, faintly tinted with green, the two outer ones towards hinder legs slightly arched outwards. The central line commences exactly at the middle of the posterior edge of the hind head, and one of the others at each outer angle,—from these situations they proceed separately till they reach close to the base of the tail, where they coalesce and form a continuous light band which occupies the entire of its upper surface to the very point. Under surface of head, neck, body, and extremities wine-yellow, the two first tinted with flesh-red; under surface of tail the same colour, tinged with yellowish brown. The upper and lower lips, as also the under surface of the edges of the lower jaw wood-brown.

FORM.—Figure slender, with the belly bulging laterally; head small, and like the body and tail, is much depressed, posteriorly square, and anteriorly much tapered; the nose is narrow and rounded; nasal plate small, with the

* *Char. Gen. Platysauri.*—Teeth short, numerous, closely set, slender, conical and rather blunt; tongue fleshy and rather pointed; nostrils circular and situated near to the posterior and inferior edge of the naso-rostral plate; frontal plate single, † fronto-parietal plates, four, the two hinder ones and the parietals forming a square shield, like what is observed in *Cordylus*. Palpebral plates edged externally with a row of narrow plates as in *Gerrhosaurus*. Body much depressed, scales very small, abdominal plates quadrangular and arranged in transverse rows; femoral pores small but distinct. Gular collar rudimentary.

† By mistake rendered double in the Plate.

PLATYSAURUS CAPENSIS.

nostril situated towards its middle ; frenal plates two, the anterior one small and irregularly shaped. Naso-rostral plate large and diamond shaped.* Frontal plate single, oblong, and four sided, the anterior considerably longer than the posterior side ; fronto-parietal plates four, two anterior and two posterior, the latter with the parietal plates forming a distinct square shield which laterally is edged on each side with two narrow plates ; the hinder and inner angles of posterior fronto-parietal and anterior and inner angles of parietal plates are kept apart by the intervention of a small diamond shaped plate. Palpebral plates four, externally edged with a row of narrow plates which form the edge of the eyebrow. Temples convex and coated with plates, which anteriorly and inferiorly are surrounded with small scales. Body and sides covered with very small scales, which along the middle of the back are many sided and very closely set, elsewhere they are less closely set and rather ovate. Anterior and outer surface of fore legs covered with rather large six sided scales, hinder and inner portions with small multiangular scales. The last joint covered with rather large and irregularly five or six sided scales. Outer, posterior, and inner surface of hinder legs towards body covered with small subovate scales, and their anterior surface with quadrangular ones. Toes long and slender, nails short, very crooked, and sharp pointed. Femoral pores small and eighteen in number. Space between rami of lower jaw coated with lengthened narrow scales arranged in longitudinal rows, those of the row along the mesial line largest. Scales of under surface of neck small, and transversely subovate. Gular collar rudimentary, the scales composing it very small ; abdominal plates quadrangular and disposed in transverse rows, about twenty plates in each ; preanal plates many sided, eight in the last row, the two middle of which are the largest. Tail towards base, above, flat, beneath two sided, elsewhere subcylindrical, its scales narrow, quadrangular, lengthened and arranged in whorls. *Meatus auditorius externus* large, subovate, opening obliquely outwards and backwards. Tongue solid and obtusely pointed ; its upper surface villous and its edges towards point, thin and sharp. Length from nose to base of tail, 3 inches ; length of tail, 4 inches, 8 lines.

Inhabits Great Namaqualand, and is always found on rocky precipices. When pursued, it seeks concealment under flat stones or in the crevices which intervene between the rocky masses, and, from its claws being much hooked, it is not without difficulty removed from the chinks into which it may have retreated. It lives upon small insects.

* In the figures there appears a small scale before and another behind the naso-rostral plate, but these, however, are to be viewed only as small portions of the plate accidentally separated.



1. GERRHOSAURUS SEPIIFORMIS.
2. GERRHOSAURUS SUBTESSELLATUS.
(Reptilia . Plate 41 .)

GERRHOSAURUS SUBTESSELLATUS.—SMITH.

REPTILIA.—PLATE XLI. FIG. 1.

G. dorso flavo-brunneo, lineâ alba brunneaque tassellata in utroque latere marginato; partibus inferioribus carnis cupreo-viride-tinctis; corpore fortiter depresso; squamis lævibus.

LONGITUDO e naso ad basin caudæ 1 unc. 11 lin.; caudæ 4 unc.

COLOUR.—Top of the head umber-brown, variegated with three deep orange coloured brown spots, one between the eyes, and the other two on the hind head. Eyebrows and lips greenish white, the former connected by a narrow white line which edges the anterior part of the head. The middle of the back dull yellowish brown, variegated towards the head with two and towards the tail with three rows of small, somewhat square, brownish red spots, very little darker than the ground colour, and only distinct in fresh specimens or in those observed in spirits. The sides of the back chequered white and liver-brown, the latter rather the predominant colour, and disposed in the form of small irregular quadrangular spots, arranged in two rows, each of which, as well as each individual spot, being parted by the intervention of a narrow streak of white. Sides of body similarly coloured as the back, only the different tints are darker. Tail above coloured like the back, but the chequered lines diminish in width and regularity as they distance its base, and almost disappear towards the tip. Throat and belly pale aurora-red tinged with coppery green, the plates towards the sides of the belly strongly clouded with brownish red, and the central portion of each of the scales of the throat also of that colour; under surface of tail greenish white or pale broccoli-brown, and variegated with small irregular spots of light brownish red, the centre of each scale being of the latter colour. Legs and toes aurora-red, freckled towards body with irregular spots of umber-brown.

FORM, &c.—Figure fusiform, the tail tapered to a point. Head, body, and base of tail depressed, and the upper aspect of the two latter slightly arched. Head small, muzzle rather lengthened, and its point obtuse and rounded. Frontal plate oblong, five-sided, the anterior side arched. Fronto-nasal plate large, and its hinder edge slightly concave; no distinct inter-fronto-

GERRHOSAURUS SUBTESSELLATUS.

parietal or inter-parietal plates (Vide Plate XLII. Fig. 5.) Temporal plates six, the hindermost one the largest. *Meatus auditorius externus* edged anteriorly by a narrow projecting plate. Scales of body slightly imbricate, and arranged in transverse rows; they are quadrangular in form, and in proportion to the size of the species are larger than in any other species of the genus yet described; they are all quite smooth, and destitute even of the rudiments of a keel. Lateral duplicature well developed. Plates of belly quadrangular, and disposed in transverse rows, eight scales in each, their greatest width transversely. Femoral pores eight. Preanal plates three in a row, the middle one diamond-shaped. Length from nose to base of tail, 1 inch 11 lines; length of tail, 4 inches.

So far as I know, only a very few specimens of this species have yet been obtained, and the only two I myself procured were caught among short grass in the vicinity of a low rocky knoll, in Great Namaqualand.

The uniformly smooth surface of the scales of this species distinguish it at once from the others of the genus. The small depth of the body is also another diagnostic character, and a third is the great size of the scales, when compared with the size of the Lizard.

GERRHOSAURUS SEPIFORMIS.—DUM. ET BIB.

REPTILIA.—PLATE XLI. FIG. 2.

G. dorso lateribusque lineis angustis alterne fuscis et flavo-brunneis variegato; labio superiore brunneo, flavo-albo-fasciato; corporis squamis multiliratis, caudæ carinatis.

LONGITUDO e naso ad basin caudæ 2 unc. 3 lin.; caudæ 5 unc.

SCINCUS SEPIFORMIS, Schneid, Hist. Amp. fasc. ii. p. 191, Merr. Tent. Syst. Amp. p. 70.

COLOUR.—Back and sides variegated with from twenty to twenty-four narrow longitudinal lines, half of which are of a tint intermediate between umber and deep reddish brown, the other half between yellowish and deep reddish brown, and they vary in depth in different specimens. The dark lines are of unequal width, and the one which extends along the edge of the back on each side is invariably the narrowest, being seldom more than a simple line, from which circumstance the light coloured lines on each side of it are broader than those elsewhere. In some specimens the sides, instead of being marked with distinct lines, are dark brown sprinkled with small white spots, both irregular in regard of size and distribution. Upper parts of tail coloured like the back, only the lines are less distinct, and scarcely if at all visible towards its point, sides of tail umber-brown more or less profusely variegated with small white spots or longitudinal streaks. The lateral fold of skin, the throat, the belly, and the under surface of extremities intermediate between yellowish and greenish grey,—the scales of the former edged with brownish red. Under surface of tail intermediate between broccoli and hair-brown. Legs and toes orange-coloured brown, freely shaded or deadened with umber-brown, the hinder ones darkest. Upper lip transversely barred yellowish white and liver-brown, anterior portion of lateral fold variegated with transverse bars alternately white and light reddish brown.

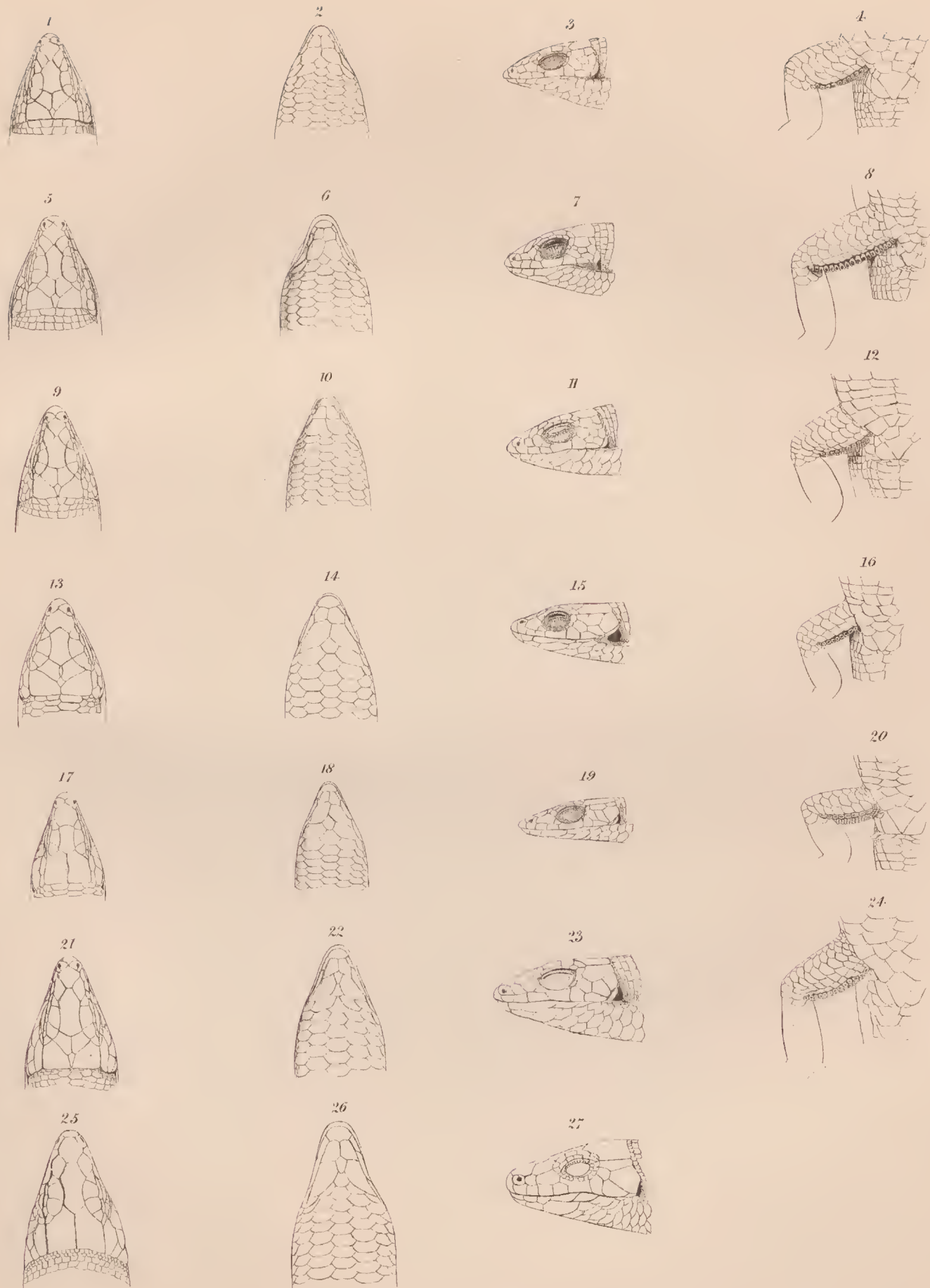
FORM, &C.—Figure fusiform, the tail very long,* and tapered to a fine point. Head small, and the muzzle slightly pointed. Body subquadrangular, as is also the tail at its base, elsewhere the latter is cylindrical. Frontal plate oblong, six-sided, the two anterior and posterior sides much shorter

* The specimen represented in the Plate had the tail unusually short.

GERRHOSAURUS SEPIFORMIS.

than the lateral ones. Fronto-nasal plate large and heart-shaped, the emargination in the hinder edge; inter fronto-parietal plate long, narrow, and subdiamond-shaped; inter parietal short and regularly diamond-shaped. Temporal plates four, the two upper the largest. *Meatus auditorius externus* subtriangular, and in front edged with a narrow projecting plate. Lateral duplicature well developed. Scales of body quadrangular, slightly imbricate, disposed in transverse rows, and each with a number of rudimentary keels or slightly elevated striæ; scales of the tail in circles, and each of those of the upper and lateral parts with a strongly developed keel, which behind terminates in a prominent spine, those of the under surface with several keels, but no spines. Abdominal plates quadrangular, smooth, and arranged in transverse rows, eight in each, those of the four middle rows largest. Femoral pores 10. Preanal plates three in a row, the middle one triangular, and its apex rather blunt. Length from nose to base of tail 2 inches 3 lines; length of tail of a perfect specimen 5 inches.

Inhabits grassy flats in the Eastern districts of the Cape Colony, and when disturbed in its retreat, seeks concealment under loose stones or among decayed vegetable matter.



GERRHOSAURI.
(Reptilia. — Plate 42.)

Fig^s 1, 2, 3, 4. *Gerrhosaurus flavigularis*. — 5, 6, 7, 8. *G. typicus*. — 9, 10, 11, 12. *G. bibroni*.
13, 14, 15, 16. *G. sepiiformis*. — 17, 18, 19, 20. *G. tessellatus*. — 21, 22, 23, 24. *G. lineatus*.
25, 26, 27. *G. bifasciatus*.





1. EREMIAS KNOXII.
2. D° LINEO-OCELLATA.
(Reptilia Plate 43)

EREMIAS KNOXII.

REPTILIA.—PLATE XLIII. FIG. 1.

E. superne rufo-flava lineis longitudinalibus quatuor nigro-brunneis variegata; lineis, maculis circularibus subflavis signatis; palpebrâ inferiore squamis parvis tunicata; scutis ventralibus duodecim aut quatuordecim in ordine transversa.

LONGITUDO c nasi apice ad basin caudæ 2 unc; caudæ $3\frac{1}{2}$ unc.

COLOUR.—The head superiorly, the back, the upper parts of the sides, and the upper and lateral parts of the tail intermediate, between honey and ochre-yellow:—the head variegated with small liver-brown spots, and the back and sides with four longitudinal liver-brown stripes, each of which incloses, more or less completely, a series of small round lemon-yellow spots. The two dorsal stripes commence at the occiput, and are gradually lost a little beyond the base of the tail; the others, one on each side, originate immediately behind the outer angle of the eye, and towards their commencement, consist of short longitudinal streaks, posteriorly they terminate at the base of the hinder legs. In some specimens there exists in addition to these lines, another on each side, but without any light coloured spots; these where they occur, extend simply from the fore to the hinder legs. The extremities are light yellowish brown, with a greenish tinge, and are superiorly and posteriorly variegated with small yellow spots, surrounded by narrow liver-brown rings. Sides of head yellowish brown, finely speckled with umber-brown. The under parts of neck, body, extremities, and tail, yellowish white; eyes deep orange red; claws brownish red.

FORM, &c.—Body rather robust; tail moderately long and very delicate at the point. Head quadrangular and tapered to the snout, which is obtusely pointed. Plates of the upper surface of the head uneven and rather rugose; nasal plates contiguous, naso-rostral plate anteriorly arched, posteriorly prolonged backwards between fronto-nasal plates, the latter separated from each other by the intervention of an oblong quadrangular plate; frontal plate widest anteriorly and grooved along the middle, the edge on each side

EREMIAS KNOXII.

of groove elevated; interparietal plates rhomboidal, the two anterior sides much the shortest; parietal plates, five sided; palpebral plates, two, with an irregular scale immediately in front of them, behind they are edged with a congeries of small scales, partly quadrangular, partly circular; freno-nasal very small and quadrangular; freno-ocular much larger, quadrangular, and widest behind; ante-ocular plates two, the lowermost very small, the uppermost ovate, and placed obliquely; plates of upper lip nine, no part of it formed by the suborbital plate; those of lower lip seven, all very narrow; *meatus auditorius externus* narrow, vertical, and with three small scales projecting backwards from its anterior edge. Scales of back and upper parts of sides small, subquadrangular, carinated, imbricate, and disposed in transverse rows, each of which present a slight angle at the middle of the back; scales of lower parts of sides smooth; scales of back and sides of tail carinated, of under surface plain; preanal scales seven, one forming the centre, and six surrounding it in the form of a ring. The scales of the lower surface of the neck are small, flat, somewhat ovate, and the largest are towards the breast. Antepectoral fold formed of seven scales, the middle one the largest; ventral plates in transverse rows, twelve or fourteen in each, some small scales between the last row and the preanal plates. Scales of fore legs anteriorly large, subtriangular, and imbricate, externally small, imbricate, and keeled; under eyelids closely coated with minute granular scales. Femoral pores ten or twelve, not very distinct. When the anterior extremities are applied along the sides of the neck, the longest toe reaches to the nostril, and when the hinder ones are applied along the sides, the longest toe reaches to the opening of the ear.

Length from point of nose to anus, 2 inches; length of tail, $3\frac{1}{2}$ inches.

Inhabits arid Karoo country, and is very common within the boundaries of the Cape Colony.

EREMIAS LINEO-OCELLATA.—SMITH.

REPTILIA.—PLATE XLIII. FIG. 2.

E. *superne rubro-aurantia lineis longitudinalibus quatuor nigro-brunneis notata; lineis, maculis circularibus albis signatis; portione ovale palpebræ inferioris semipellucidâ; scutis ventralibus duodecim in ordine transversâ.*

LONGITUDO e nasi apicè ad basin caudæ 2 unc; caudæ 4 unc.

COLOUR.—The head, superiorly, the back, and the upper parts of the sides, reddish orange, variegated with four longitudinal liver-brown lines, in each of which is enclosed, more or less completely, a series or row of small white spots. The two dorsal lines are generally the darkest and best defined; the lateral ones in some individuals are continuous, but in the majority consist only of a congeries of irregular spots or dark freckles, which form a dark mottled line in which the light spots are more or less imbedded. The two middle lines commence close to the hinder angle of the eyes, and terminate a little beyond the base of the tail, the lower arises from the angle of the mouth, passes across the upper extremity of the *meatus auditorius externus*, and terminates at the base of the hinder extremity; below this dark line is margined with a narrow one of a clear white colour. The head above is sparingly dotted with liver-brown; the legs superiorly are of the same colour as the back, and freckled with liver-brown; the under parts of the neck, body, extremities, and tail, yellowish white. Tail above, light reddish orange, with a few liver-brown dots towards its base disposed in two rows.

FORM, &c.—Body moderately robust, tail slender and finely tapered to the point. Head, anteriorly, tapered, the snout slightly obtuse; the plates of upper surface of head uneven and slightly rugose; nasal plates small and contiguous, naso-rostral plate somewhat rhomboidal or subtriangular; fronto-nasal five-sided, inner sides in contact; frontal plate club-shaped and furrowed longitudinally along its centre from nearly the base to the apex; fronto-parietal plates five-sided and contiguous; interparietal plate subrhomboidal, the two anterior sides short, and the greatest width of the plate is towards

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its anterior extremity; parietal plates somewhat quadrangular; palpebral plates two, margined anteriorly, externally, and posteriorly with small granular scales; lower eyelids with an oval transparent disc, surrounded by small granular scales; freno-nasal plate small, somewhat five-sided; freno-ocular plate large and four-sided, the posterior side longer than the anterior; anti-ocular scales sublinear, keeled, and oblique in relation to the eye. The subocular plate forms part of the upper lip, and the rest of it is composed of seven scales, four before the plate just named, and three behind it; scales of lower lip six or seven, rather narrow. The external opening of the ear vertical and subovate, without any distinctly projecting scales. The scales of the body and sides superiorly small, imbricate, somewhat triangular, carinated, and disposed in transverse rows. Those of the sides towards belly plain. Scales of the upper and lateral parts of the tail carinated, of the under parts, smooth. Scales of the under surface of the neck, towards the chin, small, ovate, and arranged in oblique rows; towards the breast, small, somewhat triangular, and slightly imbricate. Antipectoral fold edged with thirteen somewhat quadrangular scales; plates on chest and belly subquadrangular, and disposed in transverse rows, about twelve in each row, the rows about thirty-three in number; preanal plates in four rows, the plates of the hindermost row the largest. Scales of upper and outer surface of fore-legs triangular, imbricate, and keeled, below, rhomboidal and plain; front of legs above toes, covered with rather large plates. Hinder legs, superiorly, coated with small triangular keeled scales, inferiorly, towards toes, with large plates. Femoral pores, thirteen. The longest toe of the fore-feet, when they are placed along the sides of the neck, reaches to the anterior angle of the eye; the longest of the hinder ones, when applied along the sides, approaches to within a line of the external opening of the ear.

Length from nose to anus, 2 inches; length of tail, 4 inches.

This is not quite so common as the species last described, yet is met with in several parts of the colony. In various respects it resembles *Eremias Knoxii*, but is without difficulty to be distinguished from it by having a semitransparent disc in the lower eyelid, and also by its preanal plates being very differently arranged.



1. EREMIAS UNDATA,
2. D^o NAMAQUENSIS.
(Reptilia Plate 44)

EREMIAS UNDATA.—DUM ET BIB.

REPTILIA.—PLATE XLIV. FIG. 1.

E. supernè rufo-flava, lineis quatuor longitudinalibus variegata, subtus flavo-alba; portione ovale palpebræ inferioris subpellucidâ; scutis ventralibus duodecim in ordine transversâ.
LONGITUDO e nasi apice ad basin caudæ 2 unc.; caudæ 3 unc.

COLOUR.—The back and upper parts of sides intermediate between pale buff-orange and ochre-yellow; the upper surface of the head freely variegated with small liver-brown spots, and the back with four longitudinal liver-brown bands, one of the latter proceeds from the hinder extremity of each eyebrow, and on the back, immediately between the hinder legs, they unite, and either terminate at once or extend, as one, for a few lines along the upper surface of the tail; the other stripes commence one at each angle of the mouth, pass along the side of the neck, immediately over the *meatus auditorius externus*, and terminate at the base of the hinder leg. Towards the head these lines are continuous, and variegated with small spots of the same colour as the back, posteriorly, they are serrated or otherwise irregular. The extremities, superiorly, are nearly of the same colour as the back, each variegated with an interrupted zigzag or serrated line along its hinder aspect, in which lines are observed several cream-yellow spots. Tail, superiorly, the same colour as the back, or wine-yellow, and there are indications of a row of small dark spots along its centre. The lower portions of the sides cream-yellow; the under surface of the neck, body, extremities, and tail, yellowish white. Toes and claws, light sienna-yellow.

FORM, &c.—Body, moderately robust; tail, slender, and tapered to a fine point; scales of the upper and lateral parts of neck, and of the back and sides, small, subovate, closely set, and slightly convex; scales of tail, quadrangular, and arranged in circles, those of the upper and lateral parts strongly carinated. Head, small; the snout, tapered, and almost pointed; nasal, fronto-nasal, and fronto-parietal plates, each contiguous with its fellow; naso-rostral plate, large, subtriangular, and from its base a slender point projects between the nasal plates; frontal plate narrow posteriorly, rather

EREMIAS UNDATA.

broad anteriorly, and somewhat club-shaped; interparietal plate rounded anteriorly, truncated posteriorly, and much wider before than behind; palpebral plates two, sometimes three, the middle one then rudimentary, the shield formed by the whole is edged anteriorly, posteriorly, and externally, with a band of small subgranular scales; occipital plate small, and of an irregular shape; frenal plate, quadrangular; anti-ocular plate large, quadrangular, and deeper behind than in front; upper labial plates six; the hindermost irregular, lengthened, and forms a part of the angle of the mouth. Lower eyelid with two transparent plates, forming a disc near its centre, the hindermost smallest, elsewhere it is coated with small granular scales. Opening to ear, vertical, subovate, and, anteriorly, margined with four or five small projecting scales; antepectoral fold distinct, its hinder edge throughout free and margined with about fourteen small plates. Breast and belly with oblique rows of subquadrangular plates, from ten to twelve in each row; guttural plates small, ovate, and disposed in oblique rows; preanal plates in four transverse rows, five or six in the last and two in the first row. Fore legs, anteriorly, superiorly, and posteriorly, coated with irregularly triangular imbricate scales, a few near the toes carinated; inferiorly with small granular ones; hinder legs superiorly and posteriorly covered with small granular scales; anteriorly and inferiorly with rather large, subtriangular, imbricate scales; the tarsi superiorly also with small similarly shaped scales, all of which are strongly keeled. Toes, very slender; claws, slightly curved and pointed. The longest toe, when the fore legs are placed along the side of the head, reaches exactly to the point of the nose, and the longest of the hinder feet, when the legs are placed along the side, touches the angle of the mouth. Femoral pores about thirteen.

Length from point of nose to anus, 2 inches; length of tail, 3 inches.

Inhabits the arid sandy flats between Cape Town and Little Namaqualand.

EREMIAS NAMAQUENSIS.—DUM ET BIB.

REPTILIA.—PLATE XLIV. FIG. 2.

E. *superne lineis nigro-brunneis quinque et rubro-aurantiis quatuor notata; capite parvo antice gracile; squamis ventralibus in linea transversa duodecim; caudâ gracile longissimâ.*

LONGITUDO capitis corporis que 2 unc.; caudæ 5½ unc.

COLOUR.—Back and upper parts of sides marked with nine narrow longitudinal lines, five of which are liver-brown, and the other four light reddish orange. Of the five, one extends along the middle of the back, from the hind head to the base of the tail, is bifid anteriorly, and has usually, within the fork, a short rudimentary streak of the same colour, from two to three lines in length; the two lines on each side commence near to the hinder angle of the eye, the lowermost, the widest, crosses the external ear, and both terminate at the commencement of the tail. In adult specimens, generally, these lines are finely freckled with light reddish orange. The light lines are narrower than the dark ones, which lie immediately on each side of them. Below the black lines the sides are an uniform cream-yellow; the extremities superiorly and posteriorly clove-brown, speckled with cream-yellow; head, superiorly, clove-brown, with a coppery gloss; lips cream-yellow; tail, above, light reddish orange, or wine-yellow. The under parts of the neck, body, extremities, and tail, yellowish white.

In young specimens the dark lines are without variegations, of a very deep colour, and contrast strongly with the light ones, which are nearly white.

FORM, &c.—Figure slender; tail very long, and extremely delicate towards the point; head, posteriorly, four-sided; anteriorly, slender and subcylindrical; the snout slightly obtuse; nasal plates contiguous, naso-rostral six-sided, anteriorly pointed; fronto-nasal six-sided, and separated from each other by a small five-sided plate, palpebral plates two, margined anteriorly, externally and posteriorly, with small granular scales, interparietal plate five-sided, broadest anteriorly, occipital plate four-sided, the hinder side the longest, and slightly arched; superior labial plates of left side, three in front of

EREMIAS NAMAQUENSIS.

the suborbital plate, which forms a portion of the lip, and three behind it ; on the right side there are four in front of suborbital plate, and two behind it ; scales of lower lip six ; freno-nasal plate quadrangular, anterior and posterior sides nearly of equal length ; freno-ocular plates four-sided, the hinder side much the longest ; anti-ocular plates small, the uppermost quadrangular, the lowermost linear ; ear opening vertical, slightly oviform, and both edges even. Scales of back and upper parts of sides minute, ovate, granular, and disposed in rather waved transverse lines ; the scales of the lower parts of the sides rather larger, flat, and subtriangular ; scales of under surface of neck small, ovate, and arranged in transverse bands, those towards chin slightly arched or angular, those towards breast oblique ; ante-pectoral fold margined behind with eight subquadrangular scales, and between these and the scales of the neck, already described, there are three or four transverse rows of subquadrangular scales, larger than those in front of them. The plates of the first pectoral row are four-sided, long, and transversely narrow ; the rest are, like those of the belly, much smaller, subquadrangular, and disposed in transverse rows. The plates about half way between anterior and posterior extremities, generally twelve in each row ; preanal plates in three rows, those of the two hinder rows largest, four in the last, and two in the one before it, also some smaller ones on each side of both, and also behind the last. The fore-legs, inferiorly, towards toes, coated with a longitudinal row of small plates ; anteriorly, with a row of a larger size ; toes slender, the third and fourth equal and longest ; the hinder legs inferiorly towards toes, with a longitudinal row of large plates ; thighs anteriorly coated with plates ; scales of upper and lateral parts of tail carinated, of under parts smooth. Femoral pores, fourteen. The *point* of the fourth toe, when the fore-legs are carried along the sides of the neck, reaches the anterior angle of the eye, and the point of the fourth toe of the hinder extremities, when they are stretched along the sides, reaches the angle of the mouth.

Length from point of nose to anus, 2 inches ; length of tail, $5\frac{1}{2}$ inches.

The only specimens of this lizard which I have seen were obtained in Great Namaqualand



1. EREMIAS BURCHELLII.
2. EREMIAS CAPENSIS.
(Reptilia - Plate. 45)

EREMIAS BURCHELLII.—DUM. ET BIB.

REPTILIA.—PLATE XLV. FIG. 1.

E. superne flavo-brunnea, lineis longitudinalibus brunneis, irregularibus aut interruptis sex, notatis; scutis nasalibus contiguis; scuto parvo quadrangulari inter scuta fronto-nasalia; dorsi squamis parvis subcircularibus; scutis ventralibus in ordine transverso quatuordecim; poris femoralibus duodecim.

LONGITUDO e nasi apice ad anum 2 unc. 3 lin; caudæ 4 unc. 9 lin.

COLOUR.—The colour of the upper and lateral parts of the head, of the sides of the neck, of the back, and of the upper surface of the tail, yellowish brown, the colour of the tail lightest towards the point. The upper surface of the head is variegated with small umber-brown dots, and the back and sides with six longitudinal liver-brown stripes, not equally distinct in every specimen, yet, nevertheless, their course, with a little care, is easily to be traced in all, though, on a slight examination, an assemblage only of short narrow stripes, varying from half a line to a line in length, appear to exist on the back and upper parts of the sides. The two middle stripes, which extend along the back from the hindhead to the base of the tail, are very slender, and generally consist of a succession of short lines; the uppermost lateral stripe running along the sides is strongly marked, and variegated by having imbedded in it a line of white or yellowish brown spots; each of these lines is continued for a short distance along the side of the tail, getting fainter and fainter as it proceeds; the lowermost line of the side is sometimes more distinct than the one above it, and separated from it by a stripe of rusty white; at other times, it is not separated by any light colour, but, instead of being liver-brown, is brownish red, and speckled with small yellowish brown spots; when it is a distinct liver-brown stripe it is marked, like the line above it, with white spots. The outer surface of extremities brownish red, freckled with small yellowish brown spots; the upper surface of the tail towards the base variegated with a row of small quadrangular liver-brown spots, largest near their commencement. The under surface of the head, the body, the tail, and the inner surface of the extremities, yellowish white. Eyes, dark chestnut-brown.

FORM, &c.—Body, moderately robust, slightly depressed, with the sides bulging; head, viewed above, triangular, the nose slightly obtuse; sides of head, in front of eyes, nearly perpendicular; temples convex and slightly projecting; distance between eye and nose nearly as great as between eye and ear opening. Nasal plates contiguous; naso-rostral rhomboidal, the an-

EREMIAS BURCHIELLII.

terior angle acute, the others slightly truncated; fronto-nasal separated from each other by the intervention of a small subquadrangular plate; frontal lengthened, and broadest at its anterior extremity, its margin anteriorly truncated; fronto-parietal plates contiguous, and irregularly four-sided; inter-parietal large, four-sided, anteriorly triangular, posteriorly truncated. Occipital plate, small and subovate; palpebral plates, two, forming an oval disc, which exteriorly, anteriorly, and posteriorly, is edged with small granular scales; freno-nasal, small and quadrangular; freno-ocular, larger, somewhat triangular, the anterior angle slightly truncated; ante-ocular scales very small, the anteriormost the largest; plates of upper lip, in front of large infra-orbital plate, four, posterior to it three; of lower lip, seven or eight, exclusive of the chin plate, *vide* Plate XLVIII. Figs. 4 and 4a. Ear-opening large, vertically subovate, its edges are smooth, and two scales larger than the others are observed anteriorly, close to its upper extremity. Scales of back and upper parts of sides small, nearly circular, and placed like stones in a pavement; scales of under surface of neck, small, subovate, or subcircular, flat and slightly imbricate; plates edging, ante-pectoral fold quadrangular, and about ten in number. The first and second rows of pectoral plates are oblong and quadrangular, the remainder smaller, less lengthened, and not disposed in such regular rows; plates of belly, in rows which extend almost directly across, fourteen plates in each of the longest rows; pre-anal plates in several rows, five plates in each of the two middle ones; femoral pores, twelve or thirteen. Scales of the upper and lateral parts of the tail carinated, of the under parts smooth, quadrangular, and those towards its base narrowest posteriorly; scales of fore legs, towards body, small, smooth, and imbricate, anteriorly, towards toes, large and quadrangular; scales of hinder legs small, and somewhat circular, and, anteriorly towards body, and inferiorly towards toes, a covering of rather large plates, which, in the first-mentioned position, are disposed in a regular and longitudinal row. Under eyelid coated externally with a number of small semi-pellucid plates. When the anterior extremities are extended along the sides of the neck, the point of the longest toe reaches exactly to the point of the nose, and when the hinder ones are applied along the sides, the point of the longest toe reaches to the base of the fore leg.

Length from the point of the nose to the vent 2 inches 3 lines, length of the tail 4 inches 3 lines.

Inhabits the Karoo flats, on the south-west coast of Africa, particularly Little Namaqualand, towards the Great Orange River. It is wild, extremely watchful, and moves from place to place with great rapidity.

EREMIAS CAPENSIS.—DUM. ET BIB.

REPTILIA.—PLATE XLV. FIG. 2.

E. superne subgrisea, lineis quinque longitudinalibus, nigro-brunnis variegatis, lineâ media antice furcata; scutis nasalibus disjunctis; scuto parvo quadrangulari inter scuta fronto-nasalia; dorsi squamis parvis subcircularibus in ordinibus transversis dispositis, et inter ordines squamis minutissimis; scutis ventralibus ordine transverso sexdecim; poris femoralibus novem, aliquando undecim.

LONGITUDO e nasi apicc ad anum 2 unc. 3 lin.; caudæ 4 unc. 3 lin.

LACERTA CAPENSIS, *Smith*, Mag. of Zool. and Bot. (New Series) vol. ii. p. 93.

COLOUR.—The colour of the upper and lateral parts of the head, and of the outer surface of the extremities, a brownish purple-red, the latter parts variegated with a few scattered, small, whitish spots. The back and the upper parts of the sides bluish grey variegated with five more or less defined longitudinal liver-brown lines, which terminate on the base of the tail; one of these lines, the narrowest, extends along the middle of the back, is forked towards the head, and posteriorly consists in general of only a series of fine short streaks, the others, two on each side, are rather broader, and consist of irregularly shaped spots, in some specimens like the letter X, and more or less connected. The upper surface of the tail pale yellowish grey, towards the base tinted with asparagus-green. The under surface of the head, the body, and the tail, and the inner surfaces of the extremities, yellowish white. Toes and claws light yellowish brown, with a semi-transparent appearance. Eyes dark chestnut-brown.

FORM, &c.—Body moderately robust, sides rather bulging; head lengthened, posteriorly rather broad and four sided, anteriorly narrow and tapered; nose slightly obtuse and rounded. Temples slightly protuberant. Nasal plates separated from each other by the intervention of the anterior and lengthened angle of the rhomboidal naso-rostral plate; fronto-nasal plates apart, with a small sub-quadrangular plate connecting them; frontal plate lengthened, club-shaped, and its anterior and posterior edges arched; fronto-parietal plates contiguous; interparietal rhomboidal, broadest anteriorly, and with a small granular elevation

EREMIAS CAPENSIS.

on its surface near its centre; occipital plate hemispherical, the convexity forwards; parietal plates indistinctly five sided, the sides very unequal in length, and the two forming the outline anteriorly meet in front at an acute angle; palpebral plates in some specimens almost completely surrounded with small granular scales; freno-nasal plate oblong and quadrangular; freno-ocular irregularly triangular, the anterior angle truncated; lower eyelid externally covered with small semi-pellucid plates, *vide* Plate XLVIII. Figs. 7 and 7a; upper lip anterior to large suborbital plate with seven plates, behind it five, small and scale-like; of lower lip eight or nine besides the chin plate. Ear-opening large, vertically subovate, and its edges even and covered with small granular scales. Scales of back and upper part of sides small, subcircular, regularly arranged in transverse rows, and the rows separated from each other by the intervention of minute granular scales; the under surface of the neck coated with small flat subovate scales, imbricate, and arranged in irregular transverse rows; hinder edge of antepectoral fold formed of eight quadrangular plates, the two middle ones the largest; pectoral and ventral plates quadrangular in transverse rows, sixteen plates in the longest ventral row; preanal plates in several transverse rows, two in the hindmost row, and about five in each of the two in front of it; femoral pores nine to eleven, their openings small, directed outwards and backwards; scales of upper and lateral parts of tail carinated; plates of under parts of tail short and quadrangular. The fore legs towards body covered anteriorly with a row of large plates, elsewhere with small subtriangular flat imbricate scales; hinder legs anteriorly towards body, and inferiorly towards toes, with plates, elsewhere with small scales. When the anterior extremities are extended along the side of the neck, the longest toe reaches to about a line beyond the point of the nose; and when the hinder are laid along the sides, the longest toe reaches exactly to the opening of the ear.

Length from point of nose to vent 2 inches 3 lines; length of the tail 4 inches 9 lines.

Inhabits the arid Karoo flats within the Cape Colony, as well as those of the districts immediately beyond it. It is very agile, extremely watchful, and, when frightened, conceals itself under loose stones, decayed wood, or any other material beneath which it can creep. This species is readily to be distinguished from *Eremias Burchellii*, by its having the interstices between the rows of the larger scales of the back studded with minute granular scales; by the nasal plates having the anterior extremity of the naso-rostral introduced between them, and by the palpebral plates being, to a greater extent, encircled by small granular scales. The plates of the lower eyelid are also much less numerous, and, instead of being irregularly scattered, are arranged in two longitudinal rows.



1. *Uta stansburiana*
2. *Uta stansburiana*
(Reptilia - Plate 6)

EREMIAS LATICEPS.—SMITH.

REPTILIA.—PLATE XLVI. FIG. 1.

E. *superne* flavo-brunnea, lineis quinque, longitudinalibus, subflavis, variegatis, lineâ mediâ antice bifurcata; scutis nasalibus disjunctis; scutis ventralibus in ordine transverso sexdecim; poris femoralibus tredecim.

LONGITUDO e nasi apice ad anum 2 unc.; caudæ 3 unc. 3 lin.

COLOUR.—The upper and lateral surfaces of the head intermediate between reddish orange and yellowish brown. The ground colour of the back, the sides of the body, and the outer surface of the extremities intermediate between brownish red and chestnut-brown, and variegated with light yellowish brown, either as longitudinal stripes or small spots. The stripes, when they exist, are three distinct, and two indistinct, the latter low on the sides, and extending between the fore and hinder legs, the others are, one along the centre of the back, and one towards the middle of each side. These three commence close to the hindhead, and terminate a little beyond the origin of the tail; the middle stripe is forked towards its anterior extremity, and between its limbs there exists a short stripe of the colour of the more lengthened ones. The bands of spots exist only on the body towards the head, and are one between every two of the longitudinal stripes, the spots are very small, and not disposed in any regular order. The outer surface of each extremity is also variegated with a band of spots of a similar character. The belly, the inner surface of the extremities, and the under surfaces of the head and the tail, yellowish white; the upper surface of the tail and the feet yellowish brown.

FORM, &c.—Figure rather slender; tail moderately long and very slender at the point. Head rather depressed, broad posteriorly, narrow and tapered in front of the eyes; the snout rather short; supra-orbital space prominent and convex; sides of the head anteriorly nearly vertical, posteriorly slightly convex; ear-opening narrow and vertically subovate; *membrana tympani* close to orifice; nasal plates separated by the intervention of the anterior portion of the naso-rostral plate, the latter rather large, nearly pointed anteriorly, broad and arched posteriorly; fronto-nasal separated from each other by a small quadrangular plate; frontal plate long and broadest anteriorly, where it is of a triangular shape; fronto-parietals contiguous; inter-parietal large and somewhat rhomboidal; occipital narrow, anteriorly broad, posteriorly arched; palpebral plates rather small and margined anteriorly, posteriorly, and externally with small granular scales. Plates of upper lip, in front of large suborbital plate five, behind it four; plates of lower lip seven; freno-nasal plate small, quadrangular, rather longer than deep; freno-ocular plate large and subtriangular; anteocular plates two, the anteriormost much the

EREMIAS LATICEPS.

largest but nevertheless small. Vide Plate XLVIII. figs. 3 and 3 a. Scales of the back and sides small, subrhomboidal, and the centre of each slightly elevated, they are disposed in oblique transverse bands, and are slightly imbricated; scales of the under surface of the neck disposed in transverse angular lines; they are imbricate, irregularly quadrangular, and flat towards the antepectoral fold, the largest, posteriorly lengthened into short points; the antepectoral fold edged posteriorly with twelve small squarish scales. The pectoral plates of the first row longer and narrower than those which succeed it; the ventral plates in transverse rows, about sixteen or eighteen in each; the pectoral and ventral rows together thirty. Femoral pores thirteen, the innermost of the one side nearly in contact with that of the other, the opening of each directed obliquely outwards and backwards. Pre-anal plates numerous, and disposed in six rows, the hinder plates largest. Scales of the upper and lateral parts of tail keeled, of the lower parts smooth; the hinder edge of each scale narrower than the anterior edge. Scales of the fore-legs partly small, flat, and imbricate, partly large, the largest anteriorly, in a longitudinal row, extending to the toes. The scales of the hinder legs, posteriorly and externally, small, somewhat ovate and subimbricate; below larger, triangular and imbricate, a row of large shield-like plates in front; the soles of the feet rough from small granular scales; toes below with narrow, transverse, convex plates. In the fore-feet, the middle toe and the one external to it longest and nearly equal, the anterior one considerably the shortest, the remaining two nearly of equal length. Two of the toes of each hinder foot very long; a small tubercle at base of hinder toe, which is considerably removed from the other four. The longest toe of the fore-foot, when the leg, &c. is placed along the side of the neck, reaches to the anterior angle of the eye; the longest of the hinder foot, when the leg is placed along the side, nearly to the opening of the ear.

Length from the point of the nose to the anus 2 unc., length of the tail 3 unc. 3 lin.

The only three specimens of this species which I possess, were obtained towards the mouth of the Orange River. At first sight this lizard might be considered as an example of *Eremias Namaquensis*, but when closely examined the points of difference are very evident. In *E. Namaquensis* the lower eyelid externally is coated with rather large plates, arranged in two rows, in *E. laticeps* with numerous small scales; in the former the nasal plates are contiguous, in the latter they are rather widely separated; in *E. Namaquensis* the scales of the body are more lengthened, of an ovate form, separated from each other, and with minute scales scattered between them; in *E. laticeps* they are imbricate, subrhomboidal, and without the small intermediate scales. Besides these differences, many others are to be discovered on close examination.

The only other species of the genus with which it may be confounded is *E. lugubris*, when that species exhibits little if any of the black colour; but it may at once be distinguished from it by having, in each ventral row, sixteen or eighteen instead of eight plates, as is the case in *E. lugubris*.

EREMIAS LUGUBRIS.—DUM. ET BIB.

REPTILIA.—PLATE XLVI. FIG. 2.

E. superne nigro brunnea, lineis flavis continuis interruptisque tribus variegatis; scutis nasalibus contiguis; scutis magnis supra oculos squamis parvis granulosis circumdatis; scutis ventralibus in ordine transverso sex; poris femoralibus sexdecim.

LONGITUDO e nasi apice ad anum 2 unc.; caudæ 5 unc.

LACERTA LUGUBRIS, *Smith*, Mag. of Zool. and Bot. (New Series) vol. ii. p. 93.

COLOUR.—The upper surface of the head yellowish brown shaded with brownish red, the sides cream-yellow. The back and sides of the body liver-brown, variegated with longitudinal stripes and spots of gamboge-yellow. The stripes, three or five in number, commence at the posterior part of the head, and three of them extend some distance beyond the origin of the tail; the remaining two, which are generally very indistinct, exist one on each side near to the abdominal plates, and are only visible between the anterior and posterior extremities. The spots, near to the head, are disposed in the form of bands, one between each two longitudinal stripes. Between the ear and the base of each anterior extremity, a waved yellow line exists, and a similar one extends between the eye and the hindhead, its termination being immediately over the commencement of the upper line of the side. The outer surface of the extremities brownish red, clouded with liver-brown, and finely freckled with lemon-yellow. The under surface of the head, the body, the tail, and the inner surface of the extremities, yellowish white; upper surface of tail, yellowish brown. Eyes, deep chestnut-brown.

The above are the colours of the specimen figured, but it may not fall to the lot of another person to obtain one exactly like it. I am not acquainted with any lizard which varies so greatly in regard of colour; some specimens are obtained almost entirely black, with three yellow lines, others with the lines broken into linear spots, and others again with the sides and back, yellowish brown, variegated with lines either yellow or light buff-orange.

FORM, &c.—Body moderately robust, and subcylindrical, tail much lengthened, and very slender towards and at the point; head somewhat four-sided, only slightly depressed, the sides posteriorly slightly convex; nose narrow and rounded. Nasal plates contiguous; naso-rostral somewhat rhomboidal, and more pointed behind than before; fronto-nasal contiguous; frontal long, broadest anteriorly, and arched where it is in contact with the fronto-nasal plates; fronto-parietal, rather small, rhomboidal, and with a granule on its

EREMIAS LUGUBRIS.

centre ; no occipital plate ; parietal plates large, irregularly four-sided, and in contact behind the fronto-parietal. Palpebral plates form a large oval disc, which is surrounded entirely with small granular scales ; freno-rostral plate small and quadrangular ; freno-ocular large, and irregularly four-sided, with a small quadrangular one between it and super-orbital plates ; ante-ocular scales narrow and indistinct ; the central portion of the lower eyelid formed of small semi-pellucid plates ; plates of upper lip, anterior to infra-orbital plate, five ; behind two rather large, and somewhat irregular in shape ; scales of lower lip, six or seven, *vide* Plate XLVIII. Figs. 5 and 5 a. Opening of ear rather large and vertically ovate ; *membrana tympani*, a little below the surface. Scales of the back and lower parts of the sides, small, inclined to circular, placed close to each other like the stones of a pavement, and disposed in regular transverse rows ; scales of under surface of neck anteriorly small, oblong, and subovate, posteriorly somewhat triangular and imbricate ; ante-pectoral fold formed of eight irregular shaped scales, the two middle ones the largest. The first and second row of pectoral plates, quadrangular and lengthened, the others smaller, somewhat triangular, and not arranged in very regular transverse rows ; plates of belly, quadrangular, and disposed in transverse rows, each consisting of six plates ; pre-anal plates, towards edge of vent, very small, more in front considerably larger, and irregularly shaped. Femoral pores, sixteen. Scales of the upper and lateral parts of the tail carinated ; plates of the under surface, quadrangular and smooth. Fore legs towards toes, anteriorly, covered with large plates, elsewhere, with small, subtriangular, imbricate, scales ; toes and claws strongly compressed. Hinder legs, anteriorly and inferiorly, covered with plates, posteriorly with minute granular scales, and superiorly with rather small subtriangular ones. When the fore leg is placed along the side of the neck, the longest toe reaches to about the extremity of the nose, and when the hinder is directed parallel to the side, the longest toe reaches nearly to the hinder angle of the eye.

Length from the nose to the vent 2 inches, of the tail 5 inches.

Inhabits the arid districts immediately beyond the northern boundary of the Colony, and is often found on level stony surfaces devoid of soil. In these situations it may be seen during the day enjoying the heat of the sun, and occasionally darting upon insects, which form its food.

The having only six longitudinal rows of ventral scales prevents its being confounded with any of the yet known species. It differs also from all in having the palpebral plates forming the disc entirely encircled by small granular scales ; the species nearest it, in this respect, is *Eremias capensis*, in which a distinct interruption is to be observed at the inner and hinder portion of the disc.

1.



2.



3.



1, EREMIAS ANNULIFERA. 2, EREMIAS PULCHRA.
3, EREMIAS FORMOSA.

(Reptilia Plate 47.)

EREMIAS ANNULIFERA.—SMITH.

REPTILIA.—PLATE XLVII. FIG. 1.

E. superne viridi-grisea, dorso seriebus quatuor macularum aut annulorum nigro-brunneorum variegatis; dorso squamis parvis quadrangularibus in lineis transversis dispositis; scutis ventralibus in ordine transverso decim; poris femoralibus quatuordecim.

LONGITUDO e nasi apice ad anum 1 unc. 9 lin.; caudæ 3 unc. 6 lin.

COLOUR.—The upper parts of the head, the back, the sides, and the extremities, intermediate between bluish grey and greenish grey, the back being variegated with four rows of small, somewhat circular, liver-brown spots. Some of the spots of the lowermost row of each side have their centre white, or, in other words, they resemble dark rings, and some of those of the upper rows have a clear white spot immediately under their lower edge. Tail superiorly intermediate between bluish grey and oil-green. The under surface of the neck, the belly, and the under parts of the tail pale greenish grey.

FORM, &c.—Figure delicate. Tail long, slender, and very delicate towards the point. Head small and rather narrow, its sides, anterior to eyes, vertical; nose narrow and slightly rounded. Nasal plates contiguous; naso-rostral large and sub-rhomboidal, the angles rounded; fronto-nasal contiguous, the sides, where they join, short; frontal plate rather short, narrow behind, widened before, its anterior edge semicircular; fronto-parietal plates narrow, six-sided, and with an indistinct angle about midway between the anterior and posterior extremities; inter-parietal plate large, rhomboidal; parietal plates large and subovate; occipital plate small, and situated close to the hinder extremity of the inter-parietal plate. Palpebral plates transversely ovate, and almost completely surrounded with small granular scales, only a few wanting at the inner extremity of the posterior plate (Vide Plate XLVIII. figs. 14 and 14 *a.*) Nostril prominent, each formed of three scales; freno-nasal plate small, somewhat quadrangular; freno-ocular large, somewhat triangular, and truncated anteriorly; antecular plates small. Scales of upper lip, anterior to

EREMIAS ANNULIFERA.

large infra-orbital plate, five, behind it four, all small and unlike those in front; plates of lower lip, not including that of chin, six; the disc of the lower eyelid consists of two pellucid plates. Ear-opening ovate, with the *membrana tympani* visible close to its orifice. Scales of back and sides small, subquadrangular, and disposed in regular transverse rows, slightly bending at the centre of the back; scales of the under surface of the neck small, subovate, and imbricate; antepectoral fold slender, and with ten small quadrangular plates, the centre one much the largest, those at the extremities very small. Pectoral plates small, quadrangular, and arranged in broken rows, those of belly larger, quadrangular, and ten in the longest rows. Pre-anal plates about twelve in number, three large in the last row, and a very small one at each extremity; femoral pores fourteen. Scales of upper and lateral parts of tail slightly carinated, of under parts smooth. When the fore-leg is placed along the side of the neck, the longest toe reaches to the point of the nose, and when the hinder leg is stretched along the side, the longest toe reaches to the external ear.

Length from the tip of the nose to the anus $1\frac{3}{4}$ inch, of the tail $3\frac{1}{2}$ inches.

Inhabits the interior of Southern Africa towards the tropic of Capricorn. The only two species to which it bears, from certain details in its colouring, some faint resemblance, are certain varieties of *E. Knoxii* and *lineo-ocellata*. Its having a transparent disc to the lower eyelid, forms a character which at once bespeaks it as different from the first, and having flat instead of carinated scales, establishes it as different from the latter.

EREMIAS PULCHRA.—SMITH.

REPTILIA.—PLATE XLVII. FIG. 2.

E. superne flavo-grisea carneo-tincta, dorso lateribusque maculis parvis fasciisque brunneo-rufis variegatis; squamis dorsalibus parvis subovalibus in sericibus transversis dispositis; scutis pre-analibus numerosis; scutis ventralibus in ordine singulo octo ve decim; poris femoralibus 11 or 12.

LONGITUDO e nasi apice ad anum 2 unc.; caudæ $4\frac{1}{2}$.

COLOUR.—The upper parts of the head, the back, the sides superiorly, and the outer surface of the extremities, light broccoli-brown, brightened with flesh-red, and the back and sides variegated with small brownish red spots, and broken brownish red bands. The spots are arranged in two rows along the centre of the back and upper surface of the tail near to its base, many of them being partly brownish red, partly pure white. The bands are two, one on each side, commencing behind each ear-opening, and terminating at the base of the hinder leg, portions of these bands consist of freckles, other portions of somewhat circular rings, or quadrangular links, either separate or connected; the outer surface of the hinder extremities towards body with a few minute brownish red spots. The sides of the head and the under surface of the neck, body, and tail, dead-white.

FORM, &c.—Figure slender, tail much lengthened, and very delicate towards the point; head slender and lengthened, posteriorly of equal width, anterior to eyes tapered; the nose narrow and slightly rounded; the sides of head, anterior to eyes, vertical, posterior to eyes, slightly convex. Nasal plates separated by the intervention of a small quadrangular plate; naso-rostral rhomboidal, the anterior angle rather lengthened, and more acute than either of the other three; fronto-nasal contiguous; frontal moderately long, broadest before, and both its anterior and posterior edges semicircular; fronto-parietal plates contiguous; parietals subcircular; interparietal large, five-sided, the two anterior sides meeting anteriorly, and forming an acute angle; occipital plate small, and placed immediately behind the interparietal; palpebral plates, transversely, subovate, and anteriorly, posteriorly, and exte-

EREMIAS PULCHRA.

riorly, edged with minute granular scales; freno-nasal plate small, quadrangular; freno-ocular quadrangular, much broader behind than before; ante-ocular plates small and compressed; labial plates, anterior to large infra-orbital plate, four, behind it three, horizontally compressed and projecting; plates of lower jaw, exclusive of chin plate, five or six (Vide Plate XLVIII. figs. 13, 13 *a*, and 13 *b*). Ear-opening vertically subovate, and the *membrana tympani* visible, being immediately within the orifice. Scales of the back and sides small, ovate, disposed in more or less regular transverse rows, each row slightly removed from the other; scales of the under surface of the neck, anteriorly, small and subquadrangular, posteriorly, rhomboidal and in both situations imbricate; antepectoral fold very narrow, and formed of twelve small irregular plates; pectoral and ventral plates quadrangular, and arranged in transverse rows, twelve in the most lengthened of the ventral rows; pre-anal plates rather numerous in four transverse rows. Femoral pores eleven or twelve. Scales of the tail, superiorly, carinated, inferiorly, quadrangular and smooth. Forelegs, when directed forwards along the sides of the neck, have the longest toe of the foot extending slightly in advance of the eye; hinder legs, when directed along the sides, have the longest toe reaching to the ear-opening.

Length from nose to anus 2 inches; of tail $4\frac{1}{2}$ inches.

Found on dry flats in the interior of Southern Africa. In several respects this species resembles *Eremias pardalis*, but is at once to be distinguished from it by its having fourteen or more pre-anal plates, whilst *E. pardalis* has only three.

EREMIAS FORMOSA.—SMITH.

REPTILIA.—PLATE XLVII. FIG. 3.

E. superne flavo-brunnea fasciis quatuor longitudinalibus variegatis, quarum duabus nigro-brunneis, duabus pallide flavis; corporis lateribus flavo-brunneis nigro-brunneo umbratis et annulis nigro-brunneis maculisque subflavis notatis; dorsi squamis parvis, subrhomboidalibus, imbricatis; palpebrâ inferiore pellucidâ; caudâ inferne versus apicem bicarinatâ.

LONGITUDO e nasi apice ad anum 1 unc. 9 lin.; caudæ 3 unc.

COLOUR.—The upper surface of the head and the middle of the back intermediate between yellowish brown and buff-orange, which colour is bounded on each side by two longitudinal bands extending between the hindhead and the base of the tail, the outer band narrow, of a light straw-yellow colour and in some specimens interrupted, the inner band considerably wider, continuous, and of a deep liver-brown hue. Sides of the body dull yellowish brown, freckled with liver-brown, and variegated with a few dark liver-brown rings surrounding light straw-yellow spots. Legs, anteriorly and superiorly, yellowish brown, tinged with purple, and variegated with a few small oblong straw-yellow and liver-brown spots. Tail, superiorly, the same colour as the legs, and variegated for some distance from its base, on each side, with a row of small, quadrangular, straw-yellow spots, all of which, but more especially those nearest to the back, margined more or less with liver-brown. The under parts of the head, body, tail, and extremities, dull bluish white.

FORM, &c.—Body rather robust; tail long and tapered to a fine point; head rather short, broad posteriorly, rather narrow and tapered anterior to the eyes; nose slightly rounded; sides of head before the eyes perpendicular, behind them rather convex. Nasal plates contiguous; naso-rostral plate large and subrhomboidal, anteriorly, nearly truncated; fronto-nasal plates contiguous, six-sided, the anterior and outer side very short; frontal plate lengthened, five-sided, widest anteriorly, and in front terminates in an obtuse angle; fronto-parietals contiguous; occipital four-sided, the posterior side more lengthened than the anterior and slightly arched; palpebral plates somewhat pyriform, and surrounded externally, anteriorly, and posteriorly,

EREMIAS FORMOSA.

with minute granular scales ; the shape of the other plates uncertain, from the specimen having been injured by shot. *Vide* Plate XLVIII. Fig 15 and 15 a. Plates of upper lip, in front of large infra-orbital plate, five, behind it two, the hindermost much the smallest ; plates of lower lip, not including that of chin, six ; freno-nasal plate quadrangular, freno-ocular large, and considerably wider behind than before ; disc of lower eyelid consists of two large pellucid plates. Scales of the back small, subrhomboidal, and arranged in regular transverse rows, each row forming an obtuse angle at the centre of the back, and each scale slightly overlapping the one immediately external to it, as well as the one directly behind it. Scales of the upper surface of the tail strongly carinated, of the under surface near to the vent, thin, quadrangular, and flat, towards the point laterally compressed, and forming two obtuse keels, between which is a deep longitudinal furrow. Scales of the under surface of the neck, towards the chin, small, oblong, and subovate, of the posterior part, towards the breast, larger, somewhat triangular, and imbricate ; antepectoral fold distinct, and formed of twelve small, somewhat quadrangular plates, the middle ones the largest ; plates of the breast quadrangular, and arranged in irregular waved transverse rows ; plates of the belly in nearly straight transverse rows, ten in the longest, the middle plate smallest and triangular, the others quadrangular. Preanal plates about fourteen, four in the hindermost row ; femoral pores eleven or twelve. On the fore leg being stretched along the side of the neck, the longest toe reaches a little beyond the point of the nose ; and on the hinder one being extended along the side, the longest toe touches the angle of the mouth.

Length from the point of the nose to the vent, 1 inch 9 lines ; length of the tail, 3 inches.

Inhabits the arid districts on the western coast of Southern Africa, more especially in the neighbourhood of the Orange River. It is extremely active and very shy, consequently specimens are procured with difficulty, and I only succeeded, even with the aid of a gun, in obtaining two, both of which were much injured by the shot.

So far as colours are concerned, this species bears considerable resemblance to *Eremias Knoxii* and *lineo-ocellata*, but the scales of its back being flat and without keels, and its tail below toward the point being bicarinate, furnish characters by which it is readily to be distinguished from both.



Reptilia - Plate 48.

Fig^s 1 & 1a. *Eremias Knoxii* — Fig^s 2 & 2a. *Eremias variabilis* — Fig^s 3 & 3a. *Eremias lateiceps*.
 Fig^s 4 & 4a. *Eremias Burchelli* — Fig^s 5 & 5a. *Eremias lugubris* — Fig^s 6 & 6a. *Eremias Namaquensis*.
 Fig^s 7 & 7a. *Eremias Capensis* — Fig^s 8 & 8a. *Eremias outulata* — Fig^s 9 & 9a. *Eremias rubro-punctato*.
 Fig^s 10 & 10a. *Eremias micro-ocellata* — Fig^s 11 & 11a. *Eremias undata* — Fig^s 12, 12a, & 12b. *Eremias pucherana* — Fig^s 13, 13a, & 13b. *Eremias pardalis*.
 Fig^s 14 & 14a. *Eremias Anandhara* — Fig^s 15 & 15a. *Eremias formosa*.



PYXICEPHALUS ADSPERSUS

(*a.* Adult *b.* Young)

Reptilia Plate 49.

PYXICEPHALUS ADSPERSUS.—DUM. ET BIB.

REPTILIA.—PLATE XLIX. (MALE AND YOUNG.)

P. superne, pallide brunneo-viridis rubro-brunneo-umbratus; dorso lateribusque maculis et lineis, viride-flavis notatis; subtus, sulphureus rubro-auranteo-tinctus. Capite, corpore superne, extremitatibusque externe e granulis et rugis longitudinalibus rugosis; sacculorum vocalium aperturis prope ad oris angulas; linguâ grande ovale postice fortiter emarginatâ; extremitatibus fortibus et brevibus.

LONGITUDO e nasi apice ad anum 5 unc. 6 lin.

PYXICEPHALUS ADSPERSUS, *Tschud.* Class Batrach. Mem. Societ. Scienc. Nat. Neuch. tom. ii. page 84.

COLOUR.—The upper parts of the head, the back, and the upper parts of the sides rusty oil-green, shaded with reddish brown, and variegated with small spots and short longitudinal stripes of wine-yellow. Sides of head and outer and hinder surfaces of extremities light sap-green, the lower portion of the sides, the inner surface of the extremities, the toes, and all the under parts wine-yellow, shaded with brownish orange; and the under surface of the head blotched with irregular spots and stripes of a clove-brown colour. Eyes deep chestnut-brown, highly variegated with yellowish white dots having a strong metallic lustre. In young specimens the variegations in respect of colour are more defined, and consist of vertical bars on the upper lip and lower parts of the sides, of longitudinal waved stripes on the back and upper parts of the sides, and of transverse bars on the outer surface of the extremities.

FORM, &c.—Figure robust. Head depressed, posteriorly very broad, anteriorly narrow and rounded; its upper surface is rather concave, having a broad longitudinal depression extending from the hindhead nearly to the nose. The nostrils are situated at the upper and anterior part of the head, each about midway between the edge of the upper lip and the anterior canthus of the eye, are small, ovate, and with their opening directed outwards and backwards. Eyes moderately large, the upper eyelid broad and granular externally, except at its ciliary margin. Mouth large, and its angles about the same distance behind the eyes that the eyes are behind the nostrils.

PYXICEPHALUS ADSPERSUS.

Teeth rather strong, closely set, and slightly curved inwards; the lower jaw anteriorly has three prominent triangular processes, the intermediate one the shortest, and all three, when the jaws are closed, are received into depressions in the upper formed to admit them. Palatal teeth in two small clusters, one in front of the inner extremity of the internal opening of each nostril. The anterior extremities are short and nearly cylindrical, the toes four, strong, conical, and very short, the outermost the longest, and the innermost but one the shortest. The hinder extremities are powerful, but short when compared with the size of the frog; toes five, cylindrical and tapered to a point, the second, reckoning from the outside of the foot, very long, the first and third of equal length and much shorter, the other two very short; all connected at their base by a rudimentary web. Immediately posterior to the inner toe, particularly of the hinder feet, there is a large and hard compressed tubercle with the edge directed towards the middle of the foot rather sharp, somewhat keeled, and the under surface of each of the joints of the toes are cushioned with a pulpy granule or tubercle more or less developed. Tympanum nearly circular, about four lines in diameter, and situated directly over the angle of the mouth. The surface of the head, back, sides, and outer parts of the hinder extremities is rough and granular, and between the granulations of the hindhead, back, and sides, the skin is in various places puckered, so as to form prominent longitudinal rugæ, as represented in plate. The granulations on the hinder portion of the back and on the posterior extremities, especially towards the body, are larger and less numerous than on the other parts where they occur. The fore legs, the inner surface of the hinder legs, and the under parts of the head and body smooth. Tongue large, ovate, and deeply emarginate behind. Length of hinder legs 6, of fore legs 3 inches. Length of head and body $5\frac{1}{2}$ inches; width of head posteriorly 3, of body $4\frac{1}{2}$ inches

This frog is far from being generally diffused in South Africa, although it exists in localities very distant from each other. The only individuals I found within the colony were towards the eastern boundary, where it was familiarly spoken of by the inhabitants under the name of "Bull Frog," so called from the strength and hoarseness of the sounds it emits, particularly during the night. It lives generally in water, and is only seen in it, or at least in its immediate vicinity. The inhabitants report it to appear only during the rainy season, and at other times, from there being no water, in the localities where they observe it existing during the period mentioned, they are of opinion that it conceals itself in the mud which remains after the water disappears, and that it continues in it till called forth afresh by a renewed supply of water. No opportunity occurred to me of testing the accuracy of the conclusion, therefore I would only observe, I have seen probably fifty in a temporary pool of water, and at a great distance from any spot where water existed during the entire of the year.



TARENTOLA BIBRONII, Fig. 1
TARENTOLA CAPENSIS, Fig. 2.
(Reptila, Plate 50.)

TARENTOLA BIBRONII.—SMITH.

REPTILIA.—PLATE L. FIG. 1.

T. pallide flavo-brunnea; dorso fasciis lunatis nigro-brunneis, et caudâ superne fasciis rectis ejusdem coloris notatis; partium superiorum squamis partium magnis, triangularibus prominentibus et carinatis, partim minutis subcircularibus, et tennibus; capite magno triangulari; digitis brevibus, sine unguibus; pupillâ verticali; caudâ semi cylindraceâ.

COLOUR.—The upper and lateral parts of the head, the back, the sides, and the upper and lateral parts of the tail intermediate between yellowish-brown and flesh-red; the back, the sides, and the tail variegated with transverse liver-brown bars, those of the back arched or zigzag, those of the tail straight. In many specimens several of these dark bars, particularly those on the anterior portion of the back, are either edged posteriorly with a white band or are white spotted; the bars of the tail are much broader than those of the back. Hind-head variegated with small liver-brown spots arranged in short lines, and some of a like kind exist on the upper surface of the head towards the nose. The large triangular, protuberant scales, scattered on the body and tail, are invariably of a lighter colour than the small ones, being in many instances nearly white. Eyes light orange, coloured brown, with a strong metallic lustre.

FORM, &c.—Figure rather clumsy. Head large, depressed, and sub-triangular; the nose rounded; the hind-head wide and considerably broader than the neck; the upper surface of the head, posteriorly, flat, anteriorly, inclined to the nosc. Body depressed, and above convex; sides bulging; tail semicylindrical, thick and slightly depressed at the base, slender at the point, below flat; nostrils almost contiguous, close to the tip of the nose, the openings circular, directed laterally, and each surrounded with an elevated horny ring; *Meatus externus* ovate; pupil vertical and ovate; toes, five on each foot, free, and all flattened, particularly towards the point, where they are slightly broader than at the base; no claws; the under surface

TARENTOLA BIBRONII.

of each, from its tip midway to its base with transverse rugæ or folds from eight to ten in number, from where those cease to the root of the toe, the under surface is coated with transverse rows of small scales; upper surface of each toe towards tip with two or three large flat scales, like nails, surrounded by small ones. Scales on the upper surface of the head subovate and nearly flat, on the sides, before the eyes, smaller, slightly convex, and subkeeled. On the back, sides, temples, and upper and lateral parts of the tail, the scaly covering consists partly of large, somewhat triangular, convex, and carinated scales; on the back and sides disposed in twelve longitudinal rows, on the temples thinly and irregularly distributed, and on the tail arranged in half rings; the scales of the two lateral rows on each side of tail conical, and with a spiny point. The large keeled scales just described, are separated more or less from each other by the interposition of very small flat ones, which in some places, particularly towards the middle of the back, are few in number, in others, as low on the sides and on the temples, numerous. Scales between the branches of lower jaw, and on the under surface of the neck very minute, on belly considerably larger, subcircular, imbricate, and disposed in oblique rows; scales immediately in front of anus very small, immediately behind it rather large, and imbricate; a series of four or five strong scales on each side of base of tail, the remainder of the under surface of the tail coated with flat imbricate scales, those of the centre much the largest. Limbs externally coated with large-keeled, and small granular scales; below with flat imbricate ones. The lowermost row of large scales on each side of body rather irregular, the scales somewhat conical, and unlike those above them. Length from the tip of the nose to the base of the tail 3 inches; length of the tail 3 inches.

This species is widely distributed over Southern Africa, but specimens are nowhere abundant. It occurs chiefly in rocky precipices, and in outhouses badly lighted and little frequented. On the precipices it occurs generally in the crevices of the rocks, and is chiefly observed in dull obscure situations. It advances on the face of a perpendicular rock with great facility, and also ascends with ease glass or wood placed vertically. When discovered and exposed to the light of day, it immediately seeks concealment, as if inconvenience was a consequence of such exposure.

TARENTOLA CAPENSIS.—SMITH.

REPTILIA.—PLATE L. FIG 2.

T. *superne* griseo-purpura carneo-tincta et parce maculis parvis nigris albisque variegata; squamis partim parvis tenuibusque, partim magnis ovatis, et convexis; capite ovato; pupillâ verticali; digitis sine unguibus; caudâ cylindraceâ.

COLOUR.—Head and body intermediate between broccoli-brown and flesh-red, the lower parts of the sides and the belly tinted with ochre-yellow, and the head, back, and sides freckled with white and liver-brown spots, the white ones very small, the others rather larger, a narrow liver-brown stripe before and behind the eye. Tail pale lavender-purple glossed with flesh-red and speckled, thinly with liver-brown spots rather larger than those on the body. Extremities the colour of the body, only with a greater proportion of the flesh-red, the spots chiefly of the white sort. Eyes deep orange, coloured brown.

FORM, &c.—Head subovate and rather long; its greatest breadth, at the temples, rather wider than the neck; sides of head slightly convex; nose narrow and rounded, the nostrils situated close to its apex, nearly contiguous, and each opening margined by three rather raised scales. *Meatus auditorius externus* rather small, ovate, and placed obliquely about two lines behind the angle of the mouth. Body semicylindrical, the belly flattened. Extremities rather slender, moderately long, and each with five short unarmed toes, the latter towards the points thin, flat, and considerably broader than towards the base, each beneath immediately behind apex with five or six transverse soft ridges, the last rather the shortest, the under surface between those rugæ and the origin of the toes covered with small scales arranged in transverse rows; the upper surface of each toe close to its point with a large flat scale like the nail of the human finger: scales covering the head and tail of two kinds, the one kind rather large, conical or oval, and curved, the other kind very small and granular. On

TARENTOLA CAPENSIS.

the anterior and upper surface of the head, the large scales which form the entire covering are ovate and nearly flat, on the hinder parts of the head, and on the anterior parts of the back and sides, they are only thinly scattered among the small ones not in any regular order, and are inclined to conical; on the hinder parts of the back and sides, they are more numerous than anteriorly, rather large and more of an oval form, with a distinct keel. On the outer sides of the extremities, the large scales are slightly convex, part round, and part ovate. Tail cylindrical, spindleform, and narrower at the base than immediately behind it, tapered to a fine point; scales as on the back of two sorts, the small ones flat, roundish, and strongly imbricate, the larger ones projecting and arranged in transverse rows on its upper surface. Scales between limbs of lower jaw and on the under surface of the neck very small and somewhat circular; on belly larger, subovate, and imbricate. Eyes moderately large, pupil vertical.

Length from the point of the nose to the base of the tail 2 in. $4\frac{1}{2}$ lines; length of the tail 2 inches.

Found, in the interior of Southern Africa, among decayed wood, and under the bark of dead trees. When discovered it endeavours to conceal itself under the object nearest it. It moves slowly, and when to its purpose ascends perpendicular bodies of the most slippery description without difficulty. Like most of its genus, it dislikes the glare of the mid-day sun, from which it appears to suffer considerable inconvenience.

This cannot be regarded as a typical species of *Tarentola*, and I have no doubt it will hereafter be found to associate better elsewhere, if, when we apprehend better the distinctive characters of reptiles, even the group, as it is now constituted, be not dismembered.

1



3



4



2



ONYCHOCEPHALUS DELALANDII. Fig 1
ONYCHOCEPHALUS BIBRONII. Fig 2
ONYCHOCEPHALUS CAPENSIS. Fig 3
STENOSTOMA NIGRICANS. Fig 4.

ONYCHOCEPHALUS DELALANDII.—DUM. AND BIB.

REPTILIA.—PLATE LI. FIG. 1.

O. superne pallide flavo-brunneus, infra ochraceus; caudâ breve curvata aculeataque; scutis tribus in medio capitis superne formæ fore corporis squamarum; scuto rostrali antice lato, margine acuto et prominente; oculo in scuto oculari in angulam inter scutum supraocularem et parietalem.

TYPLOPS DELALANDII, Schleg. Abbild. Amp. page 38, pl. 32, fig. 17—20.

COLOUR.—The upper and lateral parts of the body and tail a pale, clear, yellowish brown, each scale with a lightish spot on its hinder edge about equidistant from its extremities; those light spots being arranged in rows, produce a slightly variegated or chequered appearance in specimen, in which the tint is tolerably distinct. Under parts pale ochre-yellow.

FORM, &c.—Body long, slender, and cylindrical; thickness nearly equal throughout, being about that of a swan's quill; head rather narrower than body; tail conical, curved, and its point armed with a small spine. The head superiorly is slightly flattened, anteriorly wedge-formed, the rostral plate which shields it anteriorly, having a prominent cutting edge the entire width of the nose; the head anteriorly acute. The rostral plate is large and extended, partly on the upper and partly on the lower surface of the head anterior to the mouth; the portion above is of an oval form, the widest part in front, where it forms the cutting edge of the nose, the lower portion has the sides waved, and only a narrow square projection of its hinder edge enters into the formation of the lip. Nostrils on the under portion of the nose, and open downwards, subovate in form, placed transversely as regards the head, and cross the suture between the nasal and fronto-nasal plates. The fronto-nasal plate curved, and much narrower superiorly than where it is in contact with the nasal plate; it is separated from its fellow of the opposite side by the intervention of the anterior frontal plate, which in form is somewhat six-sided, resembling the scales of the body, and like the frontal and interparietal plates, differs only from the scales by being con-

ONYCHOCEPHALUS DELALANDII.

siderably larger. Eye situated in the ocular plate, in an angle formed by the junction of the posterior edge of the supraocular and preocular plates, nearly directly under the hinder edge of the rostral plate. The upper extremity of the ocular plate terminates in an angle formed by the supraocular and parietal plates; the scales of the upper lip three or four pairs, narrow and elongated. Vide Plate LIV. figs. 1 to 4. The tail is very short, conical, and towards the point curved downwards. The scales of the body are small, rather broader than long, each somewhat six-sided. On the body they are disposed in twenty-nine longitudinal rows.

This reptile is pretty widely distributed over the southern parts of Africa, and is generally found under large stones and trunks of decayed trees, or in soil broken up by the plough, or otherwise displaced by the spade or the pick-axe, as often happens in digging up shrubs and dwarf trees for the purpose of clearing ground for cultivation. When it is exposed to view, it endeavours to conceal itself under whatever is nearest to it, and if unsuccessful it rolls itself into a mass, and remains quiet unless seized, when it immediately endeavours to escape.

The nose in this species is more produced than in any of the others yet known; and the prominent cutting edge of the rostral plate gives to it, when viewed laterally, a much more pointed appearance.

ONYCHOCEPHALUS BIBRONII.—SMITH.

REPTILIA.—PLATE LI. Fig. 2.

O. superne pallide aurantio-brunneus, maculis subalbis parvis in lineis longitudinalibus variegatis; nasi apice subcuneato; scuto rostrali magno latoque; oculo partim in scuto preoculari partim in oculari et partim in supraoculari; scuto preoculari subovato; caudâ breve, curvata et aculeatâ.

COLOUR.—The upper and lateral parts of the head, body, and tail intermediate between yellowish and orange coloured brown, the tint rather pale with a strong lustre; the under parts intermediate between ochre-yellow and wood-brown. The scales, both of the superior and inferior parts with a faint white or yellowish white spot on the hinder edge about equidistant from their extremities, the spots are arranged in longitudinal rows, and in some specimens are very manifest.

FORM, &c.—The head and the anterior, and middle portions of the body, slightly flattened, the hinder portion towards tail, and the latter itself cylindrical; thickness rather greatest about the middle of the body, considerably less close to and at the head, as also at the point of the tail, the latter is curved downwards, and its length less than its diameter. Head above and below flat, in front somewhat wedge shaped. Rostral plate very wide, its hinder edge immediately over the eyes; the edges of the portion on the under surface of the nose waved, and only a very narrow part of the hinder edge enters into the formation of the lip; nostrils in the nasal suture; fronto-nasal plate much broader below than above, where it is separated from its fellow of the opposite side by the anterior frontal plate which is wide and short; preocular plate subovate, the posterior edge more arched than the anterior; ocular plate pointed superiorly where it joins the supraocular, wide and nearly square inferiorly, its hinder edge slightly arched; frontal, parietal, supraocular and interparietal, plates nearly equal in size and differing but little in form. Eyes partly in the preocular,

ONYCHOCEPHALUS BIBRONII.

partly in the supraocular, and partly in the ocular plates, and are situated where the supraocular joins the preocular suture. Plates of the body in thirty-seven or thirty-eight longitudinal rows. Tail armed at the point with a short, stiff, spine, directed obliquely downwards and backwards. Length from nose to tail 11 inches 8 lines; of tail 2 lines.

This species, like *O. Delalandii*, lives either in the earth or under stones or masses of wood. If the soil, on its being discovered be rather loose, it progresses through it with considerable velocity, but when otherwise it abandons the attempt to advance, and rolls itself up in the same manner as the species already described. It inhabits the country to the northward of Latakoo, and has not yet been found, so far as I know, within the boundaries of the colony.

The great size of the frontal plate, the breadth and shortness of the anterior frontal and the subovate, instead of subtriangular form of the preocular plates, constitute characters by which it is readily to be distinguished from *O. Delalandii*. It differs also from the latter in the eyes being partly in the superocular and partly in the preocular, instead of entirely in the ocular, as is the case in *O. Delalandii*.

ONYCHOCEPHALUS CAPENSIS.—SMITH.

REPTILIA.—PLATE LI. FIG. 3.

O. superne inferneque pallide auranteo-brunneus; caudâ aculeatâ; scuto oculari subangusto, supernè inferneque acuto; labii superioris scuto ultimo magno-subtriangulari.

COLOUR.—The head, the body, and the tail, superiorly as well as inferiorly, a colour intermediate between pale orange-coloured brown and buff-orange, the tint rather pale; the colour of the under not quite so dark as that of the upper parts, and exhibits a slight bluish tinge. The colour of each scale is darker at the centre than the circumference.

FORM, &c.—Figure slender; body and tail cylindrical, the former, below towards the head, rather flattened; the head and anterior third of the body less in circumference than the other two-thirds; tail slightly curved, and armed with a short, acute, conical spine. Nose rounded and obtuse; rostral plate rather narrow, posteriorly slightly contracted, and the hinder edge arched and situated exactly the width of the anterior frontal plate in advance of the eyes; naso-rostral plate broader below at the nostril than above, where it joins the anterior frontal; preocular plate broad and rather irregularly shaped, its inferior extremity truncated; ocular plate pointed superiorly and inferiorly, the eye situated in it immediately behind the point, where the posterior edge of the supraocular joins the preocular plate; the last of the plates of the upper lip large and subtriangular, it extends upwards nearly as high as the middle of the ocular plate; the anterior frontal, frontal and interparietal plates rather larger than the scales of the body, but nearly the same in shape, differing only in being a little longer as compared with their width; the supraocular plates rather irregular in form; the parietals larger than the body scales, but in other respects like them. Vide Plate LIV. figs. 9—12. Nostrils situated in the suture, between the nasal and naso-rostral plates. Eyes small but distinctly visible. Length from the point of the nose to the base of the tail five inches one line; length of the tail about one and a half lines; diameter of the body one line and a quarter.

Inhabits the interior of Southern Africa, and is found like the other species of the genus, either in the ground or under stones, &c.

STENOSTOMA NIGRICANS.—DUM. ET BIB.

REPTILIA.—PLATE LI. Fig. 4.

S. superne inferneque pallide brunneo-rubra; squamis pallide purpurio-rubro-marginatis; capite antice carneo; scuti ocularis parte inferiore portionem labii superioris formante.

TYPLOPS NIGRICANS, Schleg. Abbild. Amp. pag. 38, Pl. xxxii. fig. 21—24.

STENOSTOMA NIGRICANS, Erpet. Gener. par Dum. et Bibron. tom. 6, p. 326.

COLOUR.—Scales covering the upper and under parts brownish red, each edged with pale brownish purple-red, the dark spots arranged in longitudinal rows, so that the body both above and below has a finely speckled appearance—the colour at and towards the tail darkest. Head anteriorly pale flesh-red. In the majority of specimens the preceding are the colours, but specimens are found in which the middle of the scales are much darker, being liver-brown or bluish black instead of brownish red; in these the edges are generally dull lavender-purple. Individuals so coloured appear, when observed at a distance, almost black.

FORM, &c.—Figure slender, body thickest a little posterior to the middle, cylindrical, except towards the head, which, with the anteriormost portion of the body, is slightly depressed, tail short, rather curved downwards, and armed at the point with a short conical spine. Muzzle rounded, its edge slightly produced; rostral plate anteriorly broad, posteriorly rather contracted and rounded; naso-rostral plate inferiorly broad where it joins the nasal, and considerably narrower above, where it is in contact with the anterior frontal; nostril situated in the suture formed by the junction of the nasal and naso-rostral plates. Ocular plate large, irregularly shaped, many angled, its inferior extremity slightly truncated, and forms a portion of the upper lip, the part of the lip immediately in front, between lower edge of ocular and hinder edge of rostral, formed by a somewhat irregular, triangular, labial plate and a larger one, which lies behind the ocular plate, constitutes the hinder portion of the lip; the last is of considerable breadth, and extends upwards till it reaches the lower edge of the parietal, which is also of considerable size. The anterior frontal, the frontal, and the interparietal plates six-sided, and differ only from the scales of the body in being smaller and rather longer in proportion to their breadth. Vide Plate LIV. figs. 17 to 20. Eyes distinct, and situated close to where the under edge of the supra-ocular joins the hinder edge of the naso-rostral plate. Length from nose to base of tail 7 inches 6 lines; length of tail $6\frac{1}{2}$ lines.

Inhabits the interior of Southern Africa, and is generally found under large flat stones, or other bodies lying on the surface of the earth.



VIPERA ATROPOS.

Reptilia. Plate 92.

VIPERA (ECHIDNA) ATROPOS.—LATIN.

REPTILIA.—PLATE LII.

V. superne brunneo-flavus, inferne sordide flavus; dorso lateribusque maculis nigro-brunneis albo-marginatis, seriebus quatuor dispositis; abdomine fasciis transversis subnigris notato; capite cordiforme; naribus prope nasi apicem.

COLUBER ATROPOS, *Linn*, Mus. Ad. Fred. i. p. 22, t. 13, fig. 1.

COBRA ATROPOS, *Laurent*, Reptilia, p. 104.

VIPERA ATROPOS, *Lat*. Rept. iii. p. 334; *Daud*. Rept. iv. p. 210.

VIPERA MONTANA, *Smith*, Ed. Phil. Journal.

COLOUR, &c.—The ground colour of the upper and lateral parts of the head, of the back, and of the sides intermediate between brownish purple-red and yellowish brown; the top of the head variegated with two longitudinal liver-brown stripes united behind on the hindhead to a large blotch of the same colour, from which proceeds a short similar coloured stripe along each side of the neck. Back and sides marked with four rows of liver-brown spots, those of the two middle rows crescent-shaped and distinctly edged with reddish white, those of the lateral rows smaller, somewhat quadrangular, and also edged with reddish white, the edgings of the upper and lower sides of these spots are connected by stripes of the same colour, and so form two light coloured and waved lines on each side of the body. The colour of the sides beneath the lowermost line pale yellowish brown freckled with small liver-brown spots. Abdominal plates rusty straw-yellow, partially crossed by closely set blackish green bars, and the plates at each extremity marked with a liver-brown spot; subcaudal scales, each marked with a large blackish green spot. Each side of the head with an oblique white stripe which commences at the hinder angle of the eye, and terminates on the upper lip, the latter as also the lower lip white, spotted with liver-brown. In many specimens the white stripe which proceeds from the eye is margined behind with one of liver-brown, and also in many there is a clear white blotch near to the nose immediately over the upper lip. Each of the dark stripes of the head is edged externally with a white stripe.

FORM, &c.—Body robust and tapered slightly towards the head and the

VIPERA ATROPOS.

tail, the former large, flat, heart-shaped, very broad posteriorly, and much wider than the neck; the sides of the head behind the eyes much bulged, the head anterior to the eyes narrow, and the latter situated immediately in front of the prominent temples; they are small, deep-seated, and with vertical pupils. The eyebrows are on a level with the upper surface of the head; opening of each nostril encircled by a slightly prominent ring of a horny rough texture, and nearer to the nose than the eye; rostral plate large, triangular, and covers the apex of the nose. Scales about nostrils, and between eyes and nostrils, irregular and small, on sides of head behind eyes, and over the plates of the upper lip ovate, the former strongly carinated; plates of upper and lower lip eleven, the three anteriormost of the former very small. Scales on the anterior portion of the upper surface of the head small, subcircular, or ovate, and rather convex or raised, of middle and hinder portions oval and strongly carinated. Scales of back and sides ovate and carinated, those of the two rows towards the abdominal plates the largest, and the keels scarcely visible on the row nearest to the plates. Tail short, subcylindrical, slender, and blunt at the point, covered above and on the sides with ovate scales strongly carinated, below with two rows of large, six-sided, smooth plates. Abdominal plates rather narrow, in many specimens double towards the head. Abdominal plates 134; subcaudal plates twenty in each row. Length of specimen described, from head to base of tail, 20 inches; length of tail 2 inches.

Specimens of this snake have been found in every district of Southern Africa which has yet been visited by Europeans. In the colony it is well known to the inhabitants, by whom it is designated *Berg adder*, from the circumstance of its being generally found on the sides of hills or upon high grounds. Like the other species of the genus, it is inactive, and rarely bites, or attempts to injure men or even animals not suitable for its food, unless assailed, trod on, or otherwise excited. Its poison is less virulent than that of other species of the genus, even of smaller size. The specimen described may be considered as having attained rather an unusual size—sixteen to eighteen inches may be regarded as a more common length.



VIPERA ATROPICOIDES.

Reptilia - Plate 53.

VIPERA (ECHIDNA) ATROPOIDES.—SMITH.

REPTILIA.—PLATE LIII.

V. capite, dorso, lateribusque purpureo-griseis; capite strigis duabus longitudinalibus variatis; dorso maculis nigro-brunneis in sericibus duabus notatis; lateribus, maculis, lineis nigro-brunneis maculisque albis variegatis; abdomine nigro-viridi, flavo-sparso; capite depresso subovato; naribus prope oculos.

COLOUR.—The upper surface of the head, the back, and the sides intermediate between brownish purple-red and lilac-purple, the first variegated with two longitudinal stripes of light umber-brown, the back with two rows of spots of the same colour, some semicircular, others somewhat quadrangular, each spot edged inferiorly with a broad whitish blotch; sides mottled with irregular pale liver-brown blotches, a more or less zig-zag liver-brown line and many irregular whitish spots. Sides of the head the same colour as the back, variegated with two oblique stripes proceeding from the hinder edge of the eye to the angle of the mouth, the hindermost liver-brown, the other which adjoins it nearly pure white. Under surface of head straw-yellow; the abdomen and under surface of the tail light blackish green, freckled with yellow.

FORM, &c.—Figure rather robust; body very thick at the middle, slightly tapered towards the head and the tail; the latter is short, very slender, and pointed. Head depressed, broad, subovate, and behind considerably wider than the neck; temples convex, as are also the upper lips and sides of the head under the eyes; the latter are prominent, of moderate size, situated rather near to each other, and the eyebrows over them slightly projected above the level of the upper surface of the head. Nostrils small, circular, nearer to the eyes than the tip of the nose, and without a distinct ring around the opening, the latter is directed outwards and slightly backwards. Scales of the upper surface of the head towards the nose subcircular, elsewhere ovate, and in both situations carinated; scales of the back and sides ovate, those towards the abdominal plates largest, on the back and upper two-thirds of sides strongly carinated, on the lower third slightly. Plates of abdomen

VIPERA ATROPOIDES.

long and rather narrow. Scales of the upper and lateral surfaces of the tail, as also those of its point, ovate, pointed, and strongly carinated; plates of under surface smooth and in two rows. Abdominal plates 126; subcaudal plates fifteen in each row. Length of specimen described, from head to base of tail, $12\frac{1}{2}$ inches; of tail, $1\frac{1}{4}$ inch.

The individual figured is the only specimen of the species I have yet seen, hence it must be regarded as a snake far from common in the districts of Southern Africa at present known. That in my possession was procured in the vicinity of a missionary institution about forty miles to the eastward of Cape Town, and was given to me by the zealous superintendent of the establishment.

In many respects it resembles *Vipera atropos*, but the form and lesser size of its head, the position of its eyes, the character of its eyebrows, the absence of anything like a regular raised ring to the nostrils, and the relative position of these in reference to the eyes and nose, constitute conspicuous differences.

Fig. A



ONYCHOCEPHALUS VERTICALIS. Fig. A

Fig. 1 to 4. Head of *Onychocephalus*, De Lalande. 5 to 8 D° of *Onychocephalus*, Buhronii. 9 to 16 D° of *Onychocephalus*, Capensis.

17. 20 D° of *Onychocephalus*, verticalis. 21 to 25 D° of *Onychocephalus*, verticalis.

Reptilia, Plate 54

ONYCHOCEPHALUS VERTICALIS.—SMITH,

REPTILIA.—PLATE LIV. FIG. A.

O. Viridi flavus; scuto rostrali postice, dilatato, margine posteriori curvato; scuto preoculari angusto; labio superiori sentis quatuor; caudâ brevi, apice aculeata.

LONGITUDO e nasi apice ad basin caudæ 6 unc. $7\frac{1}{2}$ lin.; caudæ $2\frac{1}{4}$ lin.

COLOUR.—The body and tail wine-yellow, tinted with pale, buff-orange; head pale sienna-yellow.

FORM, &c.—Figure moderately slender; body and tail cylindrical; head slightly depressed; nose rounded; the first third of the body not quite so thick as the last two-thirds; the thickness of the latter rather less than that of a common sized goose quill; tail slightly curved, suddenly tapered to a point, which consists of a short conical spine. The rostral plate is broadest towards its hinder extremity, and its edge behind is arched; naso-rostral plate broad below, narrower above, where, in this species, a portion of each is in contact with its fellow of the opposite side, and so separates the anterior frontal from the rostral plate; preocular plate narrow; ocular plate irregular, rather large, and several sided, its under edge resting partly on the third labial scale, but principally on the fourth; anterior frontal plate the same shape as the frontal and the scales of body, but considerably larger; the supra-ocular and parietal plates narrow, irregular, and in one direction, the transverse, of considerable length, the prolonged acute point of the ocular plate is inserted between them. The eye is situated in the angle formed by the union of the hinder edge of the supra-ocular and pre-ocular plates. The plates of the upper lip, four, the two anteriormost separated from each other by the intervention of a narrow, square portion of the rostral plate; these and the one next to them on each side are small; the third is rather larger, and the fourth much the largest. Scales of the body rather small, and six-sided,

ONYCHOCEPHALUS VERTICALIS.

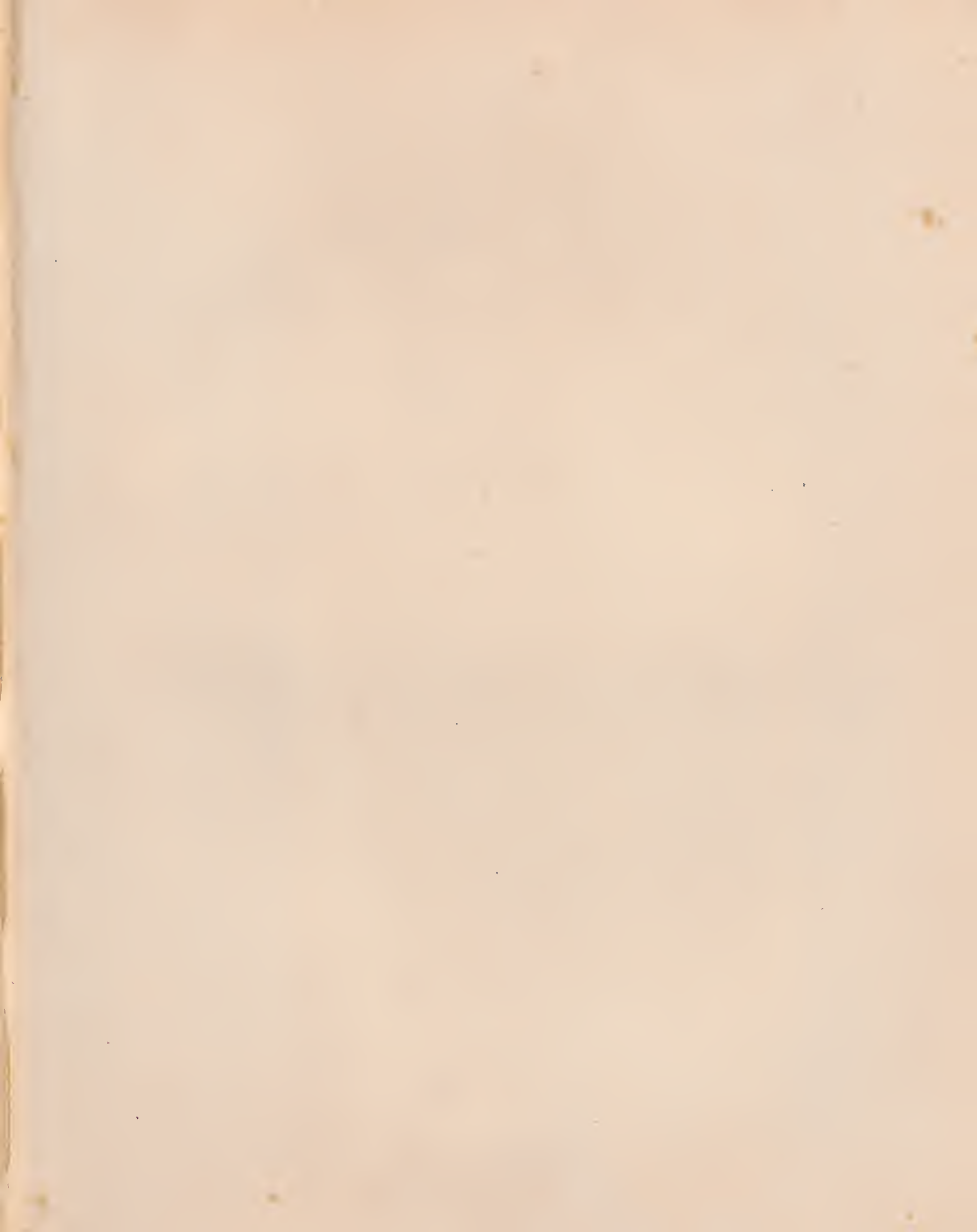
arranged in twenty-three or twenty four longitudinal rows ; those of the tail, in about twenty rows.

Length from nose to anus, 6 inches $7\frac{1}{2}$ lines ; length of the tail, $2\frac{1}{4}$ lines.

Inhabits the interior districts of South Africa, and has not, so far as I know, been found within the boundaries of the Cape Colony. Like the other species, it lives under stones, or in the ground. It offers characters by which it is easily distinguished from the other species yet described. First,—the form of its rostral plate, which behind is laterally swelled, so as to form what is termed spatulate ; secondly, the junction superiorly of the naso rostral plates, which peculiarity, as well as the shape of the rostral plate, will be best understood by referring to Plate LIV. Fig. 17.

NOTE.—Figs. 13—16, of Plate LIV. represent the head, &c. either of a variety of *Onychocephalus Capensis*, or if of a distinct species, one very closely allied to it. The chief differences will be seen to consist in the form and size of the scales behind the head plates, and in the arrangement of the scales behind the mouth ;—in *Onychocephalus Capensis*, the scales, it will be observed, are larger and more regularly disposed than in the other.

Fig. 25 of the same Plate is without the division in the upper part of each naso-rostral plate, which is observed in fig. 21. I am disposed to consider the arrangement in 25, as the more common one, and that in 21 as a variety.





HETEROLEPIS CAPENSIS.

Reptilia, Plate 55.

HETEROLEPIS* CAPENSIS. SMITH.

REPTILIA.—PLATE LV.

H. *superne pallide rubro-flavus rubro-brunneo-maculatus, inferne viridi-albus ochreo-tinctus. Capite antice subtruncato; scutis submentalibus intermediis magnis; scuto frontali magno, sexangulo, antice lato postice acuminato.*

COLOUR.—The upper and lateral parts of the body pale buff-orange, freckled with a colour intermediate between chestnut-brown and buff-orange, the centre of each scale being of the mixed tint; the upper part of the head anteriorly and the frontal and occipital plates clouded with light reddish brown; the scales on the tail of the same colour as that with which the back and sides are freckled. The sides of the head, the lower jaw, the row of scales on each side next to the abdominal plates, and all the under parts of the body and tail intermediate between pale cream-yellow and greenish white, darkest on the under surface of the tail; the under parts with a strong mother-of-pearl lustre. Iris to appearance greyish blue.

FORM, &c.—Head subovate, rather broader than the neck, its sides slightly convex; the nose truncated; body carinated above, convex on the sides, and flat beneath, a section exhibiting a subtriangular form; the greatest thickness of the body about midway between the nose and the point of the tail. The scales along the centre of the back are large and six-sided, their lateral parts bent downwards, and on each side, where the angle from the flexure is formed, there exists a subserrated keel; the other scales are small, ovate, and, with the exception of those adjoining the abdominal plates, have each a single subserrated keel; many of the scales of the back and sides are also slightly rugose, from their surface being thinly studded with minute granular eleva-

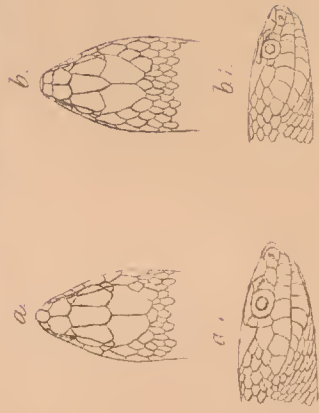
* *Ch. Gen.*—Head broader than the neck. Body, above carinated. Sides convex. Abdomen flat. Section of body subtriangular. Anterior teeth of maxillæ and lower jaw larger than the rest. Nostrils situated in the suture between nasal and fronto-nasal plates. Eyes small, pupil circular. Post-ocular plates two. Scales, forming the row along centre of back, large, six-sided, and each with two subserrated keels, the other scales ovate and with one subserrated keel. Abdominal plates with two angles, one towards each extremity.

HETEROLEPIS CAPENSIS.

tions. Preocular plate vertically lengthened, frenal quadrangular; frontal plate large and slightly six-angled, anteriorly very broad, posteriorly pointed; occipital plates large, as is also the plate immediately behind post-ocular plates; the central pair of submental plates the largest. Plates of upper lip seven, exclusive of rostral; of lower lip eight without the mental. Abdominal plates with two angles, one towards each extremity; the point of the tail armed with a small, rather obtuse, horny spine. Abdominal plates 241; subcaudal scales 64 pairs; rows of scales at the middle of the body 15. Length of the body $17\frac{1}{2}$ inches; of tail 3 inches 4 lines.

This snake inhabits the eastern districts of the Cape Colony, and, so far as I know, only few specimens have yet been obtained. The colours as given are those presented by a specimen preserved in spirit, but I am much disposed to believe they are not those exhibited by the reptile when it is alive. It belongs to the group which includes the true *Lycodons*, and, like them, has the teeth at or near the anterior extremities of the maxillæ and of the lower jaw larger than the others, and not in the same line with them, being more external, from the circumstance of each jaw forming a sort of elbow just behind these large teeth.

Another species of this genus has lately come under my notice—the specimen is in the British Museum—the following are its characters:—*Heterolepis Poensis*. Head rather depressed, anteriorly sub-spatulate, posteriorly wider than the neck; frontal plate small, six-sided, and pointed posteriorly; frenal plate very small; colour above blackish-green; lips and under parts intermediate between orange-yellow and king's yellow; rows of scales on body, 15; abdominal plates, 256, the last very broad; subcaudal scales 67 pairs. Length from the nose to the anus, 34 inches; length of tail, 7 inches. Inhabits Fernando Po.



TRIMERORHINUS RHOMBEATUS

Koptlia, Plate 56.

TRIMERORHINUS * RHOMBEATUS.

REPTILIA.—PLATE LVI.

T. superne pallide subaurantius, dorso lateribusque antice seriebus macularum tribus et postice tæniis tribus notatis; maculis tæniisque nigro-griseis, maculis nigro-marginatis; inferne subflavus, maculis lividis variegatis; labii superioris scutis octo, inferioris undecim; lori scuto quadranguli.

COLUBER RHOMBEATUS. Lin. Mus. Ad Fr. 1, p. 27, tab. 24, fig. 2.

CÆLOPELTIS RHOMBEATUS, Wagler. Natur. Syst. der Amph. p. 189.

SCHAAP STICKER of the Cape Colonists.

COLOUR.—The upper surface of the head greenish-brown, or pale orange-coloured brown; the back and sides intermediate between pale reddish-orange and sienna-yellow,—in some specimens almost pure sienna-yellow; the upper lip and the under parts of the body and tail intermediate between sienna and cream-yellow; the abdominal plates variegated with small blackish-green blotches along their hinder edge, especially towards each extremity; the subcaudal scales are also marked with like blotches, which, as individuals advance in age, become fainter, and are at length only indistinctly visible towards the head. On the back and sides the variegations are numerous and strongly marked, consisting, on the first half of the body, usually of three rows of greyish-black spots, and on the last half and tail, of three more or less regularly defined greyish-black stripes. The spots are of considerable size, irregular in shape, the dorsal ones the largest, each of them is edged with a ring of liver-brown; the spots of the middle row, especially towards the head, frequently coalesce and form a short irregular band. The waved line which is often observed on the back posteriorly, is commonly prolonged for some distance on the upper surface of the tail; and the lateral

* *Ch. Gen.* Head quadrangular; nose pointed. Hinder tooth of maxillæ long, curved backwards, pointed, and grooved from base to apex; other teeth small. Nostrils formed by three scales. Pupil circular. Frenal plate one; postocular plates two. Scales of body rather long, narrow, ovate, imbricate, and arranged in oblique transverse rows. Plates of abdomen long. Body subcylindrical, below slightly flattened. Tail cylindrical and pointed.

I have removed this snake from *Cœlopeltis* of Wagler, as it does not exhibit the hollow in the scales, which is characteristic of his genus.

TRIMERORHINUS RHOMBEATUS.

stripes, which generally commence about the middle of the body, sometimes extend almost to the point of the tail. From the eye a stripe of the same colour as the spots of the back, extends backwards to the neck, and in many specimens inclines inwards and joins its fellow of the opposite side, and so forms, on the hinder part of the head, a mark of a shape like a horse-shoe. Besides these spots and stripes, there is also on each side a narrow livid-greenish line, extending from head to anus, along the row of scales nearest to the abdominal plates; eyes brown.

FORM, &c.—Head rather small, subquadrangular, the temples bulged, the hind head rather broader than the neck, the nose pointed; the loreal plate quadrangular; the preocular plate narrow inferiorly, broad and subquadrangular superiorly; plates of upper lip, exclusive of rostral, eight; of lower, not including mental, eleven; temporal plate long and irregularly six-sided; rostral plate narrow superiorly, and reaches to the anterior edge of the fronto-nasal plates, inferiorly rather broad and the under surface concave; frontal plate long and five-sided, the two sides forming the hinder extremity short, and only slightly inclined backwards. Body subcylindrical, inferiorly rather flattened; the scales long, narrow, subovate, much imbricate, and arranged in seventeen oblique transverse rows; tail long, cylindrical, and tapered to a point, which consists of a horny subacute spine. Abdominal plates 168 to 170. Subcaudal scales 70 to 75. Length of some specimens, 24 inches, of which the tail generally measures about 6 inches, or one-fourth of the total length.

This snake occurs throughout the whole of Southern Africa, and is generally found in dry barren situations, but not unfrequently also in grassy districts. It moves from place to place with great rapidity, and feeds on insects and reptiles of a size it can secure and devour, such as the small lizards which abound in the situations in which it is common.

The form of the rostral plate and its extension on the head, till it reaches the fronto-nasal plates are, in conjunction with the mode in which the nostrils are formed, characters which at once denote the genus.

The *Schaap Sticker* varies considerably in colour, and the markings differ in different individuals. In young examples, the spots on the body are more regular and better defined than in those of advanced age, the dark rings are less manifest, and the ground colour is commonly pale yellowish-grey. In the young, and also in the adults, the colour of the belly and under surface of the tail is often of a livid greenish tint, and variegated with dark blackish-green blotches, as already noticed.



AMPHORHINUS MULTIMACULATUS.
(Reptilia — Plate 57.)

AMPLORHINUS* MULTIMACULATUS.—SMITH.

REPTILIA.—PLATE LVII.

A. *superne pallide viridi-brunneus, macularum nigrarum seriebus quatuor variegatus, infra livido-grisens; corporis squamis seriebus septemdecim dispositis; scutis abdominalibus 164 ad 170; squamis subcaudalibus 65 ad 70; caudæ apice aculeatâ.*

COLOUR.—The upper surface of the head either a light orange coloured brown, or a tint intermediate between oil-green and broccoli-brown. Back and sides oil-green, tinted faintly with light chestnut-brown, the latter most distinct on the back. Four rows of quadrangular liver-brown spots, two on the back and one on each side, the spots of the middle or dorsal rows the largest and most regularly formed. In all young specimens and in some adults, the back and sides are further variegated with short delicate white lines, distributed irregularly over the surface, and are, when closely examined, found to depend on each scale being finely edged on both sides towards its base with white. On each side, between the dorsal and lateral rows of spots, there is a more or less distinct light greenish yellow line, not however always discernible. In some specimens a greater or less number of spots are observed on the tail, in others it is without spots. Sides and under surface of head greenish yellow, preocular plate pale cream-yellow. Under parts of body and tail, livid greyish blue.

FORM, &c.—Head subquadrangular, the temples rather prominent, the nose pointed, and the hind-head slightly broader than the neck; body rather slender, subcylindrical, the greatest thickness about midway between nose and anus; tail long, tapered, and its extremity armed with a slender pointed horny prickle. The frenal plate is irregularly four-sided, the preocular plate

* *Ch. Gen.* Body slender and subcylindrical. Head slightly wider than the neck, subquadrangular and anteriorly subacute. Teeth small; the last tooth of maxillæ considerably the largest, inclined backwards, and grooved from base to apex. Nostrils in the middle of a scale. Eyes small, pupil circular. Postocular scales two. Frontal plate pointed behind, and slightly contracted about midway between its extremities. Scales small, narrow, subovate, and disposed in oblique transverse rows. Tail tapered to a point, the latter consisting of a horny spine.

AMPLORHINUS MULTIMACULATUS.

narrow inferiorly, broad and somewhat quadrangular superiorly; temporal plates rather long and irregularly six-sided; the plates of the upper lip exclusive of rostral 8, of lower lip exclusive of mental 11. The scales of the body are rather long, narrow, ovate, much inbricate and disposed in oblique transverse rows, 17 in number, about the middle of the body; the scales of the upper parts of the tail are six-sided, the anterior and posterior sides very short. Abdominal plates 164 to 170; subcaudal scales 65 to 70. Length from nose to anus 19 inches, length of tail 4 inches.

This snake is rarely obtained in Southern Africa; the few specimens I procured were found in arid barren localities, where little vegetation, save a scanty covering of brushwood, existed.

In various respects it resembles what is familiarly known in the Cape Colony by the name of Scaap Sticker (*Trimerorhinus Rhombeatus*); but on comparing specimens of our present species with the one just mentioned, it will be readily perceived that there are characters connected with the arrangement of the scales of the head which justify its being placed in a separate group. The chief differences are, first, the rostral plate in *Trimerorhinus* extends upwards to the fronto-nasal plates, and so separate completely the naso-rostral plates; and secondly, the nostril is formed by the intervention of three plates, whilst in *Amplorhinus* it is situated in the middle of the nasal plate. As regards internal parts, the anatomical characters of the *viscera* are very different in the two.



LAMPROPHIS RUFULUS
(Reptilia. — Plate 58)

LAMPROPHIS* RUFULUS.—SMITH.

REPTILIA. PLATE LVIII.

L. *superne viridi-brunneus, inferne flavus aliquando livido-viridi-variegatus*; corporis squamis seriebus septemdecim dispositis; scutis abdominalibus circa 170; squamis subcaudalibus 70. *Coronella rufula* Schleg *Essai sur la Phys. des Serpens*, page 74.

COLOUR, &c.—The upper surface of the head, the sides of the head above the lip, the back and sides of body and tail intermediate between deep orange coloured brown and hair-brown; the upper and lower lips, and the under parts of the head, body, and tail intermediate between lemon yellow and ochre-yellow—the belly and under surface of the tail in some specimens variegated with a livid greenish band or row of spots, extending along its centre; surface generally with a strong gloss. Eyes deep brown. The preceding are the colours of full-grown individuals; in young, and in those of middle age, they are rather different, the back and sides in these being of a tint intermediate between deep orange-coloured brown and yellowish brown; the under parts yellow as in the adults, only not so bright: the colours in the specimen represented are those most commonly observed.

FORM, &c.—Head rather long, the hind-head slightly broader than the neck, the nose arched, the sides slightly convex; nostrils vertical and narrow; eyes moderately large, very convex, and project slightly beyond the palpebral plates; rostral plate arched above, naso-rostral plates narrow, anteriorly rather broader behind; frontal plate five-sided, posteriorly pointed

* *Ch. Gen.* Head rather lengthened and depressed, hind-head broader than the neck, nose slightly arched, sides of head convex. Lower jaw thin. Teeth small, and uniform, the hinder ones of maxillæ the smallest. Nostrils vertical, narrow, and valvular, situated near the middle of the nasal plate.† Eye large and convex, pupil circular. Body subcylindrical, below rather flattened. Section of tail subtriangular. Scales and plates with a strong mother-of-pearl gloss.

† In some specimens the epidermal covering consists of more than one portion, the part posterior to the nostril being divided from that anterior to it; and in all cases, even when the covering is entire, there is a narrow vertical furrow below and above the opening.

LAMPROPHIS RUFULUS.

from the two hinder sides converging to a point, the width of the scale rather greatest where the convergence commences; nasal plate rather elongated and quadrangular; frenal short and quadrangular; preocular plate vertically elongated four-sided, the upper side rather wider than the lower; postocular plates small and quadrangular; temporal scales large, and five or six-sided; plates of upper lip, exclusive of rostral, eight; of lower lip, exclusive of mental, eight; sub-mental plates, two pairs, each short, and rather broad. Body subcylindrical, rather flattened below; scales six-sided, and arranged in oblique transverse rows, nineteen rows at the middle of the body, where it is thickest; scales on the tail shorter and broader than those of the body, somewhat six-sided, the anterior and posterior sides much the shortest; ventral plates, from side to side, rather long and towards each extremity slightly inclined upwards; tail below flat, its apex a horny pointed prickle. Abdominal plates, 170. Subcaudal scales, 70 pairs. Length from nose to anus, two feet. Length of tail, seven inches.

This snake has an extensive range, being found in damp localities throughout the entire of Southern Africa. It is generally discovered in marshy spots, and on the banks of rivers, and is occasionally observed actually in water trying to capture frogs, &c., which form its favourite food.

The circumstance of the hinder maxillary teeth being smaller than those more in front, requires this snake, according to the arrangement proposed by Dumeril and Bibron, to be classed in their division.* (AZEMIOPHIDES.)

The eyes of this reptile being only partially covered superiorly, by the palpebral plates, admit of a certain degree of vision upwards, in which respect it resembles the Homœpidæ.

* Herpetologie General, par Dumeril et Bibron, tom vi. page 69.



DENDROPHIS SEMIVARIEGATA.

(Reptilia—Plate 59.)

DENDROPHIS (PHILOTHAMNUS*) SEMIVARIEGATA.—SMITH.

REPTILIA. PLATE LIX. ADULT.

D. *supernae subolivacea, antice fasciis nigris, undatis, variegatis; inferne subflava viridi-tincta; corporis squamis in lineis obliquis plus minus imbricatis dispositis.*

COLOUR.—The upper and lateral parts of the head and the first third of the back and sides intermediate between bluish green and grass-green, the remainder of the back and sides, and the upper and lateral parts of the tail intermediate between oil-green and wax-yellow, the first third of the back thinly variegated with narrow, waved, ill-defined, liver-brown bars. The edges of the lower jaw, and the under surface of the head and body dull yellow, with a bluish green tint shining through it, the under surface of the tail with a predominance of the latter colour. Eyes deep reddish brown, the pupils edged with a narrow ring of a silvery colour.

FORM, &c.—Figure rather slender, body slightly thickest at its middle; tail long, tapered, and pointed; head rather elongated and subovate, its sides perpendicular and the nose moderately wide and slightly arched; the temples rather prominent, and the hind-head considerably wider than the neck; frontal plate broad at the base, and much contracted towards the point, the latter triangular, and inserted between the occipital plates; nasal plate square, its hinder edge crescentic, the concavity forwards; naso-frenal larger than the nasal, and forms the hinder boundary of the nostril; frenal plate narrow, its hinder edge oblique, the slope from above downwards and backwards. Pre-ocular plate with the anterior edge inferiorly sloped backwards to conform to the frenal plate; post ocular plates, two, small and quadrangular; plates of temples, large, and in two rows. Plates of upper lip, nine, exclusive of *rostral*, the first five quadrangular, and much the smallest; the sixth has an elbow extending upwards behind the eye. Plates of the lower lip, not including the mental plate, eleven, they increase in size to the sixth, which is much the largest, and from that decrease to the angle of the mouth. The scales of

* *Ch. Subgen.* Form slender. Hind-head broader than the neck. Teeth of maxilla small, the last rather largest, not grooved. Nostrils formed by nasal and naso-frenal plates. Frenal plate single. Pupil circular. Scales of body arranged in oblique rows, the hinder edge of each row overlapping more or less of the row behind it. Abdominal plates angular, or keeled towards each extremity.

DENDROPHIS (PHILOTHAMNUS) SEMIVARIEGATA.

the body are subovate, and disposed in oblique rows across the body, the rows most distinct towards the head ; the scales of the rows laterally overlap each other more or less, that is, the dorsal edge of each scale lies more or less over the outer edge of the one inside of it. The points of the scales of each row, for they do not laterally overlap to a degree to render the hinder edge of the row quite continuous, extend slightly beyond the base of those of the following row, or in other words, they are imbricate. Towards the tail the scales increase in width, and cease to exhibit the arrangement observed towards the head ; they are large, six-sided, slightly imbricate, and not disposed in rows, as towards the head. Each row towards the latter consists of fifteen scales, the middle or dorsal one rather differently formed to those on each side of it. Body sub-cylindrical above, flattened below ; tail rounded superiorly, strongly angular at each side, and very flat beneath, its apex a slender horny prickle. Abdominal plates, 207 ; subcaudal scales, 112 ; tail nearly one-fourth of the whole length ; adult specimens from 3 feet to 3½ feet. The abdominal plates have a keel or angle towards each extremity, and their hinder edge at the angles is emarginate.

YOUNG. Plate LX. In most specimens the ground colours resemble those of the adult, but the number of black bars are more numerous, and extend over a greater portion of the body. The lower portions of the sides are variegated with small black spots, eyes coloured as in the adult.

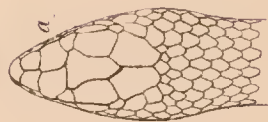
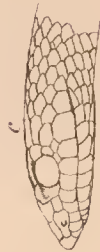
A full grown specimen of this species was obtained on the Bushman Flat, and several young ones, in heaps of stones, in the country beyond Kurrichaine. It climbs underwood with facility, and upon it, probably, seek its food.

This and two other South African snakes (to be hereafter described) may prove only aberrant species of *Dendrophis*, yet, in the absence of sufficient materials to enable us to judge correctly, I have thought it best to regard them, for the present, as members of a subordinate group. They exhibit many of the characters of the true *Dendrophis* ; and taking *D. picta* and *Boeii* as typical species, we find in *Philothamnus* the same sort of teeth ; the nostrils similarly formed ; the same form of pupil, and the same keel or angle towards each extremity of the abdominal plates. The arrangement and form of the scales, particularly towards the head, are, however, very different. In both groups they are arranged in rows ; in *Dendrophis*, the rows extend nearly directly across the body ; in *Philothamnus*, they are more or less oblique ; in *Dendrophis*, the scales overlap each other laterally, to admit of the free distension of the skin ; in *Philothamnus*, if that occurs, it is only to a very trifling extent ; in *Dendrophis*, the points of the scales are so close on each other that the hinder edge of each row of scales appears a continuous line ; in *Philothamnus*, the points are apart, so that the line behind appears serrated or broken. This peculiarity in the arrangement of the scales proclaims the species, of which we have formed a subordinate group, to be either typical species of an aberrant group, or aberrant species of a normal group.



DENDROPHIS SEMIVARIEGATA. (Young.)

(Reptilia—Plate 60.)



CORONELLA MULTIMACULATA

Reptilia, Plate 61.

CORONELLA MULTIMACULATA.—SMITH.

REPTILIA.—PLATE LXI.

C. superne pallide rubra carneo-tincta et maculis rubris, fasciolisque brevibus variegata; inferne subflava, scutis postice striis brunneis brevibus notatis; corporis squamis in seriebus 17 dispositis.

LONGITUDO è nasi apice ad basin caudæ 11 unc. 2 lin.; caudæ 1 unc. 10 lin.

COLOUR.—The upper and lateral parts of the head, body, and tail, intermediate between tile-red and lake-red, the tint pale. The upper lip, the lower lip, the abdomen, and the under surface of the tail, cream-yellow. The upper and lateral parts of the body and tail are, besides, freely variegated with other colours, the remaining parts more sparingly, some not at all. On the sides of the body where the variegations are most abundant, they consist of numerous small brown spots not exactly arranged in rows, yet, when closely observed, they appear, on some places at least, placed in three series; on the tail, where they also exist, and are rather larger, they are less regularly disposed, and the centre of many of them, as well as of most of those of the sides, is of a faint lilac-purple hue. Immediately behind the head, on the back, there exists a narrow curved brown line, assuming somewhat the form of a horse-shoe, or of the letter U reversed. Behind this mark, the middle of the back is crossed by a number of short lilac-purple bars, each with a small liver-brown spot on its anterior and posterior edge. In some individuals there is an oblique liver-brown line crossing the temple, originating at the hinder corner of the eye, and terminating behind the angle of the mouth. The variegations on the abdomen consist of short transverse brown stripes on the hinder margin of some of the plates; on those on which they occur there is either one spot towards each extremity, or only one towards one of the extremities; besides these stripes, the hinder margin of each plate is of a greenish yellow hue. The under surface of the tail is without variegations.

FORM, &c.—Figure slender; body everywhere nearly of equal thickness.

CORONELLA MULTIMACULATA.

Head small, quadrangular, and tapered towards the nose, the latter nearly pointed; the hind-head of the same width as the neck; the palpebral plates arched, and project considerably above the frontal plate. The rostral plate, like a sheath, covers the apex of the nose; the frontal plate truncated anteriorly, triangular behind, and concave on each side. Nostrils narrow, more or less crescent-shaped, and situated at the middle of the nasal plate, which is narrow and of considerable length; frenal plate quadrangular and short; the post-ocular plates narrow, the lowermost longest; gular plates nearly of equal size. Plates of upper lip, exclusive of rostral, eight, the hindermost but one the largest, of lower lip, nine, the sixth, counting from the mental plate, the largest. Eyes small, pupil circular. Scales of body subovate, and slightly imbricate, along the middle of the back they are very narrow, and their figure intermediate between ovate and rhomboidal. Scales of the tail six-sided, very slightly imbricate; point of the tail aculeated. Rows of scales on the body, 17; abdominal plates, 168; subcaudal scales, 40 pairs; tail about one-seventh of the total length, the specimen described being, head and body, 11 inches 2 lines, tail, 1 inch 10 lines.

The only specimens of this species I have seen were obtained in the country of the Bushmen, near to the Orange River. The two specimens I possess were found by myself in the district above mentioned; and I was told by the natives they were never seen but on sandy tracts, such as those on which I discovered them. According to my informants, they burrow in the sand, and I am disposed to believe they state truly their habits, as the nose is certainly fitted to penetrate with facility all kinds of loose soil.



CYSTIGNATHUS SENEGALENSIS.
Reptilia, Plate 62.

CYSTAGNATHUS SENEGALENSIS.—DUM AND BIB.

REPTILIA.—PLATE LXII.

C. *superne flavus*, dorso fascia longitudinali brunneo-rubra variegato; lateribus extremitatibusque externe maculis oblongis brunneo-rubris notatis; maculo ejusdem coloris ante etiamque post oculum; partibus inferioribus subochreis, et subgranulatis.

Cystagnathus Senegalensis, Dum et Bib.; Herpet Gener., tom. viii. p. 418.

COLOUR.—The upper and lateral parts of the head and body, and the outer and hinder parts of the extremities, gamboge-yellow, variegated with light umber-brown; the variegations are a dorsal band, a number of longitudinal blotches on the sides, an oblong spot, extending from the eye to the nose, and irregular-shaped spots on the extremities. The dorsal band commences a little behind the nose, and terminates on the sacrum, is pointed at its origin, and increases in width as it proceeds backwards. The longitudinal blotches on the sides are six or nine, generally arranged in two irregular rows, one spot always situated immediately behind the outer canthus of the eye, and close to the tympanetic membrane, which is likewise dark coloured; another spot generally at the base of each hinder leg: the spots on the extremities are smaller, and are freely scattered over the outer and hinder parts, those that occur near to and on the toes being very small: all the spots, as well as the dorsal band, are edged narrowly with a darker tint of the same colour. The lower portion of each side of the body, below the longitudinal blotches, is finely mottled with small umber-brown freckles. The under parts of the head and body, and the inner surface of the extremities, intermediate between sienna-yellow and ochre-yellow. Eyes pale bottle-green, finely freckled with yellow, the freckles with a strong metallic lustre.

FORM, &c.—Figure ovate, sides bulged, extremities short; head depressed, broad behind, narrower anteriorly, the nose obtuse and rounded; the central portion of the upper surface of the head, between nose and eyes, triangular, the apex slightly blunt; sides of the head divergent. Eyes prominent, situated nearly over the angle of the mouth; pupil vertically ovate; tympanum small and oval, or subcircular. External nostrils small, situated one on each side of the tip of the nose; internal ones considerably larger, and subcircular. Two small groups of teeth on the *vomer*, near the middle of the palate, directly between the inner nostrils, and nearly parallel to each other. Tongue oblong, cordiform (fig. *b*), its sides and hinder third free, its centre and point adherent to the parts beneath it. Anterior extremities slender, and the longest toe extends a little behind the anterior edge of the thigh at its base;

CYSTAGNATHUS SENEGALENSIS.

the fingers, four in number, rounded, rather short, blunt at the point, and with a small tubercle under each joint; they are slightly webbed at the base, the second toe from the outside rather the longest, the outermost next in length, the third, and innermost, equal and rather shorter. The hinder extremities are moderately robust, particularly the thigh, and when they are extended along the sides, the base of the longest toe reaches to the tip of the nose; the second toe, reckoning from the outside, is considerably the longest; the outer one and the third nearly equal, and not so long by two joints as the second; the fourth is considerably shorter, and the fifth not quite so long as the fourth; at the base of the latter is a pointed and rather lengthened tubercle, somewhat resembling a rudimentary toe; under each joint a prominent tubercle, as on the fore feet. Under the throat, in the male, is a raised oval disc with loose edges, excepting close to the chin; and on each side of this, towards the posterior extremity, is an irregular depression, bounded by plaited or puckered skin (fig. *a*). The depressions result from a portion of the skin of each side being inverted, by means of the apparatus destined to diminish the size of the cavity for air (*guttural sac*), which exists on each side, under and behind the disc already mentioned. The skin which covers the sac is everywhere puckered or plaited, in order to accommodate itself to the condition of the parts interior to it. The openings by which the air enters the guttural cavity are two short, narrow fissures, one on each side of the lower jaw, a little in front of the angle of the mouth. Lower parts of the sides, and outer portion of the belly, with a number of narrow longitudinal subgranular plaits: middle of the belly with the same description of plaits, only much more delicate; the hinder aspect of the thighs rugose from a like structure. The upper surface of the body, and all the other parts not above noticed, have the skin perfectly smooth. Full-grown specimens generally measure about two inches.

This frog is not found in the Cape Colony, though specimens are occasionally obtained not far beyond it. It lives in burrows, under ground, and is exceedingly noisy during dull weather, or immediately before rain. The noise is no doubt produced by the forcible ejection of the air from the guttural sac, by means of appliances with which the male is furnished; it consists of a very loud and sharp whistle, repeated once or oftener in a minute. Many, perhaps twenty persons, were occupied for hours searching for the individuals which first attracted our notice, but no traces of them could be discovered till a Hottentot, noticing a small hole in the ground, suspected what we were in search of was in it. It was the entrance to a burrow, in which was at least one of the individuals which had caused us such anxiety. The secret having been discovered, we procured many specimens.



BRACHYMERUS BIFASCIATUS.

Reptilia. Plate 63.

BRACHYMERUS* BIFASCIATUS.—SMITH.

REPTILIA.—PLATE LXIII.

B. superne brunneo-niger, dorso fasciis duabus longitudinalibus flavis notato; partibus inferioribus pallide brunneo-rubris, maculis parvis subflavis variegatis; extremitatibus brunneo-nigris, maculis flavis notatis; nasi apice flavo.

LONGITUDO corporis 1 unc. 11 lin.; extremitatum posteriorum 1 unc. 5 lin.

COLOUR. The upper and lateral parts of the head and body, and the whole of the extremities, or only their outer and hinder parts, deep liver-brown, with yellow variegations; on the back the latter are usually four, viz., a narrow line on each side of the back, extending from the eyebrow to near the hinder leg; a small spot on the apex of the nose, and another, much larger, and often cordiform, on the middle of the posterior portion of the back, exactly between the hinder legs. On the upper and hinder aspects of the extremities the variegations are few in number, rather small, and nearly circular, on the under surface they are much smaller, and more numerous. The under surface of the lower jaw and the throat is generally of the same colour as the back, and with or without variegations. The rest of the under parts, and the under surface of the extremities, when not of the colour of the back, pale brownish red, variegated with small closely-set lemon-yellow spots, minute posteriorly. The spots on the sides of the belly are much larger, and of a brighter yellow than those elsewhere. Eyes deep reddish brown.

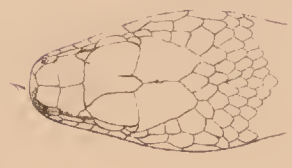
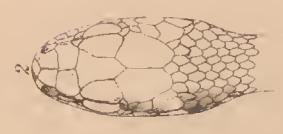
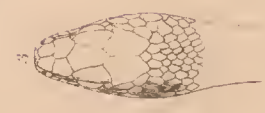
FORM, &c.—Head small, and the sides, in front of the eyes, converge towards the nose; the latter is slightly obtuse and truncated. The body is rather full, the back convex, and the sides prominent. Belly flat; extremities short, and rather slender. Nostrils small, situated on the sides of the head close to the apex of the nose, and open forwards and outwards, each is surrounded with a slightly raised membranous ring. Eyebrows prominent, and arched. Eyes moderately large. Tympanum partially visible, a little behind the infero-posterior part of the eye. The back, posteriorly, between

* *Ch. Gen.* Head small. Jaws and palate without teeth. Tympanum concealed, or very indistinctly seen. No parotids. Pupil circular. Nostrils close to the apex of the nose. Tongue oblong, broadest behind, and slightly emarginate, its hinder third and edge to near apex free. Extremities short; the fore ones with four, the hinder with five free toes, the point of each toe dilated, and anteriorly arched; a small tubercle under each joint. Transverse processes of the sacral vertebræ not much extended.

BRACHYMERUS BIFASCIATUS.

the hinder legs, projects considerably above the base of the thighs, and is of a triangular form, the apex backward. Toes perfectly free to the base, and each slightly dilated at the point. On the fore feet the toes are four in number, the outermost and the third toe, measuring from their base, are nearly of equal length, the second is considerably longer, and the innermost much shorter, and extends but little beyond the base of the third. On the hinder feet they are five, the outermost and third toes nearly of equal length, the second much the longest, the fourth rather shorter than the third, and the fifth much shorter than the fourth. All the toes have a small cartilaginous tubercle under each of their joints. The skin of the head is quite smooth, and finely porous; that of the back and sides slightly subgranular, fissured and porous; on the sides of the neck those two kinds of skin are separated from each other by an elevated cuticular fold or ridge, which extends obliquely downwards and backwards, from the eye to the base of the fore leg. Length of specimen described—from the point of the nose to the apex of coccyx, 1 inch 11 lines; length of the fore legs from the base to the point of the second or longest toe $11\frac{1}{2}$ lines; length of the hinder legs, from the base to the apex of the longest toe 1 inch 5 lines.

Inhabits the country to the east and north-east of the Cape Colony, and specimens are usually found in or about cavities which exist in the trunks of trees. On the banks of the Limpopo River, close to the tropic of Capricorn, a massive tree was cut down, to obtain wood to repair a waggon. The workman, while sawing the trunk longitudinally, nearly along its centre, remarked on reaching a certain part,—it is hollow, and will not answer the purpose for which it is wanted. He persevered, however, and when a division into equal halves was effected, it was discovered that the saw in its course had crossed a large hole, in which were five specimens of the species just described, each about an inch in length. Every exertion was made to discover a means of communication between the external air and the cavity, but without success. Every point of the latter was probed with the utmost care, and water was kept in each half for a considerable time, without any passing into the wood. The inner surface of the cavity was black, as if charred, and so was likewise the adjoining wood for half an inch from the cavity. The tree, at the part where the latter existed, was nineteen inches in diameter, the length of the trunk was eighteen feet: the age, which was observed at the time, I regret to say, does not appear to have been noted. When the *Batrachia* above mentioned were discovered, they appeared inanimate, but the influence of a warm sun, to which they were subjected, soon imparted to them a moderate degree of vigour. In a few hours from the time they were liberated, they were tolerably active, and able to move from place to place, apparently with great ease.



DENDROPHIS NATALENSIS.
(Reptilia Plate 64.)

DENDROPHIS (PHILOTHAMNUS) NATALENSIS.—SMITH.

REPTILIA.—PLATE LXIV.

D. *superne subolivacea, inferne pallide griseo-viridis; dorsi versus caput squamis plus minusque brunneo-nigro marginatis; cute inter squamas brunneo-nigra; oculis magnis.*

LONGITUDO e nasi apice ad basin caudæ 21 unc.; caudæ 11 unc. 3 lin.

COLOUR.—The upper and lateral parts of the head, the back, the sides of the body, and the upper and lateral parts of the tail, a tint intermediate between sap-green and oil-green; the scales of the anterior half of the body partially edged very narrowly with liver-brown. The under surface of the lower jaw intermediate between oil-green and apple-green; the under parts of the body and tail pale apple-green. When the scales are removed, the inner parts appear pale greenish blue. Skin between the scales brownish black.

FORM, &c.—Figure rather slender; body rather thickest near its middle: tail long and tapered to a fine point. Head rather broader than the neck, and subovate, between the anterior canthus of the eyes and the nape the width is equal, anteriorly to the eyes it is less, and gradually decreases towards the nose, which is obtuse and slightly arched anteriorly. The sides of the head are slightly convex, and the upper lip, towards the angle of the mouth, is of all parts the most prominent. Nostrils anteriorly crescentic. The upper surface of the head between the eyes depressed, the palpebral plates rather prominent and convex, the other parts of the upper surface of the head nearly level. Rostral plate subcordiform, its apex, which projects between the naso-rostral plates, rounded; the naso-rostral subquadrangular, the antero-inferior angle rounded; fronto-nasal plates broader than long, and five-sided; frontal plate anteriorly truncated, behind triangular, slightly contracted at the middle; palpebral plates subovate, broadest behind; occipital plates large, elongated, considerably longer than broad, the outer edge

DENDROPHIS (PHILOTHAMNUS) NATALENSIS.

irregularly three-sided, the inner nearly straight, the hinder edge much narrower than the anterior one, and irregularly rounded. Nasal plate behind crescent shaped; frenal plate quadrangular and oblong; ante-ocular plate narrow, widest superiorly where it is in contact with the palpebral plate. Plates of the upper lip, exclusive of rostral, nine, the first five small and quadrangular, the rest large and four-sided; the first of the latter, or the sixth from the rostral, has an elbow projecting upwards behind the eye. Plates of lower lip, exclusive of mental, ten, the fourth larger than the three in front of it, and the fifth much the largest; from this they decrease in size to the angle of the mouth. Post-ocular plates two; temporal plates four, in pairs, the hinder pair the largest. Eyes large, pupil circular. Scales of the hindhead and back, near to the head, small, subovate, or somewhat six-sided, and irregularly disposed; more distant from the head they are arranged in oblique transverse rows, each row, towards the middle of the body, consisting of fourteen scales. Towards the head the scales are narrow, rather lengthened, and subovate, or imperfectly diamond-shaped; further back they are broader, and when viewed in one direction, appear six-sided, the hinder side being very short—when in another, subquadrangular, with the anterior and posterior sides oblique, and the hindermost portion of the posterior side truncated. Towards the tail they increase considerably in breadth, and are more distinctly six-sided; on the tail they are broad, rather short, and rhomboidal. The abdominal plates are slightly keeled towards each extremity; the subcaudal scales more strongly toward their outer end; the hinder edge of each abdominal plate slightly emarginate at the posterior extremity of the keel. Abdominal plates 151. Subcaudal scales 114. Length of specimen described, from nose to anus, 21 inches; of tail, 11 inches 3 lines.

Frequents shrubs and trees at and in the neighbourhood of Port Natal. It climbs with facility, and is rarely seen on the ground: it is reputed to feed on insects and small birds. This species presents no dark variegations like those observed on *Dendrophis semivariiegata* (Plates LIX and LX). The plates of the head, particularly the frontal, are very different, and the eye, in proportion, is much larger. Besides these, many other differences will be observed, on carefully examining the outline figures. Plate LXIV. Fig. 1, the upper surface of the head of *Dendrophis semivariiegata*, 1a, the under surface of the lower jaw, and 1b, the side of the head; 2, 2a, and 2b, the same parts of *Dendrophis Natalensis*; 3, 3a, and 3b, the same of *Dendrophis albo-variata*.



DENDROPHIS ALBO-VARIATUS.
(Reptilia Plate 65.)

DENDROPHIS (PHILOTHAMNUS) ALBO-VARIATA.—SMITH.

REPTILIA.—PLATE LXV.

D. *superne flavo viridis, inferne flavo brunnea; dorsi squamis versus caput albo-marginatis; cute inter squamis brunneo-nigra; oculis subparvis.*

LONGITUDO e nasi apice ad basin caudæ 21 unc.; caudæ 11 unc. 6 lin.

COLOUR.—The upper and lateral parts of the head, the back, the upper portions of the sides, and the upper and lateral parts of the tail, intermediate between olive and oil-green; in some the tail is sap-green; the anterior part of the back and the head tinged brown. The scales of the first half of the body are narrowly edged, on one or both sides towards their base, with white, and in all conditions of the reptile, more or fewer of such short white lines are visible, forming irregular somewhat transverse bands. The under parts are intermediate between sienna-yellow and yellowish brown. When the scales are absent the parts below appear bluish, with more or less of a purple tint; the inferior parts under the same circumstances are pale straw-yellow clouded lightly with blue. Skin between scales black.

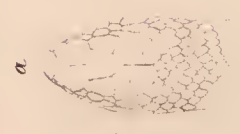
FORM, &c.—Figure rather slender; body rather thickest at its middle; tail long and tapered to a fine point. Head narrow and rather elongated; temples more prominent than the eyes; nose subacute and rounded. Hind-head considerably wider than the neck. Rostral plate subtriangular, its apex, which is situated between the nasal plates, rounded; naso-rostral and fronto-nasal plates somewhat five-sided, the former smallest, the inner and hinder side of the latter, where it is in contact with the base of the frontal plate, oblique; the frontal plate is six-sided, two of the sides form anteriorly an obtuse angle, and two posteriorly one rather more acute; the anterior extremity of the plate is considerably wider than the posterior; the lateral sides much the longest. Palpebral plates three-sided, the hinder side shortest and oblique, extending outwards and backwards. Occipital plates large, irregularly six-sided and broadest anteriorly, the outer and mesial sides much the longest; freno-nasal

DENDROPHIS (PHILOTHAMNUS) ALBO-VARIATA.

plate narrow; frenal plate oblong and quadrangular; pre-ocular plate narrow inferiorly, broadest superiorly; post-ocular plates two quadrangular; temporal plates five or six, rather large and irregularly shaped. Scales of upper lip, exclusive of nostral, nine; of lower, exclusive of mental, ten, the sixth from the mental much the largest. Submental plates six, the centre pair elongated, the anterior and posterior sides oblique, the hinder pair narrowest towards their posterior extremities (vide Plate LXIV., fig. 3, 3 a, and 3 b). Eyes moderately large, pupil circular, nostrals sub-circular. The scales on the nape of the neck small and sub-circular, on the back near the head subovate, more remote rhomboidal, best seen when a scale is detached, each being at other times so overlapped that it exhibits rather a quadrangular than a rhomboidal form, the anterior and posterior sides appearing oblique. The hinder edge of each row of scales overlaps slightly the base of the row immediately behind it. On the tail the scales are large, short, broad, and six-sided. Abdomen and under surface of tail slightly keeled on each side; the abdominal plates, towards each extremity, slightly emarginate behind, where the keel terminates. Apex of tail armed with a short horny *aculeus*. Abdominal plates 164. Subcaudal scales 122 pairs. Length of specimen described, from head to anus 21 inches; from anus to point of tail $11\frac{1}{2}$ inches.

This species is generally found, at least in Southern Africa, in country covered with brushwood. It climbs with facility, and is usually observed on branches of underwood. Besides being found in South Africa towards the Tropic of Capricorn, it is also frequently obtained in Northern Africa, especially on the Gold Coast, and about Sierra Leone and the Gambia. The white linear variegations afford a ready means whereby to distinguish this from the two species above described. Besides colour, other diagnostic characters exist, such as the form of the frontal plate, the obliquity of the side of the fronto-nasal plate, which is in contact with the frontal, &c. The size of the eye, in proportion, is much inferior to what it is in *Dendrophis Natalensis*.

In this and *Dendrophis Natalensis* the scales of the body are less closely set than in *Dendrophis semivariiegata*. In the latter they cannot be so far separated as to admit of the intermediate skin being distinctly seen; on the other hand, in the two first referred to that is always exposed whenever the body is much distended. They are probably the more typical species, and possibly live chiefly on small birds and objects of a size which, if swallowed, would occasion great inconvenience provided the skin did not admit of considerable extension.



ELAPS SUNDERWALJII
Reptilia. Plate 65

ELAPS SUNDERWALLII.—SMITH.

REPTILIA.—PLATE LXVI.

E. superne, sordide brunneo ruber, infra subochreus; dorso antice nigro-viridi-tincto; corpore caudaque fasciis ochreis transversis variegatis, fasciarum squamis brunneo rubro variegatis; capite antice angusto; caudâ brevi, apice conicâ aculeatâ.

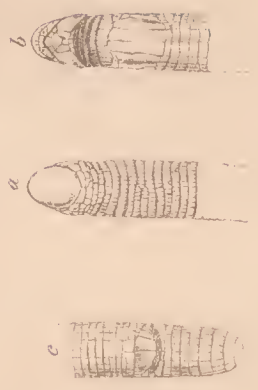
COLOUR.—Chocolate-red, the upper surface of the head and back anteriorly tinted with blackish green. Body and tail variegated with twenty transverse ochre-yellow bands, each about half an inch in width, and about an inch apart; the bands are also variegated, each scale being edged with chocolate-red. The lower jaw, the edge of the upper jaw, the temples inferiorly, and the under parts of the body and tail sienna-yellow. In recent specimens the bands are probably red.

FORM, &c.—Head, viewed from above, subtriangular, anteriorly narrow, nose nearly acute; hind-head rather broader than the neck. Body moderately slender, almost cylindrical, and nearly of the same thickness throughout; tail cylindrical, slightly tapered, the apex conical and armed with a short horny spine. Rostral plate large, triangular, its apex lodged in a notch at the junction of the naso-rostral plates, the latter are narrow, the fronto-nasal plates large and six sided, the outer extremity of each descending between the freno-rostral and preocular plates, frontal plate six sided, the two anterior sides form an obtuse, the two posterior an acute angle, palpebral plates square behind, subangular anteriorly; occipital plate irregularly shaped, broad anteriorly, rather narrow posteriorly, freno-nasal subtriangular, its apex behind; frenal wanting; preocular plate subquadrangular; postocular plates two, the uppermost the smallest and quadrangular, the lowermost five-sided, two of the sides behind. Plates of upper lip exclusive of rostral seven, the anteriormost small and triangular, the others much deeper, the sixth and seventh much the largest and cover the lower portion of the temples. Plates of lower lip, exclusive of mental, six, the last much the longest; the mental

ELAPS SUNDERWALLII.

plate is small and triangular; the lower jaw is very thin, and considerably shorter than the upper. Scales of the body convex, almost subcarinated, towards the head subrhomboidal, more posteriorly subovate, and arranged in oblique transverse rows, thirteen in each. Scales of the tail much shorter and broader than those of the body, and more or less four or six sided; plates of abdomen rather broad; poison fang small; eyes small and very convex; nostrils circular. Abdominal plates 163. Subcaudal scales 22 pairs. Length from nose to anus 20 inches; length of tail 1 inch 8 lines.

Inhabits Southern Africa to the eastward of the Cape Colony. To Professor Sunderwall of Stockholm I am indebted for the opportunity of describing and figuring this species. As I never obtained a specimen during the several excursions I made in the district in which the individual here described was found, I suspect it is not a very prolific species.



MONAXOSIS CAPENSIS
Leptilia Plate 67.

MONOPELTIS* CAPENSIS.—SMITH.

REPTILIA.—PLATE LXVII.

M. pallide ruber, purpureo-rubro-imbratus; naribus juxta scutum rostralem; labri superioris scutis novem, inferioris septem; corporis annulis 207, in partibus quatuor divisus; caudæ annulis integris, scuto preanale sex-partito.

COLOUR.—Pale rose-red shaded with peach-blossom red, each side variegated with a narrow longitudinal line of the latter colour, but of a darker tint. The large plate on the upper surface of the head straw-yellow.

FORM, &c.—Body and tail cylindrical, nearly of equal thickness, the apex of the latter blunt and rounded. Head depressed, the large plate covering it slightly convex, its edge anteriorly and laterally thin and cutting. Hind-head covered with two transverse rows of scales, the latter varying in number in different specimens, generally four or six in the row immediately behind the large plate; in the second the number is much greater. Scales of the upper lip nine, one rostral, and four others on each side, the nostril in the scale next the *rostral*; the scales of lower lip seven, the mental scale subquadrangular, the two next on each side very small, the third much larger than the mental, and irregularly six-sided. The middle of the under surface of the lower jaw with three transverse rows of scales, one in the first row immediately behind the mental plate, four in the second, the outermost on each side the longest, seven or eight in the third small and quadrangular. Thorax coated with six narrow longitudinal plates, the two middle ones about three quarters of an inch in length, the next on each side rather shorter, and the outermost little more than half the length of the middle ones. Three of the rings of skin, with which the body and tail are surrounded, intervene between the under jaw and the plates of the *thorax*. The rings externally, which are narrow, exhibit a number of

* *Ch. Subgen.* Head wedge-shaped, above covered with a single large plate. *Nostrils* under the edge of the muzzle. *Eyes* invisible. *Thorax* with a series of longitudinal plates. *Body* surrounded with raised cuticular rings, divided into quadrangular compartments by narrow transverse *sulci*.

MONOPELTIS CAPENSIS.

quadrangular compartments in consequence of these being intersected by numerous narrow *sulci*; the number of these compartments in the specimens I possess vary from 32 to 34, and the two on the centre of the belly, particularly towards the head, are considerably the largest. Each of the rings of the body is divided into four portions, the under or abdominal much the longest, being nearly equal in length to the other three; the extremities of each portion are oblique, and at the points of contact the apex of one division extends more or less beyond the other. The rings of the tail are entire. The rings of the body 207, of the tail 7, those of the latter the widest. Preanal shield large, transversely ovate, and slightly divided into six compartments, the two middle ones much the largest, the outermost of each side very small; the extremity of the tail coated with a large convex sheath of the same material as the rings. Length from the nose to the anus 9 inches, length of the tail 5 lines.

Although I have put this species forward as the type of a group, I doubt if more extended observation will justify the proceeding. It may prove to be only a very aberrant species of *Lepidosternon*, and if so, *Coleopeltis Cuvierii*, Muller,* will be a species of the same group, only a degree less removed from the typical form. The most marked differences between the species in question and *Lepidosternon macrocephalum*, Wag., the type of the group, consist in the covering of the head; in the latter that is formed of many plates, in *Colcopeltis* of two only, and in *Monopeltis* of one. Considering the circumstances of the two last, and that they are in most other respects very similar to the typical species, I am disposed to believe others will be discovered with fewer plates than *Lepidosternon macrocephalum*, and with more than the others, and so fill up a gap, the existence of which at present creates a doubt as to the identity of form.

The two specimens I possess were found under a large stone in latitude 24° south, and on being uncovered rolled themselves into a globular mass.

* *Zeitsch fur Physiol. von F. Tiedem und Trevir*, tom. iv. p. 256, tab. 22, fig. 5, a, b, c.





1. BUFO CARENS.
2 BUFO VERTEBRALIS. 2 a. Under Surface
(Reptilia Plate 68)

BUFO CARENS.--SUNDERWALL.

REPTILIA.—PLATE LXVIII. FIG. 1.

B. *superne*, subgranulosus; lateribus plica longitudinale verrucisque magnis rugosis; glandulis parotideis nullis; extremitatibus posterioribus externe verrucosis; dorso maculis circularibus duabus verido-nigris notato; extremitatibus parce fasciis subnigris variegatis.

COLOUR.—The upper surface of the head anteriorly, the eye-shields, and the sides of the head intermediate between oil-green and ochre-yellow; the ground colour of the hind-head, the back, the upper portion of the sides, and the outer surface of the hinder legs, light blackish green, freckled with ochre-yellow or yellowish brown, the warts or granulations on the surface being the one or other of these colours; many of the larger warts have a small reddish orange spot at or about their centre. Besides these variegations, the back is also marked with two circular spots of a greenish black colour, about a line and a half in diameter, one on each side of the vertebral line and situated about the commencement of the last third of the back. The fore-legs are crossed by two bars of the same colour as the spots of the back, and at the commencement of the tarsus there is also an irregular indistinct blotch of the same hue. The upper surface of the *tarsi*, and the outer surface of the fore-legs dull oil-green, the second joint of latter variegated with two transverse greenish black bars, and the upper surface of the feet sparingly freckled or clouded with a lighter tint of the same colour; tubercles of the under surface of the feet and toes sienna-yellow. The cuticular fold which extends along each side of the body, the inner surface of the extremities, and all the under parts, intermediate between ochre-yellow and yellowish brown;—the fold is edged above by a narrow, irregular greenish line which commences at the *tympanum* and terminates a little in front of the base of the hinder extremities. *Tympanum* pale greyish brown, tinged with green. The *iris* appears to have been greyish green with a metallic lustre.

FORM, &c.—Figure moderately robust; head short, broad posteriorly, anterior to eyes rather narrow, the nose truncate and nearly vertical; nostril ovate, one at each angle of the muzzle, the opening directed outwards and backwards. Eye-shields convex and raised; *tympanum* large, nearly circular, close to the eye, its upper margin almost in contact with the outer *canthus*; parotid glands wanting. When the fore-legs are placed along the sides of the body, the point of inner toe reaches to the base of the hinder legs, the first or outer toe is a little longer than the third or fourth, which are

BUFO VERTEBRALIS.

the fourth rather shorter, and the fifth or innermost still shorter, the second about double the length of the first; they are all free at their base. The under surface of the feet is thinly sprinkled with small oblong hard tubercles, and two on each foot are larger than the rest, one a little behind the base of the inner toe, the other of the outer toe. Nose slightly rounded, the nostrils at its apex, one on each side, the opening directed outwards and forwards. Eye-shields rather prominent, eyes small and rather deeply set, *tympanum* small, projecting, and almost completely encircled by a prominent ring. Parotid glands rather indistinct, irregularly shaped, and close to the *tympanum*. Ocular shields posteriorly covered more or less with small tubercles. Back, in some individuals, with numerous small hemispherical warts, in other with only a few towards the head; the outer surface of the extremities also more or less warty. The under surface of the body granular, the granulations of the hinder part of the abdomen and the pubic region largest. Tongue full, ovate, the last half free, and behind entire; inner opening of nostrils circular, and immediately in front of the floor of the eyes. Opening of *Eustachian* tube rather large, and a little behind the angle of the mouth. Length from the point of the nose to the hinder extremity of the back, one inch four lines.

In the interior districts of Southern Africa, north-east of the Cape Colony, specimens of this species were obtained in considerable abundance. They were usually found in situations abounding with brushwood, generally under or amongst decayed leaves. They had all the habits of a true toad: fully twenty individuals came under my observation, the majority of which were about an inch and a quarter in length; the others were much smaller and evidently young. As so many specimens were seen of the largest size, and as not a few of them were obtained at different seasons of the year, I am disposed to believe the individual figured had attained mature age.





2a



1a



1. BUFO ANGUSTICEPS. 1a Under Surface.
2. BUFO GARIEPENSIS 2a Under Surface
(Reptilia Plate 69.)

BUFO ANGUSTICEPS.—SMITH.

REPTILIA.—PLATE LXIX. FIG. 1 & 1 a.

B. *superne brunneo-rufus griseo-variegatus; infra subochreus; tympano parvo subcirculari; glandulis parotideis angustis ovatis; dorso extremitatibusque posterioribus tuberculis magnis sparsis; partibus inferioribus antice lævibus postice granulosis.*

Longitudo e nasi apice ad anum 2 unæ.

COLOUR.—The upper surface of the head, the back, and the sides superiorly two coloured, the colours nearly in equal proportion, and not disposed in any regular order. The one, the light colour, is intermediate between yellowish grey and brownish purple red (rusty grey); the other is deep umber-brown. The former exists in waved or serpentine bands, or in large irregular blotches, and in most abundance about the middle of the back and on the upper portions of the sides. The dark colour is in large blotches or small spots, each partially or entirely surrounded by the light tint. The prevailing colour of the outer surface of the extremity is rusty grey, banded with umber-brown; the bands most distinct and most numerous on the hinder ones. The sides of the head are also rusty grey, with one or two small umber-brown spots, or short bars, on the upper lip; the rostral canthus on each side is umber-brown, and anteriorly each line is prolonged downward to the edge of the upper lip. The under parts are pale cream-yellow, finely mottled towards the middle of the belly with yellowish grey; the hinder portion of the belly and the pubic region a very pale tint of deep orange-coloured brown. Colour of the eyes not known.

FORM, &c.—Head subtriangular; body full; the sides very protuberant; extremities moderately long, and rather slender. The first, third, and fourth toes of the fore-feet nearly of equal length, the second considerably longer; behind the base of the outermost toe a rather large hemispherical warty protuberance, and behind the innermost a simple narrow lengthened tubercle; the soles of the feet and the toes with small convex tubercles. The toes of

BUFO ANGUSTICEPS.

the hinder extremities connected at their base by a rudimentary web. The outermost and the third toes nearly of equal length, the fourth shorter than the third, and the fifth considerably shorter than the fourth; the second nearly double the length of the first and third; behind the base of the outermost and innermost toes a moderately large warty protuberance, and the soles of the feet and the under surface of the toes thinly sprinkled with small tubercles. Nostrils small on the apex of the nose; their opening directed forwards. Eye-shields rather convex. Tympanum small, subcircular, and below the level of the angle of the eye; parotid glands rather long, narrow, and rounded at each extremity. Eye-shields granular; the rest of the head above smooth. Back, sides, and outer surface of hinder extremities thinly sprinkled with large oval or circular tubercles. The hinder part of the belly and the pubic region finely granular; the remainder of the under parts perfectly smooth. Tongue above convex, nearly of equal width throughout, and anteriorly and posteriorly rounded, the hinder third free. Length from nose to anus, two inches.

Inhabits the interior of Southern Africa. The specimens I possess were obtained among decaying leaves in districts coated with underwood.

I am disposed to consider the individual described had reached maturity, as several specimens of the same size were procured at different seasons of the year in localities far apart. Others of a smaller size were also obtained.

BUFO GARIEPENSIS.—SMITH.

REPTILIA.—PLATE LXIX. FIG. 2 & 2 a.

B. *superne viridi-flavus, maculis nigro-brunneis variegatus; infra antice subflavus, abdominis parte posteriori regioneque publica brunneo-rubris; tympano subcirculari parvo; glandulis parotideis subcircularibus; dorso tuberculis magnis sparso; partibus inferioribus antice lævibus, postice granulosis, abdomine parce maculis parvis subnigris notato.*

LONGITUDO e nasi apice ad anum 1 unc. 4 lin.

COLOUR.—The upper and lateral parts of the head, the back, the sides of the neck, the sides of the body superiorly, and the outer surface of the extremities greenish yellow, clouded with pale reddish orange; the upper surface of the head and the back variegated with moderately large, irregular shaped, liver-brown spots, and the extremities with narrow transverse bars of the same colour. The spots on the head are small, with the exception of four, one immediately behind each nostril, and one transversely on each eye-shield. The upper lip is crossed by three liver-brown bands, the hindermost close to the angle of the mouth; the sides of the neck and parotid glands freckled with small, similar coloured spots. The under surface of the lower jaw, the breast, and the greater part of the belly, straw-yellow, the breast and anterior part rather sparingly freckled with minute blackish-green spots, the posterior part of the belly and the pubic region intermediate between buff orange and brownish red, the tint pale. Eyes deep blackish green, the pupil surrounded by a narrow brassy green ring.

FORM, &c.—Figure rather full; head short, conical, and anterior to eyes narrow; nose rounded, the nostrils at its apex, openings directed outwards and forwards; middle of head, between eyes, concave; eye-shields prominent and arched; eyes rather large, gaps wide; tympanum small, circular, and placed a little behind and below the outer canthus of the eye. Parotid glands subcircular, and in proportion large; surface porous. The anterior extremities slender, the toe next to the outermost rather the longest; the other two

BUFO GARIEPENSIS.

about the same length as the outermost, if measured from their origin to the point. At the base of the innermost toe there is a large ovate sub-conical tubercle, and a smaller and narrower one behind the same part of the outer one; there is, also, a row of small prominent tubercles along the under surface of each of the toes. The posterior extremities are moderately long and rather slender; the outermost and the third toes are of equal length; the fourth is rather shorter, and the fifth somewhat shorter than the fourth; the second, or the one next to the outermost toe, nearly double the length of the first and third. The under surface of the feet with rows of small conical tubercles; those on the toes largest. Besides these tubercles, there are two others, rather larger; one behind the base of the outermost, the other of the innermost toe,—both are compressed, conical, and prominent, the one behind the innermost toe the largest. The upper surface of the head and anterior part of the back smooth; the middle of the back studded with rather large, oblong, somewhat depressed tubercles; and the hinder part of the back and the sides rough from closely set, small, hemispherical ones. The outer and hinder surface of the posterior extremities indistinctly tubercular. The hinder portion of the belly, the pubic region, and the under surface of the thighs, granular; the remainder of the under part smooth. Length from point of nose to anus, one inch and a half.

Several specimens of this species were procured on the banks of the Orange (Gariép) river. The form of the parotid glands, the size of the tubercles of the back, the absence of granulations on the greater portion of the under parts, the want of a linear projecting margin to the inner edge of the tarsus, and the constant presence of small blackish-green freckles on the breast and anterior part of the belly, furnish characters by which *Bufo Gariépensis* is readily to be distinguished from *Bufo Pantherinus*,—a species nearly allied to it.

The individual represented in the Plate is the largest which has come under my observation. I am disposed to believe it had reached maturity, as others of different sizes, some only a little, others much smaller, were procured in the locality where it was obtained.



NALA ANGUSTICEPS
Reptilia. Plate 70.

NAIA ANGUSTICEPS.—SMITH.

REPTILIA.—PLATE LXX.

N. superne subviridis, infra subochrea; capite angusto, elongato, quadrangulare; corporis squamis, ordinibus longitudinalibus 19 dispositis; caudâ longâ.

LONGITUDO è nasi apice ad anum 56 unc.; caudæ 9 unc.

COLOUR.—Above, pale olive or dull grass-green, in some specimens faintly tinted with brown; the upper lip and the under parts of the head, body, and tail, pale asparagus-green. Very large individuals of this species are occasionally found, in which the colour of the upper parts is intermediate between deep orange-coloured brown and yellowish brown (*fig. d.*), that of the under parts intermediate between straw and ochre yellow. In these the abdominal plates towards the head and the tail, are generally profusely blotched with clove-brown.*

FORM, &c.—Head long, rather narrow, and quadrangular; hind-head scarcely wider than the neck; the body increases in size to nearly its middle, thence continues of the same thickness for some distance, and then decreases to the tail; the latter is long, subtriangular, and pointed, its apex a horny scale. The upper surface of the head is flat, and the sides perpendicular; the temples slightly prominent and convex; nose rather broad and slightly arched; nostrils subovate, opening backwards and outwards. Eyes moderately large, cornea very convex, pupil small and circular. Rostral plate subtriangular, its apex arched; naso-rostral plates quadrangular; fronto-nasal, large and subquadrangular, each notched at its posterior and outer extremity, to receive the anterior and upper portion of the preocular plate; palpebral plates irregularly six-sided, broadest behind; frontal plate large, subquadrangular, its apex rather blunt, its base very

* In this as in other species of the genus, the colours, at least in some individuals, appear to change with age.

NAIA ANGUSTICEPS.

broad; occipital plates large, oblong, and broadest anteriorly, each in front two-sided, externally somewhat three-sided; nasal plate quadrangular, the upper anterior angle slightly prolonged; naso-frenal subtriangular; frenal wanting, its place being supplied by the lower portion of the fronto-nasal; preocular plates three, the uppermost the largest; post-ocular plates three, the lowermost the largest; temporal plates five, arranged in two vertical rows, the lowermost plate of each row many-sided, with a point descending between the labial scales. Plates of the upper lip, exclusive of rostral, eight, the third and sixth much the largest, the latter prolonged upwards between the lowermost post-ocular and inferior temporal plates; plates of lower jaw, exclusive of the mental plate, nine; submental plates two pairs, long and narrow. Scales of the neck close to the head small and somewhat six-sided, not arranged in any regular order behind those of the body, are long, narrow, subovate, or somewhat rhomboidal, and arranged in oblique rows; all the scales of the back are doubly imbricate, the posterior extremity of each lying over the base of the one immediately behind it, and the inner edge of each lying over the outer edge of the one immediately inside of it. Each of the rows of scales on the body shew three angles, one on each side close to abdominal plates, obtuse and directed forwards, the third at the middle of the back acute and pointing backwards. The scales of the tail are much shorter than those of the body, broad, rhomboidal, and slightly imbricate. At the middle of the body there are 19 scales in each row, and at the base of the tail 9. Abdominal plates, 210. Subcaudal scales, 110. Length of specimen figured, from nose to anus, 4 feet 8 inches; from anus to point of tail, 1 foot 4½ inches. Length of brown specimen referred to, from nose to anus, 6 feet 11 inches; from anus to extremity of tail, 1 foot 8½ inches. Abdominal plates, 267; subcaudal scales, 115.

This species occurs about Natal and in the country to the eastward, towards Delegoa Bay. It is better fitted for climbing trees than *Naiia Haje*, and in various respects appears to be an aberrant species.



ATRACIASPIS BIBRONII.

Reptilia. Plate 71.

ATRACTASPIS* INORNATUS.—SMITH.

REPTILIA.—PLATE LXXI.

A. superne brunneo-viridis, subtus brunneo-flavus; caudâ brevi acuminatâ; squamis abdominalibus angustis; labii superioris squamis quinque, inferioris tribus; corporis squamis in ordinibus viginti dispositis.

LONGITUDO è nasi apice ad basin caudæ 22 unc.; caudæ $1\frac{1}{4}$ unc.

COLOUR.—Head superiorly a pale livid bluish green; body and tail intermediate between blackish green and orange-coloured brown, the sides of the body inferiorly pale, dull, orange-coloured brown; the sides and the under surface of the head between a straw and a primrose yellow; the under parts of the body and tail intermediate between yellowish brown and buff-orange, the tint lightest towards the head. In some specimens the belly is pale brownish red, variegated with fine transverse lines of dull aurora-red, one along the hinder edge of each plate.

FORM, &c.—Head small and depressed, scarcely broader than the neck; body long, slender, cylindrical, and throughout nearly of equal thickness; tail short, cylindrical, tapered, and pointed. The upper surface of the head is slightly convex, the nose rather narrow and arched, the sides of the head convex, the under surface flat, the lower jaw lodged within the branches of the upper. Rostral plate triangular, its apex, which is rather rounded, is situated between the noso-rostral plates; the latter are small and qua-

* *Ch. Gen.* Head depressed, anteriorly wedge-shaped. Lower jaw feeble, and lodged between the rami of the upper jaw. Maxilla armed with long poison fangs. Palatal and mandibular teeth short and slender. Body cylindrical. Tail round and tapered. Scales of body and tail smooth, scarcely imbricate. Abdominal scuta long and narrow. Tail, inferiorly, furnished with scuta like those of the abdomen.

ATRACTASPIS INORNATUS.

drangular, the outer side of each longer than the inner; fronto-nasal plates five-sided, the outer extremity of each two-sided; frontal plate six-sided, the two sides, which form the anterior margin of the plate, nearly in a straight line, the two hindermost sides converge and join each other at an acute angle; occipital plates six-sided; palpebral plates small, narrow, and quadrangular; temporal plates two, large, the antero-inferior one five-sided, its lower portion situated between the fourth and fifth labial plates, the upper and posterior plate oblong and quadrangular. Nasal plates small, oblong, and quadrangular; naso-frenal plate five-sided; preocular plate small, subovate, or slightly five-sided; post-ocular plate small. The plates of the upper lip, exclusive of rostral, five; the first very small, the three following quadrangular, the third and fourth, measured vertically, of considerable length, the one extends to the preocular plate, the other to the eye, the fifth or last plate is oblong, five-sided, and placed obliquely at the angle of the mouth. The labial plates of the lower jaw, exclusive of the mental plate, three; the first and second very small, the third long, narrow, and widest behind. The mental plate is triangular and very small; the submental plates, which consist of one pair, are somewhat four-sided, the hinder side of each oblique, the anterior side slightly arched; anterior to these plates, between them and the mental plate, the first narrow labial plate of each side extends inwards and joins its fellow of the opposite side. The fangs, the only teeth in the upper jaw, are generally two on each side, equally developed, both very long, rather slender, and when recumbent reach almost if not quite to the angle of the mouth; the palatal and mandibular teeth are very small. The poison bag is long, narrow, and broadest about midway between its extremities (*fig. d—a*), its tube is short; the muscular structures which compress the sac to expel the poisonous fluid are abundant, powerful, and effective. The scales of the body are scarcely imbricate, they are disposed in oblique transverse rows, the number in each row, at the middle of the body, twenty; the four on each side, nearest the abdominal plates, are much broader than the dorsal ones, the former are distinctly six-sided, the latter almost rhomboidal, at least the anterior and posterior sides are very short. Caudal scales in shape somewhat like the lateral scales of the body, and are distinctly six-sided. Abdominal and subcaudal plates narrow and convex, and in one specimen were $255 = 20$ and in another $225 = 21$.

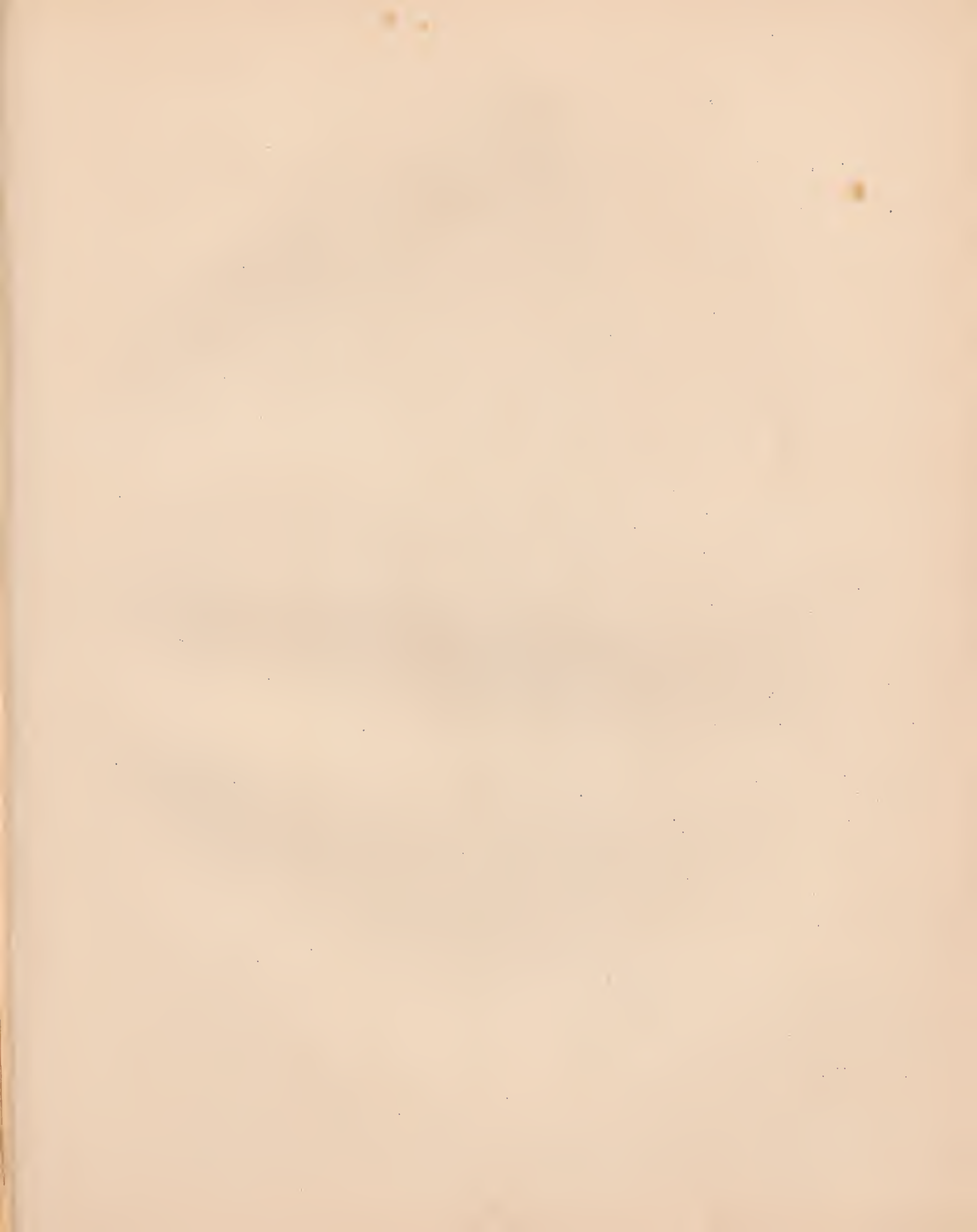
ATRACTASPIS INORNATUS.

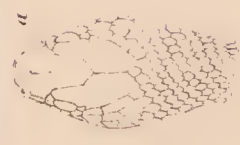
The specimen described measured from nose to anus 22 inches, and from anus to point of tail $1\frac{1}{4}$ inch; another specimen 17 inches to anus, from thence to apex of tail 1 inch.

This snake inhabits the eastern districts of the Cape Colony. Of its habits I am not able to speak, having never seen it alive, or met a person who had: that it burrows in loose ground, I infer from the general form of the head, but more especially from the circumstance that the upper jaw is considerably longer than the lower, and that it receives and lodges the latter between its limbs. When I first obtained a specimen, I considered I had acquired a new form of *Tortricidæ*, and I continued to view it as such till I had leisure to examine it more minutely, when I discovered that its place was in a very different section of snakes. The length of the fangs, as compared with the head, is remarkable, and I question if the reptile is able to raise them so much as to enable it in the act of biting to inflict a wound. To it they will be chiefly important as efficient means of preventing the return from the gullet of any living object it may have partially swallowed, as nothing which has once passed their points, which extend to the commencement of the gullet, will be able, unless the reptile wills it, to repass without being necessarily wounded, and, if alive, its death immediately occasioned. Without some such provision one can scarcely understand how an animal with so small a head and so delicate a lower jaw, quite unequal to destroy by force, can succeed in securing the food essential to its existence.

No one who knew the late Mr. Bibron as I did, will be surprised that I seek to associate his name with this new and highly interesting form—a form I never look on without recollecting the delight he experienced when I first showed it to him at Chatham, many years ago. All honest admirers of the science he so successfully cultivated must, I think, feel how greatly they are losers by his premature death; and I cannot imagine any Herpetologist will neglect an opportunity of rendering homage to his memory.







TELESCOPUS SEMIANNULATUS

TELESCOPUS* SEMIANNULATUS.—SUNDERWALL.

REPTILIA.—PLATE LXXII.

T. *superne* brunneo-flavus fasciis subnigris variegatus, *infra* pallide flavus; corporis squamis ordinibus longitudinalibus 19 dispositis.

LONGITUDO è nasi apice ad anum 25 unc.; caudæ $4\frac{1}{2}$ unc.

COLOUR.—The upper parts intermediate between buff-orange and flesh-red, the back variegated with about thirty-four, and the tail with about ten transverse liver-brown bands, some very short, others, particularly on the back, long, and generally tapered towards each extremity. The colour of the under parts is intermediate between sienna-yellow and flesh-red. The upper surface of the head has a slightly brown tint. In living specimens the light colour of the back and sides is, probably, bright red.

FORM, &c.—Head, viewed from above, subovate; hind-head rather wider than the neck. Body rather slender, towards the head cylindrical, elsewhere slightly compressed, above subcarinated, under surface rather broad, and slightly convex. Tail tapers rather suddenly, and terminates in a prolonged slender point. The sides of the head anterior to the eyes nearly perpendicular, behind the eyes prominent and convex; the nose is blunt and rounded. Nostrils circular, and placed high in the suture between the nasal and naso-frenal plates. Rostral plate behind semicircular; naso-rostral plates quadrangular, broadest behind; fronto-nasal somewhat five-sided, two sides behind, one in contact with the frontal, the other, the outer, with the anterior extremity

* *Ch. Gen.* Head rather broader than the neck, oblong and ovate. Nostrils lateral, between nasal and naso-frenal plates. Frenal plate, one. Preocular plate, one. Postocular plates, two. Pupil elliptic and vertical. Posterior maxillary tooth the longest, and grooved anteriorly. Body compressed. Scales smooth, subimbricate, and disposed in oblique rows, those of the dorsal row rather different in form. Abdominal plates subangular. Submental plates two.

TELESCOPUS SEMIANNULATUS.

of the palpebral plate. Frontal plate rather broad, five-sided, anteriorly truncated, posteriorly acute; palpebral plates rather narrow, and broadest behind; occipital plates four-sided, the outer side much the longest, the inner side, which is in contact with its fellow of the opposite side, rather shorter, hinder extremity pointed. Frenal plate quadrangular; preocular plate rather narrow, its upper extremity, which is prolonged between the fronto-nasal and palpebral plates, triangular; post-ocular plates two, quadrangular, the lowermost the largest. Plates of the upper lip, exclusive of rostral, nine, the four last much the largest; those of lower lip ten or eleven, the last much the smallest; submental plates two, large, and several-sided. Scales of body rather small, oblong, slightly rounded behind, and doubly imbricate, the points extending over the base of the scales behind them, and the inner edge of each overlaying the outer edge of the scale on its dorsal or mesial side. All the scales of the body are arranged in oblique rows, and the rows of one side meet those of the other at an acute angle on the dorsal line; in this manner each row forms two sides of a triangle, and about the middle of the body consists of nineteen scales; the scale, on the middle of the back, which connect the lateral rows, is somewhat six-sided, the anterior and posterior sides very short. Scales of the tail rather large and sub-hexagonal; of the throat, narrow, oblong, subquadrangular, and arranged in several nearly transverse rows. Abdominal plates subangular towards each extremity, the portion exterior to the angle inclined upwards, as in the *Dendrophidæ*. Tail beneath, flat, subangular towards its side, its point an obtuse horny spine. Abdominal scuta 206; subcaudal scales 55 pairs. Length from apex of nose to anus 2 feet 1 inch, length of tail $4\frac{1}{4}$ inches.

Though I have not had an opportunity of examining a specimen of *Dipsas Ægyptiacus*, Schlegel,—the type of the genus *Telescopus*, Wagler—yet I am satisfied the reptile here described is a typical species of that group. As the latter author has not noticed the characters of the teeth, I have given them as they appear in *Telescopus subannulatus*; and if they correspond to those of *Dipsas Ægyptiacus*, then the two species must be regarded as typical examples of a well-defined group. The form and other characters of these reptiles give reason to believe they are climbers, though not of a grade to entitle them to be classed amongst the more typical forms of that class of snakes.



DASYPLELTIS INORNATUS.
Reptilia, Plate 73.

J. George, lith. for Hutton Gordon.

DASYPELTIS INORNATUS.—SMITH.

REPTILIA.—PLATE 73.

D. *superne flavo-brunneus, infra subflavus; dorsi squamis punctis duabus subalbidis versus apicem variegatis; scutis temporalibus quatuor quinqueve lævibus; squamis occipitalibus brevibus subcarinatis; corporis squamis in ordinibus 24 dispositis.*

LONGITUDO è nasi apice ad basin caudæ 24 unc.; caudæ 5 unc.

COLOUR.—The upper surface of the head, the back, and the sides intermediate between orange-coloured brown and yellowish brown, each scale of the back marked with two minute pale white spots near the apex, one on each side of the keel; the under parts a tint between sienna and straw-yellow. Eyes probably bluish green.

FORM, &c.—Head small and subquadrangular, the sides nearly perpendicular, the nose broad and anteriorly arched, the hind-head scarcely, if at all, wider than the neck. Body long, rather slender, and throughout nearly of equal thickness, the back subcarinated, the belly full and convex. Tail short, rather thick at its base, and from thence tapers suddenly to the apex, which is aculeated. The head superiorly, flat or very slightly convex; rostral plate broad and subtriangular; its apex, which lies between the naso-rostral plates, obtuse and arched; naso-rostral and fronto-nasal plates quadrangular, the latter largest, and the outer side of each irregular or waved; frontal plate five-sided, anteriorly arched, the two hinder sides, which unite behind at an acute angle, are shorter than the other sides; occipital plates subovate, anteriorly angular, the inner side of each long and straight, the outer side waved and posteriorly inclined inwards, the hinder side truncated; palpebral plates oblong, quadrangular, and broadest behind; nasal plates rather large, somewhat five-sided, anteriorly truncated, posteriorly pointed; preocular plate single, five-sided; post-ocular plates generally three, occasionally only

DASYPELTIS INORNATUS.

two; temporal plates two or three, long, narrow, and quadrangular; plates of upper lip, exclusive of rostral, eight, of lower lip, exclusive of mental, the same number; submental plates two pairs, the first pair long and narrow, the last pair short and posteriorly broad and truncated. Nostrils situated toward the anterior third of the nasal plate, broad and semicircular superiorly, narrow and pointed inferiorly. Eyes small and convex, pupil oval and vertical. Teeth few, small, conical, and exist only towards the angle of the mouth; the *gular* teeth, formed by the elongated inferior spinous processes of the hinder cervical vertebræ, seven in number (*fig. d.*), they are inclined forwards, and each projects about half a line into the œsophageal canal through a small hole in its tunics (*fig. e.*), the point of each is armed with enamel. In the specimen described (two feet five inches in length), these teeth commence exactly $2\frac{1}{4}$ inches behind the apex of the lower jaw. Scales of the body and tail imbricate; those of the former, narrow, ovate, strongly carinated, and disposed in regular oblique rows; those of the tail, broader and shorter, carinated strongly like those of the body, but not arranged in such regular rows; the scales of the row next to the abdominal plates are shorter and much broader than the other scales of the body, but, like them, strongly carinated. The scales at the middle of the body are arranged in 24 longitudinal rows. Abdominal plates, 218; subcaudal scales, 92 pairs. Length from nose to anus, 2 feet; from anus to tail, 5 inches.

This snake occurs in the south-eastern districts of the Cape Colony, and also in Kaffirland, and is frequently found concealed under the loose bark of dead trees. Collectors should always remove the bark of trees under such circumstances, as they will often find inside of it, not only reptiles, but also other objects of great interest. Three species of this group have come under my observation; two of them, this and *Dasyveltis scaber*, (*Coluber scaber*, Lin.) are inhabitants of Southern Africa; the other, *Dasyveltis faciatus*,* is found in Sierra Leone. The first of the three (*D. scaber*) which came under my notice feeds on eggs, and as the other two have a like organization, I presume they exist on similar food. In 1829,

* Head small and quadrangular; hind-head not broader than the neck. Body nearly of equal thickness, and slightly compressed. Scales oval and strongly carinate. Teeth minute and thinly set; gular teeth short, and about two inches behind the apex of the lower jaw. Colour of head and anterior parts of body above dirty orange-coloured brown faintly clouded with dirty white, of posterior parts chestnut-brown barred narrowly with pale buff-orange. Abdominal plates 234; subcaudal scales 71 pairs; rows of scales at middle of body 20. Length from nose to anus 18 inches; from anus to point of tail 4 inches.

DASYPELTIS INORNATUS.

when I first obtained a specimen of the species last mentioned, I considered it a type of a new form, and described it under the name of *Anodon typus*;* but afterwards, on discovering that *Anodon* had been employed by conchologists, I adopted *Dasypeltis*, as proposed by Wagler.† The paucity and smallness of the teeth in the mouth are favourable to the passage of the egg, and permit it to progress without injury, whereas were they otherwise, many eggs, which have very thin shells, would be broken before they entered the gullet, and the animal in consequence would be deprived of its natural food when within its reach. Having observed that living specimens which I kept in confinement always retained the egg stationary about two inches behind the head, and while in that position used great efforts to crush it, I killed one, and found the gular teeth about the place where the egg ceases to descend. Those teeth, I am satisfied from many observations, assist in fixing the egg, and also in breaking the shell when the former reaches them, and is subjected to compression by the muscular action of the parts surrounding it. The instant the egg is broken, by the exertions of the animal, the shell is ejected from the mouth, and the fluid contents is conveyed onwards to the stomach. Many serpents, perhaps all, devour eggs when they have the opportunity, but this and the other species of the genus is pre-eminent in that respect.

* Zoological Journal of London, Vol. iv. page 443. 1839.

† Naturliches System der Amphibien, page 178. 1838.



AGAMA CAELATICEPS.

Reptilia, Plate 74.

AGAMA CÆLATICEPS.—SMITH.

REPTILIA.—PLATE LXXIV.

A. *superne flavo-brunnea, brunneo-rubro fasciata; infra subflava maculis parvis nigro-brunneis variegatis; capitis squamis cælatis.*

LONGITUDO è nasi apice ad basin caudæ 5 unc. ; caudæ 3 unc.

COLOUR.—The upper and lateral parts of the head greyish brown, the former with one complete and one or two incomplete transverse, clear wood-brown bars between the eyes, the latter with some clear yellowish brown spots, more especially under the eyes; the upper lip and the nose liver-brown. The back and sides are yellowish brown, more or less freckled with buff-orange spots, and broadly barred with brownish red, each bar near the dorsal line crossed with a liver-brown more or less lunate stripe. The upper and lateral parts of the tail barred yellowish brown and brownish red. The under parts of the head, body, and tail cream-yellow; the chin and the sides of the lower jaw speckled profusely, the belly sparingly, with small liver-brown spots. The under surface of the tail faintly clouded with pale brownish-red. The extremities above and behind yellowish brown clouded with brownish red, below pale cream-yellow; claws buff-orange.

FORM, &c.—Head subtriangular, the hindhead considerably wider than the neck. Body slightly depressed, convex above, the sides protuberant and arched; tail tapered, subcylindrical, very slender at and near the point. The anterior half of the head is quadrangular, the posterior half convex above, prominent, and irregular at the sides; the upper surface towards the nose is slightly convex, between the eyes concave, the superciliary ridges being prominent and arched. Nose rather narrow and rounded anteriorly; nostrils projecting, subconical, nearer to the point of the nose than the eye, and close to the *canthus rostralis*. Eyes rather small and moderately prominent; lower eyelid deep, and coated with three or four rows of small triangular scales; the point of each directed upwards; ears vertically ovate, moderately large, *tympanum* deep, but distinctly visible; anterior extremities rather slender: the

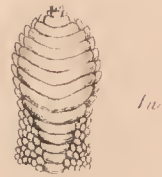
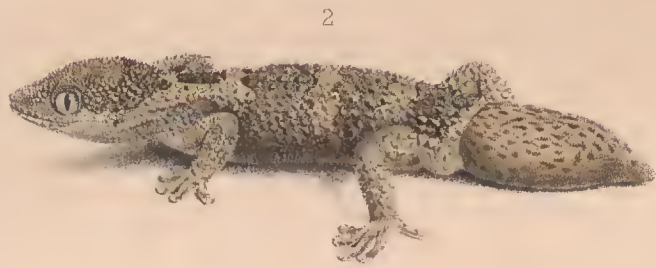
AGAMA CÆLATICEPS.

inner toe of each foot very short, the second rather longer, the third and fourth equal in length and much longer than the second, the outer or fifth not quite so long as the second, all armed with short, slender, curved, and pointed claws; the hinder extremities rather robust towards the body, slender towards the toes; the inner toe very short, second considerably longer, the third about double the length of the second, the fourth considerably longer than the third, and the outer one, measured from base to point, is rather longer than the second. The scales of the upper and anterior portion of the head are flat, unequal as regards size, subovate, longitudinally keeled, and on the sides of the keels rough, from fine raised ribs or small tubercles. The *canthus rostralis* on each side sharp and formed of a line of keels; the palpebral ridges also sharp, and consists of a row of scales projecting upwards and outwards, each overlapping externally the scale immediately behind it. The scales immediately in front of the eyes are embossed like those of the forehead, their points acute or arched, and directed upwards, those below the eye and on the sides of the head above the upper lip subtriangular, their points directed downwards and backwards. Towards the eye the scales are very small; towards the upper lip three or four rows, large, all keeled, and otherwise embossed. The small scales are separated from the large ones by a longitudinal row of aculeated scales, those towards the temples most prominent. The scales on the upper and posterior part of the head are flat, irregularly shaped, and, with the exception of three or four on the temples scarcely keeled, in other respects like those on the forehead; two of the keeled scales of the temples are so placed that the keels form a longitudinal line which extends from the hinder extremity of the prominent infra-orbital ridge to nearly the upper extremity of the ear-opening. Scales of the upper lip, exclusive of the rostral one, and of the lower lip, exclusive of the mental one, nine, not distinctly divided. On each side of the neck, between the ear and the shoulder, a longitudinal cuticular fold, and above it some small protuberances, which, like the fold, are studded with small, conical, longitudinally ribbed scales. Scales of the back and sides triangular, keeled, and somewhat embossed; the majority of them are of nearly the same size, the others are larger, project more or less outwards, and terminate in spinous points. Four longitudinal rows of these scales exist on the back, two on each side of the dorsal line, a number of others are irregularly scattered between the lines and on the sides of the body. Scales of the tail somewhat triangular, strongly keeled, and arranged in more or less regular rings, the keels of some of them towards base are very prominent and prolonged; these scales form four short longitudinal rows, two of which are

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situated on the upper surface, and one on each side. The scales on the under surface of the tail are arranged so that the keels form almost continuous narrow ridges. The scales of the under surface of the head are generally smooth, those of the under parts of the neck, and of the breast and belly, triangular and keeled, the keels prolonged beyond the scales, forming fine spines. Scales of the extremities triangular and strongly keeled, those of the under and anterior surfaces smallest; on the upper and hinder surfaces some large aculeated scales.

The only specimens of this species which I have seen were obtained towards the tropic of Capricorn. It inhabits dry, arid situations, is very watchful, and when approached attempts by gestures, particularly of its head, to stay the advance of the intruder, but failing that it takes to flight, and conceals itself as it best can. In this manner of proceeding it agrees with other species of the genus which I have had the opportunity of observing, all of whom employ gesticulations of the head and dilatation of the throat, apparently with the hope of creating fear in those approaching them: whoever has observed the use a monkey makes of its head when it is approached or closely surveyed by a stranger, will readily comprehend the practice of the lizards referred to. The embossed condition of the scales, particularly of those of the upper surface of the head, well shown in figure *a*, furnishes at once the means of distinguishing it from the species hitherto described.



1 PACHYDACTYLUS
2 PACHYDACTYLUS
3 HEMIDACTYLUS CAPENSIS.

GEKO WALBERGII.—SMITH.

REPTILIA.—PLATE LXXV.—FIG. 1.—YOUNG.

G. *superne flavo-griseus; dorso lineis nigris brevibus et maculis ovatis albis, in linea vertebrali, notato; caudâ superne fasciis transversis albis nigro-marginatis variegatâ; partibus inferioribus rubro-albis purpurco-tinctis; digitis brunneo-rubro anguste marginatis.*

LONGITUDO è nasi apice ad basin caudæ 2 unc. 8 lin.; caudæ 1 unc. 10 lin.

COLOUR.—The upper and lateral parts of the head, the back, the sides, the outer surface of the extremities, and the upper and lateral parts of the tail, yellowish grey, faintly tinged with pale, rusty oil-green, and variously variegated. The variegation on the upper and lateral parts of the head are small liver-brown dots; on the centre of the back, greenish white ovate spots edged with liver-brown, seven in number, in a longitudinal series, the second spot exactly between the fore legs, the last between the hinder legs; on the lateral parts of the back, sides, and outer surface of extremities, small liver-brown spots or short lines, longitudinal or transverse, but not arranged in any regular order. On the upper surface of the basal half of the tail, they consist of three or four zig-zag transverse pale sienna-yellow bars, each more or less edged anteriorly with liver-brown, the dorsal half with a few longitudinal light sienna-yellow streaks, and some liver-brown stripes or spots. The under surface of the head, neck, body, tail, and inner surface of extremities, reddish white, more or less tinged with lilac-purple. Toes generally margined with brownish red. Lips sienna-yellow, vertically barred with pale brownish red.

FORM, &c.—Head long, subovate, and posteriorly wider than the neck. Body rather slender, and subcylindrical. Tail cylindrical, tapered from the base to the point, which is slender and acute. The upper surface of the head, posteriorly, nearly flat, anteriorly, sloped to the nose; rostral *canthus*, indistinct. The upper and the lower lips project beyond the sides of the head. Nose rounded; nostrils small, and situated close to the nose, imme-

GEKO WALBERGII.

diately under the rostral canthus. Eyes large; pupil oval and vertical; eyelid, which is confined to the upper and inner part of the eye, narrow, and covered with small granular scales, margined with a row of larger ones. External ear-opening narrow, oblique, broadest below, and in a line with the angle of the mouth. Rostral plate large, oblong, subquadrangular, and partially divided horizontally by a slender groove, which extends from one extremity to the other; nasal plates small, quadrangular, and separated from each other by two smaller, somewhat granular plates; behind those a second row of four smaller ones, the outermost of each side forming the edge of the nostril; plates of upper lip, exclusive of rostral plate, eleven or twelve, of lower lip, exclusive of mental plate, eleven; mental plate square. On the under surface of the lower jaw, bordering the labial plates, a row of smaller ones, which decrease in size towards the hinder extremities of the jaw. The scales of the upper lip, edged superiorly by a row of granular scales, larger than those on the other parts of the head. Scales of the upper and lateral parts of the head, very small, circular, convex, and closely set, but not imbricate. Scales on the body and tail rather larger than those of the head; on the back, sides, and belly, they are flat; on the tail, slightly convex. On the body, they are arranged in rows more or less oblique; on the tail, in nearly circular rings. The scales on the middle of the back, and upper surface of the tail, are subcircular, or slightly six-sided; on the sides, belly, and under surface of the tail, ovate or six-sided, and slightly imbricate. The scales on the under surface of the tail larger than those on the upper surface. Scales of the under surface of the head, between the branches of the lower jaw, very small and granular. Toes strongly depressed, broadest near the point, and all, excepting the innermost of each foot, armed with a slender, highly curved claw. The upper portion of each toe is covered with small subovate scales, slightly imbricate; the lower coated with ten or twelve transverse membranous plates, each slightly arched backwards, the two or three most distant from the point very short; behind these, the remainder of the under surface consists of small scales, the largest along the centre line of the toe. Length from nose to base of tail 2 inches 8 lines; length of tail 1 inch 10 lines.

Inhabits the country to the eastward of the Cape Colony; and the only specimen I have seen was procured by Mr. Walberg, of Stockholm, while travelling in Kafferland. To the liberality of this gentleman and Professor Sunderwall, I am indebted for the opportunity of figuring and describing the species.

PACHYDACTYLUS RUGOSUS.—SMITH.

REPTILIA.—PLATE 75.—FIG. 2.

P. superne auranteo-albus, capite postice maculâ nigro-brunnea falcata marginato, dorso inter scapulas macula ovata et corpore postice tribus fasciis latis nigro-brunneis variegatis; lateribus nigro-brunneis; partibus inferioribus viridi-flavis; squamis partim tuberculosi conicis, partim parvis granulosis.

LONGITUDO è nasi apice ad basin caudæ 2½ unc.; caudæ ?

COLOUR.—The upper surface of the head rusty orange-coloured white, faintly elouded with brownish red, apex of the nose clear orange-coloured white; sides of head pale brownish red, tinted with orange-coloured white. Head posteriorly bounded by a deep brownish red, crescent-shaped band speckled with white; this mark extends from one eye to the other, and its hinder edge at the middle of the back is bifurcate. On the vertebral line between the fore legs, a deep oval brownish red spot, broadly edged with orange coloured white, which before and behind is broken into three projecting points, anteriorly the outermost on each side prolonged forwards in the form of a broad band till it reaches the angle of the mouth. Back and sides deep brownish red, the former variegated with three irregular transverse orange-coloured white bars, the last immediately behind the base of the tail. Extremities externally rusty orange-coloured white. Under surface of head, breast, and belly greenish white, speckled with minute greenish brown spots. Lips straw-yellow, barred perpendicularly with light brownish red. The reproduced tail pale yellowish brown, variegated with numerous short black lines placed longitudinally.

FORM, &c.—Head long and subovate, temples rather prominent, sides of head nearly perpendicular and converge towards the nose, the latter is narrow and rounded; nostrils small, circular, and situated close to the rostral plate, anteriorly formed by the nasal and posteriorly by a narrow post-nasal plate. Eyes large; pupil vertical; upper eyelid narrow and externally covered with small conical scales; no vestige of the lower lid. External ear-

PACHYDACTYLUS RUGOSUS.

opening small, subovate, in a line with the angle of the mouth, and about two lines behind it. Plates of upper lip ten, the last very small, and situated immediately under the eye, considerably in front of the angle of the mouth; plates of lower lip ten, the four last excessively small. Rostral plate five sided; mental plate subtriangular; neck narrower than the hind-head; body subcylindrical; extremities rather long and moderately robust. Toes rather slender, and towards and at the point slightly enlarged, the outermost and innermost of the fore feet equal in length, the second and fourth rather longer, the third longest, the middle one of the hinder foot rather longer than the other four, which are of equal length. The point of each toe is superiorly covered by a large flat scale, like a nail, and inferiorly by four transverse angular cuticular folds, the angle equidistant from each extremity. The remainder of the under surface, behind these folds, is coated with three longitudinal rows of scales, those of the middle row the largest. All the toes clawless. The scales of the head are small and conical, or three sided, and are slightly separated from each other by the intervention of a few minute granular scales. The back and sides are covered with scales of a like description, but the tubercular ones especially on the back are much larger and many of them distinctly three sided, the anterior side generally very sharp or keeled. The small ones, which intervene between the larger ones, vary in size, and have more or less conical or three sided; many of the tubercles on the sides are perfectly conical and ribbed longitudinally. Scales on the under surface of the head and body, and on the inner surface of extremities small, equal in size, and subconical; on the outer surface of the extremities conical, large near the body, smaller towards the toes, and everywhere as on the back and head, slightly separated from each other by the intervention of small granular scales. The natural tail, there is reason to believe, is surrounded with rings of conical tubercles, and four such tubercles occur in a longitudinal row on each of its sides, immediately behind the base of the hinder extremity. Length from nose to base of tail $2\frac{1}{2}$ inches.

Inhabits the interior of Southern Africa. The specimen I possess is the only one I have yet seen.

HEMIDACTYLUS CAPENSIS.—SMITH.

REPTILIA.—PLATE 75.—FIG. 3.

H. *superne rubro-brunneus, lineis duabus longitudinalibus subaurantiis, maculisque parvis subflavis variegatus; subtus flavo-albus; digito interno pedis singuli parvissimo.*

LONGITUDO è nasi apice ad basin caudæ 1 unc. 3 lin.; caudæ $1\frac{1}{2}$ unc.

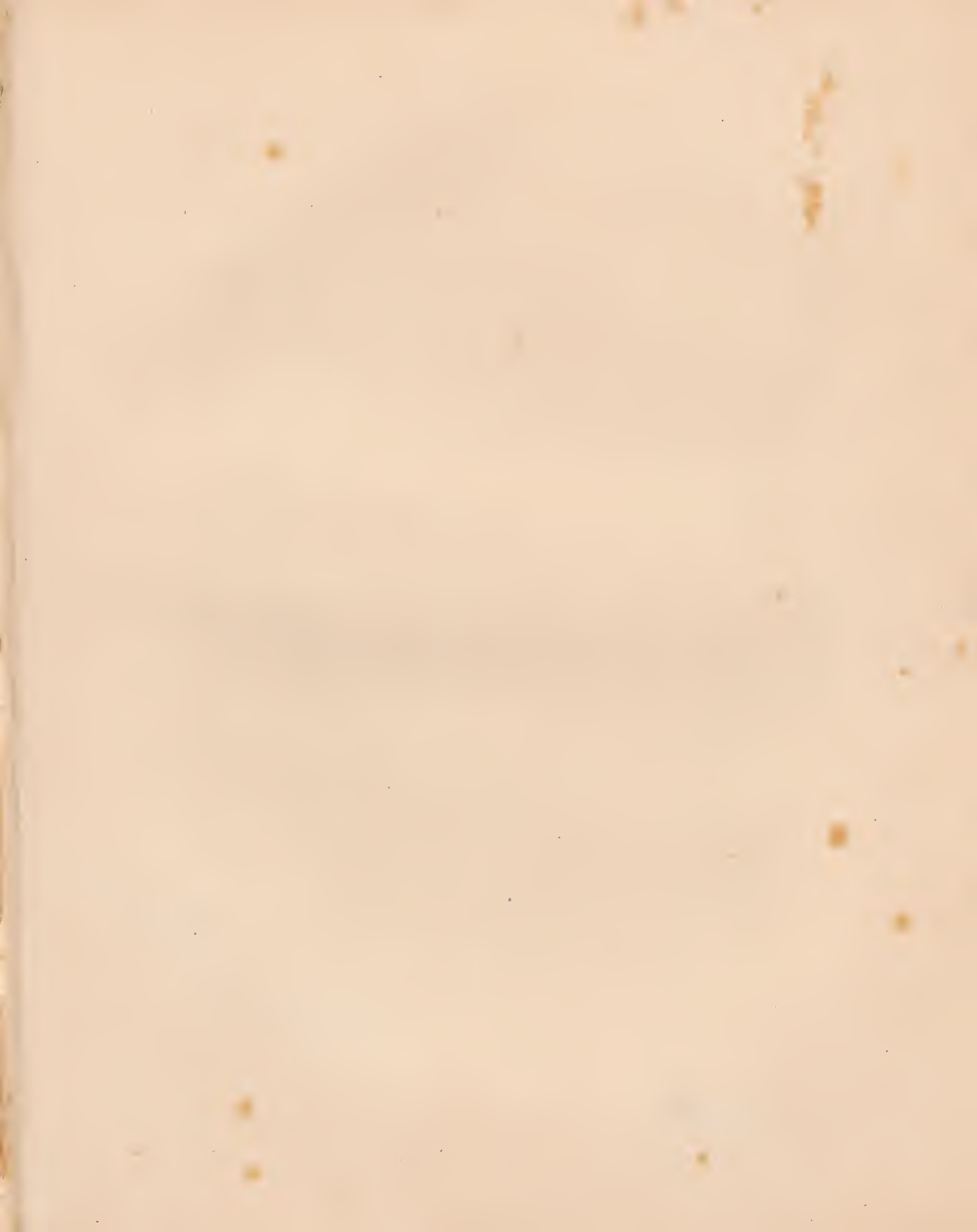
COLOUR.—The upper and lateral parts of the head, the back, the sides, the outer surface of the extremities, and the upper and lateral parts of the tail, either light brownish red, or a tint between wood-brown and sienna-yellow. The variegations are two longitudinal pale reddish orange lines, and some small pale cream-yellow spots; the former extend, one on each side of the back, from the eye to nearly the commencement of the last third of the tail; the latter are thinly scattered on the back and tail between the lines, also on the outer surface of the extremities. The under parts of the head, the body, the tail, and the inner surface of the extremities, pale cream-yellow or straw-yellow. In light-coloured individuals, the yellow line is frequently edged above and below with a pale liver-brown line. Eyes, greenish yellow, with a bronze lustre.

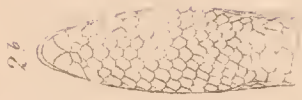
FORM, &c.—Figure slender; body somewhat four-sided, laterally rather protuberant, and longitudinally arched; tail cylindrical, and tapered from base to apex, the latter slender and pointed. Head four-sided, the hind-head of the same width as the neck, sides perpendicular and anteriorly converge slightly to the nose; the latter narrow and rounded; upper surface of head between eyes concave; rostral canthus distinct; nostrils situated close to nose, small, and edged above by the nasal plate, below by the first labial, and behind by two narrow scales. Eyes rather large; pupil circular; no eyelid to the outer third of the eye; external ear opening small, circular, smooth, and in a line with the angle of the mouth. Extremities slender; toes of the fore feet five, the innermost rudimentary, and close to the base of the second, the third and outermost toes of the same length, the fourth

HEMIDACTYLUS CAPENSIS.

rather longer; the innermost toe of the hinder feet also rudimentary, as in the fore feet, the third is considerably longer than the second, the fourth longer than the third, and the fifth, or hindermost, which is apart from the others, is not quite so long as the fourth. Each of the toes is armed with a sharp curved claw, placed in the eight fully developed ones, on the distal end of the last joint, which is slender and compressed, as in the *Hemidactyli*. Posterior to this joint these toes are depressed, and for some way towards the base considerably enlarged laterally. The under surface, where the dilation is greatest, is coated with six or eight transverse euticular folds, arranged in two series, the one separated from the other by a distinct longitudinal groove; behind those towards the base, there are three series of small scales, those of the middle row the largest. The rudimentary toes show no lateral dilation, each below has only a single row of short transverse plates; the upper surface of all the toes is covered with small, subovate, imbricate scales. Nasal plates subquadrangular, and with the first labial plate, and two small scales, form the margin of the nostrils. Plates of upper lip, exclusive of rostral, eight, of lower lip, exclusive of mental, the same number; the first four of lower lip large, the others, as well as the last three of the upper lip, small and convex. Scales of the head small, circular, and slightly convex; those anterior to the eyes largest; scales of the body and sides small, subtubercular, and arranged in rows, slightly oblique, and with the corresponding one of the opposite side, form an obtuse angle on the centre line of the back; under surface of thighs with four rows of rather large flat imbricate scales. Scales of the upper and lateral surface of the tail rather larger than those on the back, imbricate, and arranged in transverse rows, those of the under surface six-sided, the smallest towards the base, the others here and there almost amount to narrow transverse plates. Submental plates five, one, the largest, somewhat quadrangular, situated immediately behind the mental plate; the others, two on each side, one behind the other, and in contact with the labial plates. Scales on under surface of head circular, flat, and small, on throat and under parts of body moderately large, subhexagonal, approaching circular, all imbricate. Length from nose to base of tail, 1 inch 3 lines; of tail, $1\frac{1}{2}$ inch.

Inhabits Kaffirland, and the districts to the north of the Cape Colony. The specimens I procured were discovered under decayed wood





2



COLLEA JEFFERSONI

2 DEFILIA GRAYII

Hopatia, Par. W.

CAITIA AFRICANA.—GRAY.

REPTILIA.—PLATE 76.—FIG. 1.—1 a, b, & c.

C. *superne* auranteo-brunnea, *subtus* griseo-flava, *plieâ* laterali versus caput pallide flavâ, lineis brunnis verticalibus variegatâ; extremitatibus anterioribus posterioribusque parvissimis, spuriis, et indivisis.

LONGITUDO è nasi apice ad anum 2 unc. 9 lin.; caudæ 9 unc. 6 lin.
Caitia Africana, Gray, Ann. Nat. Hist. vol. i, page 389.

COLOUR.—Head, back, and tail, superiorly light reddish brown, or reddish brown tinted with hair-brown; sides and under parts wine-yellow, the former tinged with oil-green; the lateral fold of skin, towards the head, the side of the body directly above that portion of the fold, together with the upper lip, pale lemon-yellow, barred with vertical, short, deep, reddish brown stripes.

FORM, &c.—Head quadrangular, and tapered towards the nose, which is narrow and rounded; sides of the head perpendicular. Body and tail slender, almost cylindrical, the whole of the former and the basal third of the latter nearly of equal thickness; the other two-thirds of the tail tapered to the point, which is slender and acute. Along each side of the body a lateral fold of skin, the free edge directed upwards; it commences at the hinder extremity of the lower jaw, and terminates at the base of the posterior rudimentary extremity. Rostral plate triangular, its apex between the nasal plates; the latter plates are narrow and placed transversely, the outer extremity widest, the inner extremity subacute, and in contact with its fellow of the opposite side. Naso-rostral plate large, five-sided, the hinder side notched to lodge the apex of the frontal plate; fronto-nasal plates wanting. Frontal plate rather large, six-sided, before and behind pointed; palpebral plates three on each side, the middle one largest; parietal plates large, anteriorly irregularly rounded, posteriorly truncated; interparietal plate narrow, sub-rhomboidal; frenal plates rather large, subquadrangular, narrowest

CAITIA AFRICANA.

anteriorly; freno-nasal plates small. Plates of the upper lip, exclusive of rostral, six, the third, under the eye, much the longest; plates of lower lip, exclusive of mental, three, the first very small, the second much the longest. Mental plate large; submental plates two pairs, the hinder pair the largest; temporal plates four, disposed in two rows, the uppermost one of the hinder row much the largest, and forms the upper and anterior margin of the ear-opening. Nostrils small, circular, and formed by three plates, the first labial, the nasal, and the freno-nasal. Eyes rather large; lower lid externally coated with numerous small scales; the orbit, superiorly, margined with a row of narrow small plates; two scales behind the eye, two above, and one in front, which reaches to the frenal plate. Ear-opening moderately large, subcircular, and situated directly behind and near to the angle of the mouth, and partially concealed by the cuticular fold; the space between the opening and the angle of the mouth studded with small granular scales. Scales of body and tail subquadrangular, rather narrowest behind, and arranged in transverse rows; each scale has a strong keel along its centre, and finer ones on each side, and the former are so arranged as to form several fine continuous ridges along both the body and the tail; the rows of scales anteriorly are 12, posteriorly 14; the scales towards the belly are but faintly keeled. Abdomen with six rows of smooth quadrangular plates, the cuticular fold externally covered by the outermost row of each side. The scales of the under surface of the tail are like those of the upper, with the exception that they have no fine keels on the sides of the central one. Extremities rudimentary, undivided, and laid close to the body, the anterior ones about an inch behind the external ear, immediately above the edge of the lateral fold, and are very short, slender, somewhat cylindrical and pointed; the posterior ones are rather larger, compressed, pointed, and externally covered with scales, and each has two or three prominent pores on its hinder or inferior edge, towards its base. Length from the nose to the anus, 2 inches 9 lines; from anus to point of tail, 9 inches 6 lines; length of extremities, about a line and a half. The drawing represents the natural size of an adult specimen.

Inhabits the eastern districts of the Cape Colony, and also the country towards Natal. It is found in situations where grass abounds, and it progresses through the latter with great rapidity, and after the manner of an *ophidian* reptile.

DELMA GRAYII.—SMITH.

REPTILIA.—PLATE 76.—FIG. 2.—2 a, b, & c.

D. *superne* griseo-brunnea, *subtus* viridi-flava; *corporis lateribus versus caput*, lincis flavis verticalibus notatis; *palpebris spuriis, circularibus, flavis*; *extremitatibus posterioribus spuriis parvis et compressis*.

LONGITUDO è nasi apice ad anum 3 unc. 9 lin.; caudæ 9 unc.; extremitatum posteriorum $1\frac{1}{2}$ lin.

COLOUR.—The upper surface of the head, the back, and the sides, hair-brown; the sides towards the head vertically barred with narrow stripes of lemon-yellow. The lower lip and the under parts of the head and body, greenish white. The under surface of the tail, wine-yellow. A narrow line round the eye, lemon-yellow.

FORM, &c.—Head, subquadrate, the hind-head rather wider than the neck. The body and tail slender, subcylindrical, and slightly flattened beneath; the body rather thickest at the head; the tail tapered gradually from the base, and at the extremity very slender and pointed. The nose is narrow and rounded. Rostral plate subtriangular, its apex rounded; nasal plates narrow, subquadrangular, and internally contiguous; naso-rostral plates narrow and quadrangular, their inner extremities in contact; fronto-nasal plates rather large, quadrangular, the inner sides in contact, the hinder side shortest. Frontal plate large and five-sided, the anterior side slightly projecting between the fronto-nasal plates; palpebral plates two; parietal plate single, seven-sided, and pointed behind. Occipital plates two, subovate, and narrowest behind, the outer edge irregular, the inner, which is in contact with its fellow, nearly straight. Nostril small, and formed by the nasal, freno-nasal, and anterior labial plates; frenal and preocular plates wanting, the place of the latter occupied by a number of small scales. Plates of upper lip six, exclusive of the rostral plate; of lower lip four, exclusive of the mental plate, the first prolonged inwards, and in contact with its fellow of the opposite side. Eyes rather small; pupil circular; eyelids rudimentary, circular, and consist of a

DELMA GRAYII.

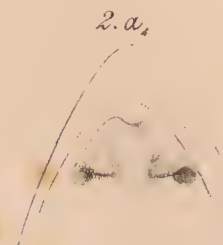
ring of minute scales. Tongue flat, coated with minute granular papillæ, and slightly bifid at the apex. External ear-opening small, subovate, and in a line with the angle of the mouth. Scales of the body and tail imbricate, those of the former rounded posteriorly, and arranged in oblique rows, fourteen in each row, those of the latter somewhat six sided, and not arranged in distinct rows; scales of throat small and six sided. Plates of the belly larger than the scales of the back, and six sided; those of the under surface of the tail nearly the same, and much larger than the scales of the upper surface. Anterior extremities wanting; posterior extremities rudimentary, short, compressed, placed close to the body on each side of the anus, and externally coated with small scales, the apex narrow, and formed of two small scales. Length from nose to base of tail, 3 inches 9 lines; length of tail, 10 inches; length of hinder extremities a line and a quarter; circumference at the thickest part of the body, 8 lines.

This reptile was given to me as an inhabitant of the interior of Southern Africa, but whether it is so or not I cannot pretend to decide, as I never obtained a specimen in any part of the country over which I travelled. The only other species of the group yet known, the type of the genus *Delma* of Mr. Gray,* is known to be a native of Western Australia, therefore it is probable the present is also from that country. Though such is my suspicion, I know no valid reason why species of this group should not be expected to exist in both countries, the more especially as we know that not only species of the same group are found in both, but that, in one instance at least, the self-same species (*Phyllodactylus porphoreus*, Dum. & Bib.) is found abundantly both in New Holland and in Southern Africa.

* Gray's Travels in Australia, vol. ii. p. 427, plate 4, fig. 3.



2.



1. RANA DELALANDII.
2. RANA OXYRHYNCHUS.

Reptilia. Plate 77.

RANA DELALANDII.—DUM. & BIB.

REPTILIA.—PLATE 77.—FIG. 1.—2 a, b, c.

R. capite conico, naso ultra mandibulam porrecto; tympano magno rotundato, prope oris angulum posito; plantis palmatis; dorso lateribusque maculis viridi-nigris variatis; extremitatibus colore eodem subfasciatis.

LONGITUDO è nasi apice ad anum 3 unc.

Rana Delalandii. Dum. et Bib. Erpetol. Generale, tom. 8, page 388.

COLOUR.—The ground colour of the upper parts of the head and body intermediate between oil-green and yellowish grey; variegations liver-brown or greenish black, and are an oblong blotch on the side of the head covering the whole of upper lip, a narrow stripe between the nose and the eye in the course of the *rostral* canthus, a semicircular mark under the eye, a large blotch between the eye and the angle of the mouth encircling the *tympanum*, two somewhat club-shaped spots on the hindhead, each sending a bar or spur across the palpebral shields, a small spot at the anterior extremity of the latter, two rows of somewhat circular or oval spots along the middle of the back, and outside of these a few large irregular-shaped blotches. Dorsal line yellow. The upper lip is freckled with yellowish white spots, and an oblique line of the same colour, widest in front of the eye, extends from the side of the nose to the angle of the mouth. The sides of the body are liver-brown, irregularly spotted with king's-yellow. The extremities superiorly are variegated, the anterior with two rows, the posterior with one row, of liver-brown bars, the anterior surface of the hinder extremities is mottled with irregular liver-brown blotches, and the posterior surface of the thighs is liver-brown freckled with cream-yellow spots. The upper surface of the outer and second toe of each foot is blackish green freckled with cream-yellow, the other toes greenish yellow without variegations. The under parts of the head, body, and extremities, intermediate between sienna-yellow and ochre-yellow, the parts in front of the breast freckled with rather small pale reddish brown blotches. Under lip

RANA DELALANDII.

greenish yellow variegated with liver-brown stripes and cream-yellow spots. Tympanum black.*

FORM, &c.—Head viewed from above subconical; the nose prolonged considerably beyond the under jaw, its apex slightly rounded; palatal teeth apart from the nostrils, *vide* fig. 1, *a*; tongue broad, subovate, and rather strongly forked, *vide* fig. 1, *b*; rostral canthus obtuse; sides of head as far as the middle of the upper lip inclined obliquely outwards, the edge of the lip inclined inwards; nostrils small, and situated on the rostral canthus, about half way between the point of the nose and anterior angle of the eye. Eyes moderately large; eye-shield prominent and arched; tympanum nearly circular, close to and directly over the angle of the mouth, its surface marked with six or more radii, which proceed from the centre to the circumference. Body rather bulky, back flat, sides prominent and arched; fore legs short and rather slender; toes at base connected by a subrudimentary web, all are rather slender, the outer, the third, and the innermost nearly of equal length, the second rather longer; the inner one at its base enlarged; on the sole of the foot behind the second and third toes a small convex tubercle, also one, but smaller, under each joint of the toes. Hind extremities long and robust, the toes webbed nearly to their point, *vide* fig. 1, *c*, the outermost and the third of equal length, the second much longer, the fourth considerably shorter than the third, and the fifth about half the length of the fourth, the point of each is rounded and obtuse, and under each joint is a small subovate or hemispherical tubercle. The tarsus is margined externally with a narrow semicartilaginous ridge, which is directed downwards. Skin generally smooth, with short longitudinal *plicæ* on the back and sides disposed in several rows most distinct on the anterior and middle parts of the former; in some specimens these *plicæ* are scarcely if at all visible. Length from nose to anus, 3 inches; length of hinder extremities, 5 inches.

This frog occurs throughout the whole of Southern Africa, and is to be obtained in great abundance in the vicinity of Cape Town. It is generally observed on dry ground, but readily takes to water when alarmed or pursued, if the latter be within its reach. For further remarks in reference to this species, see description of *Rana Oxyrhynchus*.

* Almost every specimen of this species presents some peculiarity in respect of colour, hence it is almost impossible to particularize variegations which are universal. The more prevalent are, the dark rostral line, the blackish blotch encircling the *tympanum*, the club-shaped spots on the hindhead, the bars on the extremities, and the oblique white line on the side of the head. In many individuals the variegations on the back are as in the specimen figured and described; in others, they consist in a profusion of irregular dark spots, while in a third class the back is comparatively without marks of any description; in some specimens, again, a yellow line is seen to extend from the nose to the anus in both sexes.

RANA OXYRHYNCHUS.--SUNDERVALL.

REPTILIA.—PLATE 77.—FIG. 2.—2 a, b, c—(*Female*).

R. superne pallide viridi-cinerea, dorso maculis nigro-viridibus variegatis, partibus inferioribus subflavis ; capute conico ; naso ultra mandibulam porrecto ; linguâ angusta subovata ; dentibus vomerianis ad nares extensis, dorsi laterumque cute plene plicatâ.

COLOUR.—The upper parts of the hind head and body, the sides and the outer surface of the extremities, intermediate between oil-green and wood-brown, the sides faintly clouded with clear oil-green, the anterior portion of the upper surface of the head pale wood-brown. The variegations liver-brown or greenish black, and there are a number of small quadrangular spots arranged in several longitudinal rows on the back, an irregular blotch on each eyebrow, a stripe between eye and nostril, a large oblique blotch between the eye and the base of the fore leg, including the tympanum, a few short narrow lines on the sides, two or three transverse bars on outer surface of fore legs anteriorly, and six or seven of the like kind on the same parts of the legs, three or four on the outer side of the tarsus, and several on the outer side of the thigh towards its anterior edge ; the latter are less distinct than the others ; in some instances they consist of a series of separate quadrangular spots, in others, of pale bars crossed, a darker line giving an appearance of a series of spots ; posterior surface of thighs greenish black, reticulated or freckled with pale ochre-yellow lines or blotches, outer surface of legs posteriorly thinly sprinkled with small blackish green spots, each with a white or yellowish centre ; toes dull sienna-yellow, the outer and second of hinder feet with several transverse greenish black bars towards their base. Tympanum greenish black, and surrounded with a narrow, yellowish ring ; upper lip pale rusty brown, sparingly freckled with yellow, and over these colours, between them and the dark blotch which descends from the eye to the base of the fore leg there is an ochre-yellow stripe, which commences a little below the anterior canthus of the eye and reaches to angle of the mouth ; lower jaw pale brownish red, sparingly barred with ochre-yellow. The under parts of the head and body, and the

RANA OXYRHYNCHUS.

inner surfaces of the extremities intermediate between sienna and ochre yellow. Webs of hinder feet greenish grey. Irides greenish black, dotted with yellow, and a narrow yellow ring round the pupil.

FORM, &c.—Head subconical, nose narrow, almost acute, and prolonged considerably beyond the lower jaw, sides of upper jaw slightly convex. Tympanum close to the angle of the jaw, circular, slightly depressed, and surrounded by a narrow raised ring. Body subovate. Fore leg short and rather slender, the outer, the third, and the inner toes of equal length, the second about a line and a half longer, all with a distinct tubercle under each joint. Hinder extremities long and rather robust, the leg about two lines longer than the thigh, the outer and the third toes of equal length, the second nearly four lines longer; they are all connected by a web which extends to the distal phalynx of each, not so distinctly, however, in the case of the second, a prominent tubercle under all but the distal joint of each toe, a narrow, prominent tubercle, about a line and a quarter in length at the base of the innermost toe. Back, sides, and thighs more or less rugose from raised cuticular folds and oblong warts, the latter most numerous toward the head. Length from nose to anus, 2 inches 3 lines; length of anterior extremities to apex of second toe, 1 inch 14 lines; of hinder extremities to the point of the second toe, 4 inches 7 lines.

Inhabits Kaffir Land and the country about Port Natal. It is closely allied to *Rana Delalandii*, and may eventually require to be regarded but a variety of that species. I make this remark in the conviction that what we at present consider specific differences, or at least many of them, will not be found, on more extended investigation, to be more than modifications in different specimens of the same species. If the result be different to what I contemplate, it will be a distinct species. In *Rana Delalandii* the palatal teeth form two ovate clusters, neither of which extends to the edge of the inner nostril; the tympanum is on a level with the surrounding skin, and not encircled by a raised ring. The tongue is broad, short, and subovate, Fig. 1*b*. The second toe of the hinder foot continues of the same width to the point, and the web only reaches to the penultimate joint. The outer edge of the tarsus inferiorly is margined by a raised cuticular fold; the liver is distinctly three lobed. In *Rana oxyrhynchus*, the palatal teeth are in a narrow row on each side, and each row reach to, or rather extend a little in front of, the internal nostril; the tympanum is slightly depressed, and surrounded by a raised ring; the tongue is narrow, rather lengthened, and subovate, Fig. 2*b*. The second toe is sensibly narrow at its point, and the interdigital web extends to the distal joint: there is no distinct cuticular fold along the inner side of the *tarsus*, and the liver presents only two lobes. Besides the differences particularized, the small intestines and the joints of the hinder extremities are longer, in proportion, in this species than in the other.

1.



1.b.



2.b.



1.a.



2.a.



2.

1.c.



2.c.



- 1. RANA FASCIATA
- 2. RANA GRAYII

Reptilia. Plate 78

RANA FASCIATA.—BOIE.

REPTILIA.—PLATE 78.—FIG. 1.—1 a, b, c—(Female.)

R. gracilis, extremitatibus posterioribus, digitis præcipue, longissimis; dorso lateribusque fasciis longitudinalibus viridi-nigris sex notatis; plantis subpalmatis.

LONGITUDO è nasi apice ad anum 1 unc. 10 lin., extremitatum posteriorum 4 unc.

Rana fasciata, Dum. and Bibr. Erpetologie Generale, tom. viii. page 389.

Strongylopus fasciatus, Tschudi, Class Batrach, Mem. Societé Scienc. nat. Neuch, tom. ii. page 79.

COLOUR.—The upper surface of the head and the back anteriorly light rusty wood-brown, the hinder parts of the back, the sides, and the outer and anterior portions of the fore legs, yellowish white or pale king's-yellow. The variegations on the parts specified are liver-brown, and consist of a longitudinal stripe between the eye and the nose along the rostral canthus, a stripe along the upper lip, an irregular subovate blotch between the hinder extremity of the eye and the base of fore leg, including the tympanum, six longitudinal stripes on the back and sides, the two on the middle of the former which reach from the inside of the eyes to nearly the anus, much the longest; a stripe along the anterior part of leg close to the body, and two others, or a few spots only, on the parts towards the toes. The dark rostral line and blotches behind the eye are separated from the labial stripe by a narrow, oblique, yellow line. The outer parts of the hinder extremities pale rusty oil-green, and the hinder part of the thighs light orange-coloured brown; toes pale sienna-yellow; under part of head greenish white; insides of extremities pale oil green.

FORM, &c. — Head subtriangular; nose anteriorly rather blunt. Body long, rather slender, and very narrow immediately in front of the hinder extremities; rostral canthus blunt, nostril midway between eye and apex of nose; sides of head slightly inclined outwards, and convex above the edge of

RANA GRAYII.

of its fellow of the opposite side. Tongue short, broad, and subovate, its hinder extremity slightly bifid. Anterior extremities short and slender; toes short, the point of each rounded, the outermost, the third, and the fourth of equal length, the second about one and a half lines longer; under each joint a small tubercle. Hinder extremities rather long, the thighs anteriorly rounded, posteriorly depressed, legs depressed, tarsi semicylindrical, flat behind, toes united by a web, which extends to the first or proximal joint, they are rather long, slender, and pointed, the outermost and third are of equal length, the second is about three lines longer, the fourth is about three lines shorter than the third, and the fifth about a line and a half shorter than the fourth; under each joint there is a small round tubercle, and at the base of the innermost toe a slender conical one, about half a line in length. Skin of head, body, and extremities, smooth. Length from the nose to the anus, 1 inch 9 lines; length of the thigh, 9 lines; of the leg, 1 inch; of the longest toe, 1 inch.

This species is found in the western districts of the Cape Colony, and even close to Cape Town. It generally resorts to marshy grounds, but is also frequently observed on the banks of lakes or stagnant pools. It has, I believe, been considered by Dumeril and Bibron as a variety of *Rana fasciata*, but I cannot regard it as such. The shape of the tongue, the position of the palatal teeth, the form of the head and body, the character of the toes of the fore feet, and the shortness, comparatively, of the different parts of the hinder extremities are, in my opinion, sufficient to justify it being regarded as a different species.

A P P E N D I X.

In addition to the Reptiles figured, the following are found in Southern Africa:—

CHELONIA.

TESTUDO PARDALIS, *Bell*, Monograph, Fig. without number.—*Dum. et Bib.* Erpet. Gener. tom. ii. page 71.

Found in various districts of Southern Africa.

TESTUDO GEOMETRICA, *Lin. Bell*, Monograph, Fig. id.—*Dum. et Bib.* Erpet. Gener. tom. ii. page 57.

Found in different districts of Southern Africa.

TESTUDO SULCATA, *Miller*, on var. subjects, tab. 26, A, B, C. *Bell*, Monograph, Fig. id.—*Dum. et Bib.* Erpet. Gener. tom. ii. page 74.

Inhabits the country about Port Natal.

CHERSINA ANGULATA, *Gray*. Testudo Angulata, *Schweig.* *Bell*, Monograph, Fig. id.—*Dum. et Bib.* Erpet. Gener. tom. ii. page 150.

Common throughout the whole of Southern Africa.

HOMOPUS AREOLATUS.—*Dum. et Bib.* Erpet. Gener. tom. ii. page 146. Testudo Areolata, *Bell*, Fig. id.

Common throughout the whole of Southern Africa.

HOMOPUS SIGNATUS.—*Dum. et Bib.* Erpet. Gener. tom. ii. page 152. Testudo Signatus, *Walb.* Ch. 74 et 420. *Bell*, Monograph, Fig. id.

Common throughout the whole of Southern Africa.

CINIXYS BELLIANA.—*Gray.* *Dum. et Bib.* Erpet. Gener. tom. ii. page 168.

Inhabits the country to the north and east of Port Natal.

PELOMEDUSA GALEATA, *Wagler*, Pentonyx Capensis. *Dum. et Bib.* Erpet. Gener. tom. ii. p. 390.

Inhabits lakes, marshes, and rivers.

APPENDIX.

CHELONIA VIRGATA, *Schweig.* Prodr. arch. Konisgh. tom. i. page 291 et 411, sp. 4. *Cuv.* Reg. Animal, tom. ii. page 14. *Dum. et Bib.* Erpet. Gen. tom. ii. page 541.

Found in the sea around the Cape of Good Hope.

CARETTA IMBRICATA. Testudo Imbricata, *Lin.* Syst. Nat. *Le Caret, Cuv.* Reg. Animal, tom. ii. page 13. Chelonia Caretta, *Temm. et Schleg.* Faun. Japon. Chelon. page 15, tab. 5, figs. 1 and 2. Chelonia Imbricata. *Dum. et Bib.* Erpet. Gen. tom. ii. page 547.

Found in the seas around the Cape of Good Hope.

CAOUANA DESSUMIERII. Chelonia Dessumierii, *Dum. et Bib.* Erpet. Gener. tom. ii. p. 557. Chelonia Olivacea. *Eschscholtz, Zool. Atl.* tab. 3.

The specimen I possess, which was captured in Table Bay, agrees in every respect with Chelonia Dessumierii, except that it has only twenty-five instead of twenty-seven marginal plates. Having frequently found the number of marginal plates to differ in different individuals of the same species, I do not consider the occurrence in a solitary instance sufficient to justify the individual being regarded as belonging to a different species. Should, however, twenty-five be found to be the usual number in specimens like the one I possess, and which has only one claw to the first toe, then I should be inclined to regard it as a distinct species.

SPARGIS MERCURIALIS.—*Merr. Temm. et Schleg.* Faun. Japon. Chelon. page 6, tab. 1, 2, and 3. Spargis Coriacea, *Gray. Dum. et Bib.* Erpet. Gener. tom. ii. page 560. Dermatochelys Porcata, *Wagl.* Syst. Amph. page 133, tab. 1, fig. 1-23.

Found in the sea to the south and west of the Cape of Good Hope.

SAURIA.

CROCODILUS MARGINATUS.—*Geoff.* Croc. d'Egypt. page 165. Crocodilus Vulgaris, var. C. *Dum. et Bib.* Erpet. Gener. tom. iii. page 110. Cayman of the Cape Colonists.

Specimens are occasionally found in the rivers west of Port Natal, but abundantly in those to the eastwards and northward, and occur in such numbers in the rivers of a district north of Kurrichane, between 24° and 22° south latitude, that the natives who used to reside there were known by the appellation Baquana—the people of the Crocodile.

CHAMÆLEO PUMILUS.—*Latr.* Hist. Rept. tom. ii. page 20. Le Cameleon nain, *Cuv.* Reg. Animal, tom. ii. page 60. *Dum. et Bib.* Erpet. Gener. tom. iii. page 217. Trap-sutchees of the Cape Colonists.

Inhabits the whole of Southern Africa, and is generally found on the branches of underwood.

CHAMÆLEO VENTRALIS, *Gray.* Catal. of the Specimens of Lizards, in the British Museum, page 268, 1845.

I cannot satisfy myself that this is more than a variety of *Chamælio Pumilus*. The chief differences observable are, the head and occipital crest are rather longer, and some large flat scales, like those sometimes observed on the sides of *Chamælio Pumilus*, exist on the sides of the belly, intermixed with smaller ones.

CHAMÆLEO GUTTURALIS, n. s.

Occipital casque three sided, produced and pointed behind; upper surface of the head covered with pointed tubercles, circular or compressed; palpebral ridges and edges of occipital crest strongly denticulated; temples intersected by a raised dentated ridge, the scales above and below large, flat, and smooth. Back and tail surmounted with a row of three-sided tubercles; body and tail covered with small scales and subconical tubercles; sides with two longitudinal rows of large, subovate, flat plates; chin and throat fringed longitudinally with long, smooth, thin, narrow, and pointed lobes of skin. Length $6\frac{1}{2}$ inches. This species, which is nearly allied to *Chamæleo Pumilus*, is readily distinguished by the length of the lobes forming the guttural fringe, and their being smooth and destitute of granular scales.

CHAMÆLEO TÆNIABRONCHUS, *Smith*. South African Quarterly Journal, No. 5, p. 17, October 1831.

Yellowish green, with two longitudinal buff-stripes along each side, and four or six smooth, oblong, jet-black stripes along the sides of the throat, best seen when the animal inflates itself, or when the skin is extended laterally. Occipital casque narrow, produced armed, above with three dentated ridges, one on each side, the other along the centre. Back with a ridge of short, conical tubercles inclined backwards; chin and throat with a short, dentated, longitudinal fringe; scales of body small and granular; temples divided longitudinally by a dentated ridge. Length of the only specimen I obtained, which was procured in the vicinity of Algoa Bay, 4 inches 3 lines.

CHAMÆLEO DILEPIS.—*Leach*, in Bowdich's Ashantee, Append. No. 4, page 493. *Dum. et Bib.* Erpet. Gener. tom. iii. page 225.

Inhabits the interior of Southern Africa, and specimens are frequently obtained about Latakoo. I never found an individual within the limits of the colony, nor even to the south of the *Gariap* or Orange River.

CHAMÆLEO NAMAQUENSIS, *Smith*. South African Quarterly Journal, No. 5, p. 17, October 1831. *Chamæleo Tuberculiferus*, *Gray*. Catalogue of the Specimens of Lizards, in the collection of the British Museum, July 1845.

Occipital casque prominent, triangular, divided along the centre by an elevated subdentated keel, and edged on each side by a semicircular raised ridge of the same character. Back with a row of large granular tubercles. Scales of body and tail homogeneous, small, and granular. Length of the adult, 9 inches. All the individuals of this species which I saw while at the Cape, were obtained in little Namaqualand, near to the mouth of the *Gariap* or Orange River.

CHAMÆLEO NASUTUS, *Dum. et Bib.* Erpet. Gener. tom. iii. page 216.

The single specimen, a male, which I possess, was obtained eastward of Port Natal, and differs slightly from individuals procured from Madagascar. There are three isolated spines, each about a line in length, on the vertebral line, about midway between the head and the base of the tail. Length from nose to tail, 1 inch 10 lines; of tail, 1 inch 9 lines: appears to be an adult.

PACHYDACTYLUS MARIQUENSIS, n. s.

Head short and rather broad; body subcylindrical; tail cylindrical. Colour of upper and lateral parts pale pearl-grey, variegated with brownish red; the variegations are a spot in front of each eye,

one behind the apex of the nose, a transverse waved bar on the forehead, a semicircular bar surrounding the hindhead, stretching from one eye to the other; five scalloped broad bands on the back, some of them consisting of two large oviform spots, united on the vertebral line by a narrow bar; five transverse bands on the tail, each more or less angular behind, at the mesial line; most of the variegations edged anteriorly and posteriorly with liver-brown. Under parts pale cream-yellow. Nostrils small, margined anteriorly by the nasal plate, posteriorly by two scales, the innermost tubercular. Toes subcylindrical, rather widest towards the point; under surface, behind the point, crossed with three more or less angular, transverse, membranous folds; the remaining portion covered with three longitudinal rows of moderately large granular scales. Scales of back small and granular, of tail rather larger, transversely subovate, and slightly imbricate; of belly, somewhat circular and slightly imbricate. Length from nose to base of tail, 2 inches; of tail, 1 inch 3 lines. Inhabits the interior of Southern Africa, towards the Tropic of Capricorn.

PACHYDACTYLUS FORMOSUS, n. s.

Head subovate and rather lengthened, the temples somewhat protuberant; the neck slightly contracted. Body nearly of equal thickness, arched superiorly, flat beneath. Tail cylindrical and sharp pointed. Colour, above, pale cream-yellow, variegated with light brownish red—the variegations are irregular spots or longitudinal stripes on the upper surface of the head, a semilunar bar crossing the anterior part of the neck, with the hinder edge emarginate; a second semilunar deeply indented bar in front of the fore-legs; four broad bars on the back, the last between the hinder extremities, and a number of narrow ones on the upper surface of the tail, edged before and behind with liver-brown. Under part bluish white. Toes at and near the point considerably depressed, towards the base nearly cylindrical; the under surface of the depressed portion with four or five transverse angular folds; the other portion covered with four or five rows of large granular scales. Scales of the back partly large, subovate, and strongly keeled, with the hinder edge projecting, partly small and granular—the former interspersed among the latter; scales of upper and lateral parts of tail partly three-sided tubercles, and partly small subconical scales, the former arranged in transverse rows. Scales of the belly and under surface of tail small, ovate, and slightly imbricate; those of the former flat, of the latter slightly convex. Length from nose to base of tail, 1 inch 10 lines; length of tail, 2 inches. Inhabits the interior of Southern Africa, near the Tropic of Capricorn.

PACHYDACTYLUS MACULATUS, *Gray*. Cat. of Specimens of Lizards in British Museum.
Page 167. London, 1845.

Head rather short, narrow before the eyes, broad behind them. Body subcylindrical. Tail cylindrical. Extremities slender; toes but little dilated at the point, the apex of each covered above with a large, flat, pointed scale, on each side of which is a smaller one; the under surface, at the point with three transverse folds, and behind those four longitudinal rows of granular scales. Colour of the upper parts either rusty lavender-purple, rusty cream-yellow, rusty buff-orange, or light reddish orange; the variegations are four longitudinal series of spots, two on the back and one on each side. The spots generally are liver-brown, occasionally pale brownish red, in some instances margined with white, in others with liver-brown. Scales of the back granular, with a number of subconical tubercles, about three times as large, scattered among them. Scales of the tail triangular, arranged in circular rows, and slightly imbricate; scales of the belly small, subcircular, and flat. Length from nose to base of tail nearly 2 inches; length of tail, $1\frac{1}{2}$ inch. This species abounds in most parts of Southern Africa, and individuals are often seen escaping from decayed wood when being used as fuel.

PACHYDACTYLUS BERGII, *Wieg.* Erpet. Mexicana, page 19. Geko inunguis et Platyda-
ctylus ocellatus, *Cuv.* Reg. Animal, plate 5, fig. 4. Platyda-ctylus ocellatus, *Dum. et Bib.* Erpet.
General, tom. 3, page 298. Pachyda-ctylus ocellatus, *Gray.* Cat. Lizards, British Museum,
page 167. 1845.

Found in decayed vegetable matter, in the thatch of houses, in old walls, and among loose
stones.

PACHYDACTYLUS ELEGANS, *Gray.* Cat. Lizards, British Museum, page 168. 1845.

Colour, above, pale yellowish brown or cream-yellow, variegated with light brownish red; the
variegations are small spots and oblong streaks on the upper surface of the head; on the back longitudinal
broken lines, or irregularly scattered spots; on the tail, spots or broad transverse bars. The under parts pale
sienna-yellow. Head subovate; body much depressed; tail subcylindrical. The upper surface of the
head is covered with small granular scales, intermixed with subconical tubercles; back and sides with
irregular-shaped, small, flat scales, and large, convex, ovate, subcarinated tubercles, the latter numerous
and almost contiguous on the sides. Tail, above, with transverse rows of three-sided tubercles, and
the spaces between them coated with small, flat, subovate scales. Throat covered with small, granular
scales; belly with small, subovate, imbricate ones; the under surface of tail with large, subovate, im-
bricate scales. Toes slightly dilated at the point, below with five transverse folds, and behind the
folds with longitudinal rows of granular scales, those of the middle row largest. Length from nose to
base of tail, 1 inch 8 lines; length of tail, 2 inches. Found under loose stones, in crevices of rocks, and
under the bark of decayed trees, and is common in the vicinity of Cape Town.

PACHYDACTYLUS MENTO-MARGINATUS, *Smith.*

The upper and lateral parts of the head, the back, and the sides deep brownish red, variegated
with orange-coloured white; the variegations on the upper surface of the head are a narrow transverse
bar in front of the eyes, and a congeries of spots and short curved lines behind them; on the sides of
the head a longitudinal waved band from the angle of the mouth to the hindhead. On the back and
sides there are five narrow transverse bands, the three middle ones, particularly, strongly dentated
behind. The first band is very slender, situated close to the hindhead, and with a prolonged angle
pointing backwards; the second is directly between the fore legs, and the fifth between the hinder legs.
Under parts wine-yellow; the space between branches of lower jaw finely freckled with pale brownish
red, and the under edge of the labial plates margined with liver-brown, which forms a continuous
dark line, in the shape of a horse-shoe. Extremities pale brownish red, without variegations.
Head subovate, deep, and behind much wider than the neck; body rather slender, the sides slightly
bulging; extremities slender, and nearly of equal thickness. Toes with four semicircular folds beneath,
near their point, the very point covered with some small scales, the under surface behind the transverse
folds coated with several rows of small convex scales. Scales of the head, back, and sides small, with
many large conical or three-sided tubercles scattered among them; scales of the under parts small,
nearly circular, and slightly imbricate. Length from nose to base of tail, 1 inch 3 lines; tail wanting
in the specimens I possess. Inhabits the interior of Southern Africa.

HEMIDACTYLUS FRENATUS, *Schlegel.* *Dum et Bib.* Erpet. Gen. tom. iii. page 366.

As I never obtained an individual of this species, I give it, as an inhabitant of Southern Africa,
upon the authority of the late M. Delalande, who forwarded specimens, from the Cape, to the Paris
Museum.

PHYLLODACTYLUS PORPHYREUS, *Weigm. Dum. et Bib. Erpet. General, tom. 3, p. 393.*

This species occurs throughout the whole of Southern Africa, and is found in decayed wood, in crevices of rocks, and under loose stones.

PHYLLODACTYLUS LINEATUS, *Gray. Cat. Lizards, British Museum, page 150. 1845.*

Colour, above, rusty pearl-grey, the upper surface of the head and temples variegated with fine waved liver-brown lines; the back and sides with four or six liver-brown stripes, two on the back and one or two on each side. In many individuals these stripes are connected by transverse liver-brown lines, in others the longitudinal stripes are wanting; the back and sides variegated only with liver-brown bars. Tail, above, with longitudinal lines or liver-brown bars, each bar angular, the angle directed backwards. Under parts wine-yellow, slightly variegated with livid black points. A dark liver-brown line along rostral canthus, from the eye to the nose. Scales of back flat, nearly circular, and slightly imbricate; hinder edge of rostral plate emarginate. Head rather short and deep. Length from nose to tail, 1 inch; of tail, 1 inch 4 lines. The scales in this species are larger in proportion than in *Phyllodactylus Porphyreus*, and more distinctly imbricate, the rostral plate behind is emarginate instead of entire; and the head is shorter and deeper. Occurs in crevices of rocks, and under the bark of decayed trees in different parts of the Cape Colony.

STENODACTYLUS GARRULUS, n. s.

The upper and lateral parts of the head, the back, the sides, and the tail, pale buff-orange; the back near the neck variegated with waved, narrow, brownish red, transverse lines, the remainder of the back mottled with small, irregular, brownish red spots; the sides of the body with dull brownish red streaks. Tail irregularly spotted brownish red, or partially barred with that colour. Throat lemon-yellow; belly and under surface of tail yellowish white. Eyes silvery, with a coppery gloss. Head large, subovate, short and deep, considerably wider than the neck; sides of body rather protuberant; tail cylindrical, tapered, and pointed, behind anus bulged. Scales of head and body small, nearly circular, those of the latter arranged in transverse rows; scales of the upper surface of tail rather larger, somewhat pointed behind, and slightly imbricate. Toes, particularly those of hinder feet, long, the fringe on the outer side longest; claws long, slender, and nearly straight. Skin on the sides of the neck loose, forming slight folds, on the throat superabundant, and dilatable at the will of the animal. External ear-opening narrow and oblique, situated lower than the angle of the mouth, and about three lines behind it. Nostrils in the centre of three narrow raised plates, at the apex of the nose, and only separated from each other by the rostral plate. Length from nose to base of tail, 1 inch 9 lines; of tail, 1 inch 6 lines. Inhabits sandy districts in the interior of Southern Africa, is gregarious, and lives in small, nearly perpendicular burrows; it seeks its food probably during the night, at least I have never seen more than its head above ground during the day. In the localities in which it occurs many individuals may be seen peeping from their hiding-places any time during the day, each uttering a sharp sound, somewhat like *chick, chick*; and the number thus occupied is at times so great, and the noise so disagreeable as to cause the traveller to change his quarters.

VARANUS NILOTICUS, *Fitz. Dum. et Bib. Erpet. Gener. tom. iii. page 476. Gray, Cat. Lizards, British Museum, page 11. Lacerto Capensis, Sparman, voyage to the Cape. Monitor Niloticus, Isid. Geoff. work on Egypt, tom. i. page 121, tab. 3, fig. 1. Leguan of the Cape Colonists.*

Occurs throughout the whole of Southern Africa. It is generally discovered on the banks of rivers or margins of lakes, and plunges into the water the instant it is disturbed, and if the latter be deep it is rarely seen again after it reaches it.

TROPIDOSAURA CAPENSIS, *Dum. et Bib. Erpet. Gener. tom. v. page 171. Algira Capensis, Smith, Mag. Nat. Hist., new series, vol. ii. p. 94. Gray, Cat. of Lizards, British Museum, p. 36.*

Inhabits sandy flats to the northward and eastward of Latakoo, and occurs abundantly in the Kalahari desert.

TROPIDOSAURA DUMERELII, n. s.

Head subovate, narrow towards the nose; body rather slender; back convex; sides slightly protuberant; tail slightly depressed at the base, elsewhere cylindrical, tapered, and pointed. Nasal plate somewhat kidney shaped; the nostril in the notch behind, its posterior margin formed by a small rhomboidal plate; naso-rostral plate six-sided, lateral sides short, its surface smooth; all the other plates of the upper surface of the head finely ribbed. Frontal plate club-shaped; scales of the temples strongly keeled; scales of the body and sides subovate, or subrhomboidal and strongly keeled; the keel prolonged into a fine pointed spine; scales of the tail long, four-sided, rather narrow behind, and keeled; of the belly quadrangular, or somewhat six-sided; the lateral sides oblique, and arranged in six longitudinal rows. The outermost toe of fore foot rather short, the second and third equal and considerably longer; the outer or posterior of hinder foot short, and much behind the base of the second toe, the second very long, and the third considerably shorter, and the innermost very short. Femoral pores 12. Lower eyelid coated with small semi-pellucid plates. External ear-opening vertically ovate, the anterior edge nearly even, and with a long narrow plate at and towards the upper end. The ground colour of the upper surface of the head, the back, the sides, the upper surface of the tail, and the outer surfaces of the extremities, rusty buff-orange, the body and base of the tail variegated with four longitudinal reddish brown, and two rusty white lines, the latter one on each side between the brown lines, and the second below the lowermost. Under surface of body and tail, and the inner surface of extremities, straw-yellow, or sienna-yellow. Length from nose to base of tail, 2 inches, length of tail, 4 inches.

Inhabits sandy deserts to the north-east of Latakoo, towards the tropic of Capricorn.

TROPIDOSAURA BURCHELLII, n. s.

Figure rather slender; head narrow and tapered anteriorly; nose slightly rounded. Body slightly depressed; sides protuberant; back convex. Tail at the base four-sided, towards the point cylindrical. Extremities slender and moderately long; toes long and slender, the next to the outermost on the hinder foot much the longest. Nostril in the hinder edge of the nasal plate and behind formed by the anterior margin of the naso-frenal plate. External ear-opening vertically ovate, a large scale anteriorly at the upper edge. Rostral plate truncated posteriorly; fronto-nasal plate contiguous, somewhat five-sided, hinder side shortest; frontal plate six-sided, slightly angular before and behind, lateral sides long, and slightly concave; interparietal plate long, narrow, and subrhomboidal; occipital plate small and nearly circular; parietal plates subovate; palpebral plates three, the first much the largest, the last very small. Temporal plates partly large, partly small, all smooth. Scales of back and sides rhomboidal, strongly carinated, the keel prolonged into a fine acute spine; scales of tail more or less ovate and strongly keeled; plates of abdomen six-sided, and disposed in eight or nine longitudinal rows, those of the middle row long, transversely; preanal plates two, one in front of the

other, the hindermost the largest, and has a small scale on each side. Scales on outer surface of fore legs small, granular, and smooth, of hinder legs small, subovate, and strongly keeled. The ground colour of the upper surface of the head, back, tail, and outer surface of extremities, intermediate between orange coloured brown and yellowish brown, in some individuals leek-green; the variegations are five umber-brown stripes on the body and base of the tail, one along the vertebral line, one on each side of the back, and one along each side; the latter edged above and below by a narrow cream-yellow line. Under parts greenish-white. Length from nose to base of tail, 1 inch 9 lines; length of tail, $3\frac{1}{2}$ inches. Inhabits the eastern districts of the Cape Colony and Kaffirland.

LACERTA DELALANDII, *Milne Edwards*, Ann. Scienc. Nat. tom. xvi. page 70 and 84, pl. 15, No. 6 and pl. 7, No. 5. *Dum. et. Bib.* Erpet. Gen. tom. v. page 241. *Lacerta Intertexta*, *Smith*, Mag. Nat. Hist., *new series*, vol. ii. page 93. *Nucras Lalandii*, *Gray*, Ann. Nat. Hist. vol. ii. page 280.

Inhabits Southern Africa, but nowhere abundantly.

LACERTA TESSELLATA, *Smith*. Mag. of Nat. Hist., *new series*, vol. ii. page 92. *Dum. et Bib.* Erpet. Gener. tom v. page 244. *Nucras Tessellata*, *Grey*, Cat. of Lizards, Brit. Museum, p. 33.

Inhabits the districts on the Western Coast of Southern Africa, particularly Little Namaqualand.

LACERTA TÆNIOLATA, *Smith*. Mag. of Nat. Hist., *new series*, vol. ii. page 93. *Dum. et Bib.* Erpet. Gener. tom. v. page 247.

Inhabits the same districts as the last species, but never the same localities.

PLATYSAURUS GUTTATUS, n. s.

Figure moderately robust. Head much depressed, the hindhead broad, the nose narrow. Body very flat, the sides protuberant and arched; tail much depressed towards the base, nearly cylindrical at and towards the point, the latter acute. Anterior extremities rather long and slender the outer toe not so long as the second and third, which are of equal length; the fourth nearly the same length as the outermost, the innermost much shorter. The hinder extremities rather long and strong; the outer toe far removed from the second, and about the length of the third, which is rather shorter than the second; the fourth considerably shorter than the third, and the innermost shorter than the fourth. Rostral plate triangular; nasal plates oval, and contiguous; the nostrils circular, and close to the lower and hinder edge; naso-rostral, large and rhomboidal, greatest length transversely. Frontonasal plates five-sided, contiguous; frontal plate six sided, narrowest posteriorly, before and behind with an angular projection; fronto-parietal plates four-sided, contiguous, the hinder side longest. Parietal plates square; inter-parietal plate arrow-shaped; occipital plates somewhat quadrangular, the anterior shorter than the posterior side. Palpebral plates, 4; naso-frenal small, somewhat triangular; lower eyelid with a transparent disc. External ear-opening large ovate, immediately behind the temple; *tympanum* distinct, close to the orifice; two longitudinal rows of large smooth plates on upper part of temple, small ones below. Scales of the back and sides very small, granular, and arranged in rather waved transverse lines. Scales of the outer surface of extremities toward toes triangular, and strongly keeled. Submental plates, 10, five on each side below the labial scales; the first of each side internally in contact with its fellow. A longitudinal row of large square plates along the middle of the throat, and narrow subovate scales on each side. Gular collar before breast, formed of eight plates; abdominal plates quadrangular, and arranged in transverse rows, 19 or 20 plates in each row. Preanal plates, 9. Plates of tail long, narrow, four-sided, strongly carinated, and arranged in rings. Femoral pores, 17

or 18. The colour of the upper and lateral parts of the head liver-brown, the latter freckled with pale verditer-blue; the back and sides intermediate between greenish blue and clove-brown, and variegated with three longitudinal lines of verditer-blue, and with numerous small spots of the same colour between the lines; anteriorly, these lines are prolonged forwards on the crown of the head, one along the mesial line and one on each side; posteriorly, they are lost about the base of the tail. Under surface of lower jaw and throat light verditer-blue, speckled with deep purplish brown; belly plum-purple. Tail pale Dutch-orange, with a brown line above, in the mesial line; the colour in living specimens is probably bright red. Under surface of hinder extremities posteriorly, and the under parts of body and tail, wine-yellow. In some specimens, the colour of the back is a pale brownish red, and the tail clear sienna-yellow, with a narrow brown stripe above, in the mesial line. Length from nose to base of tail, 2 inches 8 lines; length of tail, 3 inches 8 lines. The dorsal scales in this species are smaller than in *Platysaurus Capensis*, and in other respects, as well as in colour, it differs. Inhabits the neighbourhood of the Limpopo River, near the Tropic of Capricorn.

GERRHOSAURUS VALLIDUS, *Sunderall*, n. s.

Head posteriorly broad, anteriorly narrow and tapered; sides vertical; temples projecting and convex. Body broad and depressed; sides protuberant and arched. Tail depressed at the base, elsewhere cylindrical; extremities short and rather robust. Lateral fold moderately developed. Rostral plate triangular; nasal plates internally contiguous; naso-rostral plate six-sided, the lateral sides very short; fronto-nasal plates five-sided, internally contiguous. Frontal plate five-sided, the two anterior sides united in a point between fronto-nasal plates; fronto-parietal plates five-sided; interparietal plate rhomboidal; parietal plates five sides contiguous at their hinder edge; all these plates rugose: naso-frenal narrow, lengthened vertically, and forms hinder edge of nostril. Plates of upper lip, exclusive of rostral plate, 8; plates on first half of lower lip, 5, the other half, towards angle of mouth, covered with small scales. Scales of the back, sides, and upper and lateral parts of tail quadrangular, each with five, six, or seven longitudinal keels, which converge towards the apex. Plates of the throat large, smooth, and six-sided, longest transversely; plates of breast and belly square, smooth, and arranged in transverse rows, 18 or 20 in the longest row of the latter; preanal plates three, the centre one narrowest behind. Plates on under surface of tail quadrangular, with a longitudinal ridge along the centre of each, and in some one at each edge. Under eyelid covered with small scales. External ear-opening ovate, with a semi-circular *operculum* projecting from its anterior edge. The upper surface of the head, the back, and the tail, intermediate between umber-brown and liver-brown, and variegated with small spots or short streaks of a yellow or reddish yellow colour, one on each scale, on the back, arranged in longitudinal rows; sides of the body variegated umber-brown and yellowish brown. Under parts of lower jaw, throat, and breast, anteriorly light sienna-yellow, freckled with pale reddish brown; hinder portion of breast and belly deep umber-brown, more or less freckled with yellowish brown. Extremities superiorly deep umber-brown, inferiorly ochre-yellow, mottled with umber-brown. Length from nose to base of tail, 7 inches; length of tail $12\frac{1}{2}$ inches; width at middle of body, 2 inches.

Inhabits the interior of Southern Africa, towards the sources of the Garrep, or Orange River.

SAUROPHIS SEPS, *Fitz.* Neue Classif. Rept. page 50. Saurophis Lacepedii, *Dum. et Bib.* Erpet. Gener. tom. v. page 389. Lacerta tetradactyla, *Lacep.* Ann. Mus. d'Hist. Natur. tom. ii. page 351, tab. 59, fig. 2.

Inhabits the interior of Southern Africa, but specimens are seldom procured.

CHAMÆSAURA ANGUINEA, *Schn.* Hist. Amphib. Natur. Fasc. iii. page 210. *Dum. et Bib.* Erpet. Gener. tom. v. page 441. Chalcide Monodaetyle, *Cuv.* Reg. Animal (first edition), tom. ii. page 57. Monodactylus Anguineus, *Merr.* Tent. Syst. Amph. page. 76.

Inhabits humid localities, and is found among grass or stones near streams of water, or on the sea coast. It progresses with great rapidity, and in the manner of a snake.

GONGYLUS CAPENSIS, n. s.

Head four-sided, tapered to the nose. Body long, slender, and slightly depressed. Tail somewhat four-sided, long, tapered, and pointed. Extremities short and slender, outer toe of each foot very short, second rather longer, innermost rather longer than the second, third and fourth much the longest, and of the same length; each toe armed with a short blunt claw. Rostral plate large, and somewhat square; nasal plates narrow, and internally contiguous; naso-rostral plate large, and transversely ovate. Frontal plate bell-shaped, square behind; interparietal plate large, somewhat heart-shaped; parietal plates long, narrow, and quadrangular; naso-frenal plate very small and subovate; frenal plate large; preocular plate small. Plates of upper lip, exclusive of rostral, 5; of lower lip, exclusive of mental plate, 6; submental plates large, the one immediately behind the mental plate single; behind it four on each side, edging labial plates. Scales of the back and tail rather large, transversely ovate, or slightly six-sided; those of the abdomen the same shape, but not quite so lengthened transversely; nostrils situated in a notch in the hinder edge of the rostral plate. External ear-opening minute and circular. Lower eyelid with a large semi-transparent disc. The upper surface of the head greenish white, freckled with pale brownish red; the back, the sides, and the base of the tail superiorly intermediate between yellowish brown and oil-green, and with a coppery gloss; each scale, anteriorly, narrowly edged with greenish white. Sides of the tail liver-brown, slightly specked with white; under parts of body and tail greenish yellow. Length from nose to base of tail, 2 inches; length of tail not known. The single specimen I possess was found on the western coast of Southern Africa, among loose stones at the base of a rocky hill.

CRYPTOBLEPHARUS WALBERGII, n. s.

Head four-sided, tapered to the nose; the latter narrow, and slightly arched. The body subquadrangular; the abdomen very flat; the back convex; the sides vertical. Tail subcylindrical, tapered and pointed. Frontal plate small, rhomboidal; fronto-parietal plate large, triangular, the hinder edge or base notched to lodge the anterior extremity of the interparietal plate; naso-rostral plate single, large, somewhat rhomboidal, longest transversely. Nostril small, circular, and situated in nasal plate; one freno-nasal and two frenal plates; several small preocular plates; edge of orbit surrounded with a ring of minute subgranular scales; no eyelid. Ear-opening small, in a line with the angle of the mouth. Scales of the body and tail large for the size of the lizard, six-sided, greatest length transversely. Extremities very slender, second and third toes of hinder feet much the longest, outermost and fourth toes nearly of equal length, the innermost very short; the toes of the fore-feet rather short, the second and third rather longer than the outermost. Preanal plates two. Colour of the upper parts intermediate between orange-coloured brown and olive-green. In some individuals the back and base of tail are variegated with six narrow umber-brown lines; the sides deep liver-brown, edged above and below with a clear white line. The sides of body and base of tail intermediate between hair-brown and liver-brown, the colour of the sides divided from that of the back by the intervention of a pale sienna-yellow line which originates near the eyebrow, and is lost generally before it reaches the tail. Colour of the under parts wine-yellow. Length from nose to base of tail, 1 inch

4 lines; of tail, 2 inches; transverse diameter of body about $1\frac{1}{2}$ line. Inhabits the country to the eastward of the Cape Colony.

EUMICES (RIOPA) SUNDERALLII, n. s.

Head rather small, slightly wedge-shaped; sides nearly vertical; nose arched. Body almost cylindrical, the abdomen slightly flattened; tail perfectly cylindrical, tapered, and pointed. Extremities slender and short; toes slightly depressed, above and beneath with transverse plates, the innermost and outermost toes of the fore-feet very short, and of equal length, the rest rather longer, and all of equal length; the innermost toe of hinder-feet very short, the second and outermost rather longer, and of equal length; the third longer than the second, and the fourth considerably longer than the third. Rostral plate large, triangular; supra-nasal plates contiguous; naso-rostral seven-sided; fronto-nasal quadrangular, and widely apart. Frontal plate seven-sided, widest in front; fronto-parietal plates somewhat four-sided; parietal plates subovate; interparietal, five-sided. Nasal plates quadrangular, the nostril near the middle, toward the upper edge. Freno-nasal and frenal plate quadrangular; two or three small preocular plates. Lower eyelid coated with two rows of small plates. External ear-opening small, oblique, in a line with the angle of the mouth. Scales of body and tail six-sided, the anterior and posterior sides wide, the external and internal extremities of each scale pointed. Colour of upper parts intermediate between brownish purple-red and light brownish red; each scale irregularly edged with greyish white. Under parts intermediate between straw and wine yellow. Length from nose to base of tail, 2 inches 8 lines; of tail, 2 inches 10 lines; circumference of thickest part of body, 1 inch 2 lines.

Inhabits the country to the eastward of the Cape Colony, and specimens are but seldom obtained.

EUPREPES TRIVITTATUS, *Cuv. Regn. Anim.*, 2nd edition, tom. ii. page 62. *Tiliqua Capensis*, *Gray*, Synop. Rep. in Griffith's translation of *Cuv. Animal Kingdom*, vol. ix. page 68. *Seineus carinatus*, *Dand. Hist. Rept.* tom. iv. page 304. *Euprepes Merremii*. *Dum. et Bib. Erpet. General*, tom. v. page 671.

Inhabits all parts of Southern Africa. It is generally found among loose stones, or in spots covered with shrubs, and is very frequently seen in the immediate vicinity of the dwellings of Europeans and natives.

EUPREPES BIBRONII, *Dum. et Bib. Erpet. General*, tom. v. page 675. *Tiliqua Bibronii*, *Gray*. *Cat. Slender-tongued Saurians*, *Ann. Nat. Hist.* vol. i. page 290.

Found, but not abundantly, in different districts of Southern Africa.

EUPREPES GRAVENHORSTII, *Dum. et Bib. Erpet. Gen.* tom. v. page 686. *Seineus vittatus*, *Gravenh. Mus. Bresl.*

This species occurs in Southern Africa, but specimens are rarely obtained, and I am not able to specify the particular locality in which they are to be procured.

EUPREPES SUNDERALLII, n. s.

Head small, four-sided, strongly tapered in front of the eyes towards the nose. Body slender and depressed; sides rather protuberant and convex. Tail long, very slender, pointed, and cylindrical. Extremities long and slender. Outer toe about half the length of the second toe; the third nearly as long as the second. Rostral plate subtriangular; nasal plates small, narrow, and oblong, the circular

nostril towards hinder extremity; supra-nasal plates narrow, oblique, and internally almost contiguous; naso-rostral five-sided, anteriorly acute; fronto-nasal plates four-sided, not in contact, being separated by the intervention of the anterior extremity of the frontal. Frontal plate pear-shaped, the broadest portion in front; fronto-parietal plates four-sided, the inner and outer sides much the longest. Parietal plates three-sided, pointed behind; interparietal plate rhomboidal, the two anterior sides very short. A narrow transverse plate behind each parietal plate. Freno-nasal plate narrow transversely; frenal plate an oblong square; preocular plate four-sided. Scales of upper lip exclusive of rostral, and of lower exclusive of mental, 9; respectively. Scales of back and tail six-sided, and faintly three-keeled. External ear-opening circular, and about a line and a half behind angle of mouth; its edge smooth. The ground colour of the upper surface of the head, the back, and the upper and lateral parts of the tail, intermediate between reddish brown and hair-brown; each scale on the back narrowly edged with liver-brown. Sides of the body liver-brown, variegated sparingly with small sienna-yellow spots; below, the brown is gradually lost in the colour of the belly. The colour of the sides is separated from that of the back by a narrow yellow or reddish-yellow line, which proceeds on each side from the eyebrow, and is gradually lost on the base of the tail, a little posterior to the hinder legs. Under parts wine-yellow; the inferior surface of the head and the throat freckled with short waved bluish-green lines. The belly strongly tinted with green. Length from nose to base of tail, 1 inch 8 lines; length of tail, 2 inches 4 lines; transverse diameter of body, about 3 lines.

Inhabits the interior of Southern Africa, and specimens are rarely procured.

SCÉLOTES ANGUINEUS, *Fitz.* *Anguis Bipes*, *Lin.*, *Mus. Adolph. Fred. tom. i. page 21, tab. 28, fig. 3.* *Bipes Anguineus*, *Merrem. Tent. Syst. Amph. page 76.* *Scelotes Bipes*, *Gray, Cat. Lizards, British Museum, page 123.*

Inhabits most parts of Southern Africa, and is found under stones, or in loose soil near the roots of shrubs.

LITHOPHILUS, n. g.

Ch. Gen. Figure serpentiform. Nostrils lateral, in the hinder edge of the rostral plate. Teeth conical, simple, and thinly set. Tongue flat and fleshy, the tip membranous, entire, and with a longitudinal gutter, the middle portion coated with thin scales, the hinder portion with transverse rugæ. Palatal slit long, bifid anteriorly. Interparietal and parietal plates cover the whole of the hindhead. Palpebral plates in a row, edging the frontal and interparietal plates; a row of small scales under the outer edge of palpebral plates. Eye small; eyelids distinct. No external ear-opening. No extremities. Scales smooth.*

LITHOPHILUS INORNATUS, n. s.

Head somewhat four-sided; hindhead rather broad; sides converge toward the nose, the latter is rounded. Body cylindrical, slender, and throughout nearly of equal thickness. Tail cylindrical, and tapered, point rather acute; rostral plate semicircular; nasal plates behind nostrils subovate, and contiguous; naso-rostral plate rhomboidal or imperfectly six-sided; fronto-nasal wanting, or forming on each side the anteriormost palpebral plate. Frontal plate large anteriorly, somewhat bell-shaped, posteriorly convex, the centre of the convexity projecting; no fronto-parietal plates; interparietal plate very large, somewhat cordiform, the concavity enveloping the hinder edge of frontal plate. Parietal plates narrow, lengthened, and posteriorly contiguous. Palpebral plates five in a row, and a small one

* Were it not that the species of this group are without extremities, they might be ranged, as far as most characters are concerned, in *Scelotes* of Fitzinger.

below the last, all square; frenal plate square, preocular small, somewhat triangular. Plates of upper lip, exclusive of rostral, 6; of lower lip, exclusive of mental, 5; mental plate, semicircular; post-mental plate, three or five sided, with a projecting angle behind; behind this plate three large plates, edging the labial plates, the first pair internally contiguous. Scales of the body and tail six-sided, and arranged in longitudinal rows. Outer surface of lower eyelid coated with small plates. Preanal plates 6; the two middle ones rather large, the two on each side smaller. The colour of the upper surface of the head, the back, and the upper surface of the tail, clear yellowish brown; the sides of body and tail a lighter tint of the same colour, distinctly tinged with green; many of the scales of the back, and all of the sides, with a transverse greenish black or liver-brown spot in the centre, forming longitudinal rows. Colour of the under parts, wine-yellow. Length from nose to anus, 3 inches; the tail being imperfect, the length cannot be given; but it may be presumed, from what exists, that it is about the length of the body. The colours given are those observed in a specimen which has been preserved for years in spirits.

Inhabits arid situations in the interior of Southern Africa, and is found among or under stones.

LITHOPHILUS BICOLOR, n. s.

Figure very slender. Head quadrangular, contracted before the eyes; nose rounded; sides vertical. Body somewhat four-sided; back slightly convex; sides perpendicular. Tail subquadrangular towards base, cylindrical towards apex, tapered and pointed. Nostrils, in hinder edge of rostral plate, and their hinder margin, formed by a narrow ring distinct from the plate. Rostral plate semicircular; nasal plates subovate, internally contiguous. Naso-rostral plate rather irregularly six-sided. Frontal plate large, somewhat five-sided; the anterior side straight, the two hinder sides oblique, and form, where they unite behind, in the middle of the head, a rounded point. Interparietal plate large, somewhat heart-shaped, the apex of the frontal plate received into its notch; behind, towards its apex, a slight angle on each side. Parietal plates long, narrow, and widest behind; a long, narrow, transverse plate behind each parietal plate. Palpebral plates 4, and a small one under the last; they increase in size forwards, the anteriormost the largest and subrhomboidal, the others quadrangular. Frenal plate square; preocular plate small, somewhat triangular. Scales of body and tail six-sided, longest transversely. Preanal scales 6; the two middle ones very large, the two on each side very small. The colour of the upper surface of the head anteriorly livid brown; the remainder, and the back and upper surface of the tail, intermediate between greenish white and pale flesh-red; the back and tail variegated with two longitudinal lines of closely-set brownish red dots. These lines commence at the hindhead, and are gradually lost towards the apex of the tail, where it acquires a light brown colour; hinder surface of the head finely dotted with brownish red. Sides of body and tail light brownish red; under parts the same colour, only much paler. Length from nose to base of tail 1 inch 5 lines; length of tail 1 inch; width of body $\frac{1}{3}$ th of an inch. The scales of the body in this species are shorter transversely, and broader in the opposite direction than those of *Lithophilus inornatus*. The form of the plates of the head generally is very different, and the body is quadrangular instead of subcylindrical.

Inhabits the western coast of Southern Africa, and the specimen, the only one I possess, or have seen, was procured under a large stone on the side of a rocky ravine in Little Namaqualand.

AGAMA COLONORUM, *Daud. Dum. et Bib. Erpet. Gener. tom. iv. page 489. Agama occipitalis, Gray, Cat. of Lizards, British Museum, page 256.*

Inhabits the Western Coast of Southern Africa, particularly the rocky mountains of Great and Little Namaqualand.

AGAMA ATRA, *Daud.* *Dum. et Bib.* Erpet. Gener. tom. iv. page 493. *Merrem.* Syst. Amph. page 54. *Cuv.* Reg. Animal, tom. ii. page 36. Agama subhispidus, *Kaup.* Isis. 1827, page 616. Agama subspinosa, *Gray*, Ann. Philosoph. tom. ii. page 214.

Specimens of this species are met with in abundance in most parts of Southern Africa, especially where large stones or rocky hills occur; and are seen basking in the sun, either flat on their belly or raised on their fore-legs.

AGAMA ACULEATA, *Merrem.* Syst. Amph. page 58. *Dum. et Bib.* Erpet. Gen. tom. iv. page 499.

Inhabits rocky localities in most parts of Southern Africa. It abounds in the rocky mountains of Little Namaqualand.

AGAMA SPINOSA, *Dum. et Bib.* Erpet. Gener. tom. iv. page 502. Agama orbicularis, *Daud.* Hist. Rept. tom. iii. p. 406. Agama aculeata, *Cuv.* Reg. Animal, tom. ii. page 36. Agama hispida, *Gray*, Cat. of Lizards, British Museum, page 257.

This species occurs in most parts of Southern Africa, but most abundantly in sandy districts which are sparingly coated with grass or dwarf shrubs.

AGAMA ATRICOLLIS, *Smith.*

Head large, subcordiform; hinder angle of jaws bulged. Eyebrows prominent and arched; the upper surface of the head flat and sloped to the nose. Body bulky; sides very protuberant and much arched. Tail nearly cylindrical and tapered to the point, which is very slender. Extremities moderately long and rather robust; toes long, moderately strong, slightly compressed, and armed with compressed, curved, and pointed claws. Nostrils circular, placed in the centre of a rather large ovate convex scale, in the line of the rostral canthus. External ear-opening large, semilunar, the anterior edge with three or four triangular projecting scales towards the lower extremity of the orifice. Scales on the upper surface of the head convex or subtubercular, those between the eyes largest. Scales of the back and sides generally small, subtriangular, and carinated; but amongst them are others much larger, more convex, and more strongly carinated. Along the vertebral line these are numerous, and arranged in two or three irregular longitudinal rows: on the sides they are less abundant, and form more or less complete transverse lines. Scales of the tail strongly carinated. On the upper surface of the neck, and below and behind the ears, a few spinous scales are scattered among the small scales. Scales of the breast and belly triangular, and more or less keeled, many of the keels prolonged into fine acute spines. One or two rows of convex preanal pores in the male, about ten in each row. Colour of the upper surface of the head and tail, greenish brown, or yellowish brown, the latter towards the point with narrow rings of liver-brown; ground colour of back and sides of body intermediate between oil-green and yellowish brown, freely veined with liver-brown, and speckled with ochre or sienna yellow. Sides of the neck with a large trifold black mark, one of the branches directed upwards and forwards towards the occiput. Under surface of head greenish blue or straw-yellow, veined with greenish blue; under part of neck, breast, and belly, sienna-yellow, faintly tinted with green, and in the female speckled with small bluish green spots; under surface of tail the same colour as the upper, only clearer. Length from nose to base of tail 6 inches; length of tail 8 inches.

Inhabits the interior of Southern Africa; also the country near Port Natal.

PHOLEOPHILUS, n. g.

Ch. Gen. Serpent-shaped. Nose considerably in advance of the lower jaw. Nostrils situated in the nasal plate. Plates of the head,—one rostral, two nasal, one naso-rostral, or fronto-nasal, one frontal, one interparietal, four parietals, and one palpebral over each eye. Eyes small. Upper eyelid narrow. Teeth small, conical, and thinly set. No external ear-openings. Extremities two, very small, undivided, pointed, and situated one on each side of vent. Scales of the body and tail smooth, six-sided, and imbricate, arranged in longitudinal rows.

PHOLEOPHILUS CAPENSIS, n. s.

Head rather lengthened, narrowest anteriorly; sides of head vertical. Body subquadrangular. Tail cylindrical, point rather obtuse. Upper jaw extended considerably beyond the lower; the anterior extremity of both much depressed, almost cutting. Rostral plate large, subtriangular; nasal plates subrhomboidal, internally contiguous; naso-rostral, single, five-sided, long transversely, rather narrow in the opposite direction; frontal plate large, cup-shaped, the anterior edge slightly angular; interparietal plate large, five-sided, the anterior side concave, to receive the hinder part of the frontal plate; interparietal plates four, long, rather narrow, placed obliquely on the hindhead, and widest behind; palpebral plate one on each side, somewhat kidney-shaped. Frenal plate subovate; preocular plate small, quadrangular. Plates of upper lip exclusive of rostral, and of lower exclusive of mental, five; mental plate large, square behind; first submental plate as broad as mental, and triangular, the apex backwards; three other submental plates on each side, edging the labial plates, those of one side separated from those of the other by a row of small six-sided plates. Scales of the back close to the head, long transversely, and narrow in the opposite direction; more behind, six-sided, shorter transversely, and much wider in the opposite direction. Scales of the tail large, somewhat ovate, much imbricate, the hinder edge of each semicircular. Plates of the under parts the same shape as those of the tail, on the belly rather smaller. Preanal plates four, two long longitudinally, one narrow at the hinder extremity, the other much wider. Eyes small; eyelids narrow but distinct; hinder extremities about a line in length, very narrow, laterally compressed, pointed, and coated with minute scales. The colour of the head and tail clear yellowish brown, the back and sides greenish white, with a silvery lustre; the former is variegated with two longitudinal lines of small brownish red dots; the latter with a broad, clear, brownish red stripe; the stripes and dotted lines, which commence at the hindhead, disappear about the middle of the tail; under parts of body wine-yellow. Length from nose to base of tail 2 inches 3 lines; length of tail 1½ inch.

The two specimens I possess were obtained in Little Namaqualand, and were found under a loose stone, in a burrow like what is formed by an earthworm.

TYPHLINE CUVIERII, *Wieg.* Herpet. Mexican. page 11. *Dum. et Bib.* Erpet. Gen. tom. v. page 836. *Acontias cœcus, Cuv.* Reg. Animal, 1st edition, tom. ii. page 60.

Inhabits the Cape Colony; specimens are rarely obtained.

APARALLACTUS, n. g.

Ch. Gen. Head the same breadth as the neck. Body long, slender, and of equal thickness. Tail tapered. Teeth conical, pointed, and thinly set; the last of *maxillæ* rather longest. Nostril in the nasal plate. Frenal plate wanting. Preocular and postocular plates, one each. Pupil circular. Plates of head,

one rostral, two naso-rostral, two fronto-nasal, one parietal, two occipital, and one palpebral on each side. Scales of body subrhomboidal, and arranged in oblique rows. Plates under tail entire.

APARALLACTUS CAPENSIS, n. s.

Head subovate; sides nearly vertical; nose slightly rounded. Rostral plate subtriangular, naso-rostral plate small and quadrangular; fronto-nasal larger, quadrangular; the anterior side much the longest. Frontal plate six-sided; the two anterior sides, where they join on the mesial line, form an acute projecting point, the two hinder sides considerably produced, and unite at an acute angle between the occipital plates. Occipital plate subovate, the antero-inferior portion prolonged to the postocular plate; the outer edge of each occipital plate, towards its hinder extremity, bounded by a small quadrangular plate. Nasal plate elongate, five-sided, truncated anteriorly, triangular posteriorly, the nostril towards the anterior edge; preocular plate small, subtriangular; postocular plate kidney-shaped, or subcordate. Plates of upper lip, exclusive of rostral, 6; of lower, exclusive of mental, the same. Scales of body in oblique rows, each row forming an angle on the vertebral line; towards the head they are subovate, elsewhere subrhomboidal, or somewhat six-sided; the anterior and posterior sides very short. Plates under the tail entire, like those of the abdomen. Teeth small. Colour of the upper surface of the head blackish brown; a transverse band behind the head liver-brown, or pitch-black; the back, the sides of the head and body, and the upper and lateral parts of the tail, yellowish brown; the scales of the back tipped with pale brownish red. The hinder parts of the head, body, and tail, straw-yellow. Abdominal plates, 163; subcaudal plates, 48. Length from nose to base of tail, 5 inches; length of tail, 13 lines; diameter at thickest part of body, about 1 line.

Inhabits the country (Kaffirland) to the eastward of the Cape Colony.

OPHIDIA.

HOMALOSOMA ARCTIVENTRIS, *Wagler*, Syst. der Amphib. page 190. *Coluber arctiventris*, *Merr.* Beitr. i. S. 7, t. i. *Calamaria arctiventris*, *Schleg.* Physionomie des Serpens, part descript. page 36.

Inhabits the whole of Southern Africa, and is generally observed among dry grass, or in loose soil, more especially near the roots of shrubs.

ELAPOMORPHUS CAPENSIS, n. s.*

Head and body of equal width, the latter slightly tapered towards the tail. Body subcylindrical, not so thick as a goose quill; tail cylindrical, tapered, and pointed. Head subovate; nose arched; eyes small. Rostral plate small and semicircular; naso-rostral plates small and four sided; fronto-nasal plates much larger, five sided, the two hinder sides united behind at an angle.

* ELAPOMORPHUS.—*Ch. Gen.* Teeth of maxillæ slender, the hindermost longer than the others, and grooved anteriorly. Plates of upper surface of head as in *Coluber*. Nasal plate large, nostril in its centre; frenal plate wanting; preocular and postocular plate, each one; plates under tail similar to those of abdomen. Pupil circular.

Frontal plate six sided ; the two hinder sides prolonged, and behind form an acute angle. Palpebral plates small, four sided ; occipital plates large, six sided, the apex or hindermost side very short ; a rather large plate external to hinder extremity of each occipital plate. Nasal plate somewhat five sided. Preocular and postocular plates small, subtriangular. Plates of upper lip, exclusive of rostral, six, the hindermost very large ; of lower lip, exclusive of mental, six, the third and fourth large ; submental plates two pairs, the hinder pair smallest. Scales of body subrhomboidal, or imperfectly six sided, imbricate, and arranged in oblique rows, the rows of one side meeting those of the other at an acute angle ; the number of plates in each row sixteen. Colour of the upper and lateral parts of head, clove-brown ; a liver-brown bar across upper part of neck, pointed at each extremity, and separated from the colour of the head by the intervention of two small pale sienna-yellow spots. Colour of the back and sides intermediate between sienna-yellow and wine-yellow ; of the under parts, pale cream-yellow. Abdominal plates 166 ; subcaudal plates 37. Length from nose to anus, 4 inches 8 lines ; length of tail 1 inch.

Inhabits Kaffirland, to the eastward of the Cape Colony. I have placed this in the genus *Elapomorphus*, Weighman, without being acquainted with the characters of the group further than that Mons. Bibron wrote me, before his death, that *Calamaria Blumii*, Schlegel, was a species of *Elapomorphus* of Weighman. If the species just mentioned belong to this group, the one described will also belong to it.

TEMNORHYNCHUS, n. g.

Ch. Gen. Head depressed. Lower jaw considerably shorter than the upper. Teeth of maxilla small, pointed, thinly set, and of equal length. Rostral plate large, anteriorly produced, the edge cutting ; naso-rostral two ; fronto-nasal one ; nasal one ; frenal one ; preocular and postocular each two ; submental one pair. Nostril in middle of nasal plate, and a longitudinal groove behind it, as in *Acontias*. Pupil circular. Scales of body slightly imbricate, and in oblique rows ; a double row of scales on the under surface of the tail.

TEMNORHYNCHUS, *Sundevallii*, n. s.

Head subovate, the width of the body, the latter subcylindrical, about the thickness of a goose-quill, and nearly equal throughout ; tail cylindrical, tapered, and terminated by a sharp-pointed horny spine. Rostral plate large and subtriangular ; naso-rostral plates small, triangular, and not contiguous internally ; fronto-nasal plate narrow longitudinally, transversely the breadth of the head ; frontal plate five-sided, posteriorly pointed, anteriorly truncated ; palpebral plates narrow, the hinder extremity rather widest ; occipital plates somewhat square, edges slightly angled ; nasal plates large, subcordiform, the nostril situated near the middle of each, and the groove which proceeds from it extends to the hinder edge of the plate. Frenal plate square ; the preocular and postocular plates very small ; the pair of submental plates large, and anterior to them, the first pair of labial scales are contiguous internally. Plates of upper lip, exclusive of rostral, seven ; of lower lip, exclusive of mental plate, eight. Eyes small. Scales of the body more or less distinctly six sided, those of the sides largest ; they are slightly subovate, and arranged in oblique rows, each row, taken transversely, contains fifteen scales. Colour of upper surface of head straw-yellow, profusely powdered with brown ; the greater part of the frontal plate, and a portion of each occipital plate, sienna-yellow, forming three distinct spots on the hindhead. Scales of the back and sides freckled yellow and dull brownish

red; an indistinct yellow line extends along the back, and also two lines of small, dark brownish red spots, one on each side of the yellow line. Under parts pale straw-yellow, tinted with green. Abdominal plates 169; subcaudal scales 27 pairs. Length from nose to base of tail 7 inches; length of tail 10 lines.

Inhabits Kaffirland, to the eastward of the Cape Colony. This little snake, which would be classed as a *Calamaria* by many naturalists, exhibits characters which, in my opinion, entitle it to be regarded the type of a new group. The form of the head, and more particularly of the nose, show it to be a burrowing reptile; and in its family is the representative of *Onychocephalus*, *Acontias*, *Atractaspis*, &c.

CHORISTODON, n. g.

Ch. Gen. Maxillary teeth slender, rather long, and anteriorly closely set, the hindermost tooth longest, removed from the others, and enclosed in a membranous sheath. Palatal teeth small and numerous. Nostrils small and situated between nasal and frenal plates. Eyes very small; pupil circular. Plates of head nine; two naso-rostral, two fronto-nasal, one frontal, two occipital, and two palpebral; the latter very small. No preocular plate. One postocular. Head of the same width as the body. Tail with two rows of scales beneath. Body and tail cylindrical.

CHORISTODON CONCOLOR, n. s.

Body slender, nearly cylindrical, and slightly tapered towards each extremity. Abdomen slightly flattened. Tail cylindrical and tapered to the point, which is armed with a subacute horny spine. Head the same width as body; nose broad and arched; upper surface of head slightly convex; sides sloped; nostrils very small, below the rostral canthus and opening outwards. Eyes very small, and much nearer the nose than the hindhead; gape large. Rostral plate triangular; naso-rostral and fronto-nasal plates four-sided, the former very small, and their outer side longest. Frontal plate subrhomboidal, the hinder portion most prolonged. Occipital plates five-sided; palpebral plates very small, subtriangular, and form the superio-posterior margin of the orbit. Nasal plate small and square; frenal plate subtriangular, the apex behind. No preocular plate, its place being supplied by the upper extremity of the third labial plate; postocular plate very small and triangular. Two pairs of narrow submental plates, the hindermost pair longest. Scales of body rather large, imbricate, six-sided, and arranged in 13 rows; the scales on the vertebral line subrhomboidal. Abdominal plates long transversely, and narrow longitudinally, the space between first plate and hinder pair of submental plates coated with subquadrangular scales. Colour of the upper parts of the head, the back, and the sides, greenish black, with a purple gloss; of the under parts, pale blackish purple; each of the abdominal plates narrowly margined posteriorly with livid white. Abdominal plates 134. Subcaudal scales 38 pairs. Length from nose to anus, 6½ inches; of tail, 1 inch 1 line; greatest diameter of body, 2 lines.

Inhabits Kaffirland to the eastward of the Cape Colony. This snake will be regarded a species of *Calamaria* by naturalists who do not admit the propriety of minor subdivisions. I have not observed in any other reptile palpebral plates like those which exist in the species here described.

CROTAPHOPELTIS RUFESCENS, *Fitzinger*, *Systema Reptilium*, fasc. primus, page 27, 1843.

Coronella rufescens, *Schleg*. *Essai sur la Physionomie des Serpens*, part descript. page 72.

Coleber rufescens, *Gmelin*, *Syst. Nat.* p. 113.

Inhabits most parts of Southern Africa, but specimens are most easily obtained near Cape Town and on the south-eastern coast.

LAMPROPHIS AURORA, *Fitzinger*, Systema Reptilium, fasc. primus, page 25, 1843. Coronella Aurora, *Schleg.* Essai sur la Physionomie des Serpens, part descript. page 75. Coluber Aurora, *Linn.* Mus. Ad. Fr. i. page 25, t. xix. fig. 1. Seba, 2, t. lxxviii. fig. 3.

This snake occurs throughout Southern Africa, but nowhere in abundance. In the Colony it is, from its moving much during the night, known, like *Aspidelaps lubricus*, by the name of Nacht Slang.

THELOTORNIS, n. g.

Ch. Gen. Head wider than the neck. Body slender, and much compressed. Maxillary teeth slender, thinly set, rather long; the hindermost longest, and grooved. One nasal, two frenal, one preocular, and three postocular plates. Nostril in nasal plate. Pupil transversely oval. Scales of the body in oblique rows, laterally much imbricate. Scales along vertebral line rhomboidal and carinated.

THELOTORNIS CAPENSIS, n. s.

Head long, rather narrow, quadrangular, and depressed; nose broad, and anteriorly slightly arched; upper surface of head, over each eye, rather prominent; sides of head nearly perpendicular; nostril small, between nasal and freno-nasal plates; eyes large, pupil transversely subovate; neck considerably narrower than the head. Body slender, compressed, and slightly thicker at the middle than toward either extremity. Tail long, nearly cylindrical, tapered, and terminated by a fine horny spine. Rostral plate semicircular; naso-rostral plates quadrangular, broadest behind; fronto-nasal plates five or six sided; frontal plate long and five-sided, broadest anteriorly, pointed posteriorly, the anterior side, which is in contact with fronto-nasal plates, transverse; the anterior lateral side short, the posterior lateral sides long, slightly curved, and converge to a point behind. Palpebral plate square, posteriorly narrow, almost pointed anteriorly; occipital plates four-sided, broadest anteriorly, arched externally, and rounded posteriorly; behind each occipital plate a large, irregularly, five-sided plate, and between these one shaped somewhat like an hour-glass. Nasal plate semilunar, or somewhat pear-shaped, its inferior extremity edged below by a process of the rostral plate, which at that part forms the margin of the upper lip; freno-nasal plate small, narrow, and longitudinally longest; frenal plate subtriangular, the base behind. Preocular plate long and narrow, arched above, straight below, and widest anteriorly. Postocular plates three, quadrangular; two narrow plates behind the middle postocular plate, the hindermost between the plate lying outside of hinder part of occipital plate, and the plates of the upper lip. Plates of upper lip eight, two forming the lower edge of the orbit; plates of lower lip nine or ten; the first submental plate long, narrow, and somewhat five-sided; the other four in pairs, the first pair large, quadrangular, and internally in contact; the last pair long, subtriangular, and separated from each other by the intervention of smaller plates. Scales of the body, near the abdominal plates, ovate and pointed, those of the vertebral row distinctly rhomboidal, and carinated, the intermediate ones long, narrow, and oblique at the point which is formed by the extremity of the upper edge. They are arranged in waved transverse rows, 19 in each row, and the rows having each three more or less distinct angles, one on each side, towards abdominal plates, and one on the vertebral line, all laterally imbricate, the mesial or inner portion of each scale lying over the external portion of the one nearer to the vertebral line. Scales of the tail large, six-sided, rather longer than broad, and scarcely imbricate. Abdominal plates 162, long, much arched, and without any indication of an angle towards their

extremities. Subcaudal scales 136 pairs. Skin of body, towards head, loose, forming a fold on each side of the neck and anterior portion of the body. Ground colour of the upper surface of the head, the back, the sides, and the upper and lateral parts of the tail intermediate between lavender-purple and yellowish grey; the head tinted with green. The top of the head is freely freckled with small liver-brown spots and narrow liver-brown lines; the body, sides, and tail with short lines of the same colour, which form partial bands, or separate spots or stripes. Besides these variegations, the scales are speckled profusely with minute liver-brown dots. Lips, and under surface of lower jaw straw-yellow; abdomen and under part of tail pale cream-yellow, shaded with pale yellowish brown, and freely freckled with small, liver-brown dots. Length from nose to base of tail, $23\frac{1}{2}$ inches; length of tail $13\frac{1}{2}$ inches; circumference, at thickest part of body, $1\frac{1}{2}$ inch.

Inhabits Kaffirland and the country towards Port Natal.

DASYPELTIS SCABER, *Wagler*, Syst. der Amphib. page 178, 1830. Coluber scaber, *Linn.* Mus. Ad. Fr. i. page 36, tom. x. fig. 1. Tropicodonotus scaber, *Schleg.* Physionomie des Serpens, page 328. Anodon typus, *Smith*, Zoological Journal, vol. iv. page 463, 1829. Eyervreter of the Cape Colonists.

Inhabits the more southern parts of Africa, and consumes with avidity the eggs of birds.

DIPSAS INORNATUS, n. s.

Head rather large, subrhomboidal, and considerably broader than the neck; temples prominent; nose broad and rounded; sides of head before eyes oblique. Body much compressed; back subcarinated; abdomen rather full and arched. Tail short, tapered, and pointed, above convex, below flat. Nostrils lateral, situated between nasal and freno-nasal plates, the former is square, the latter narrow and semicircular. Rostral plate rather small and inferiorly arched; naso-rostral plates rather smaller than the fronto-nasal plates; frontal plate five-sided, truncated anteriorly, pointed behind. Frenal plate square, the inferio-posterior angle prolonged; preocular plate narrow; postocular plates two, the uppermost the longest. Plates of upper jaw, exclusive of rostral, eight, of lower jaw, exclusive of mental plate, ten, the last two very small; mental plate small; the first pair of labial plates contiguous behind the mental; submental plates four on each side, the first pair large and subrhomboidal, the other three pairs quadrangular and longest transversely; the first abdominal plate in contact with the last pair. Scales of each side of the body arranged in oblique rows, slightly convex, the convexity forwards. The rows of one side are connected on the middle of the back with those of the other by the scales of the vertebral row, which are larger than those of the sides, rather differently shaped, and distinctly six-sided, the anterior and posterior sides short. The other scales are also six-sided, the antero-inferior and the superio-posterior sides very short. The inner edge of each scale overlaps slightly the outer edge of the plate nearer to the vertebral line; abdominal plates subangular towards their extremities. Eyes rather large; pupils vertically ovate. Posterior maxillary teeth longest. The colour of the upper and lateral parts of the head, the back, the sides, and the upper and lateral parts of the tail, intermediate between orange coloured brown and clove-brown; the posterior portion of the upper lip, and the under part of the head, body, and tail, intermediate between straw and cream-yellow. Eyes blackish grey, with a metallic lustre. Abdominal plates, 148; subcaudal scales, 31 pairs; the apex of the tail a scaly spine. Length from nose to base of tail, 19 inches; of tail, $2\frac{1}{2}$ inches.

Inhabits the country (Kaffirland) to the eastward of the Cape Colony.

ELAPS HYGEAE, *Merr.* Beitr. 1, S. 24, t. vi. Coluber iphysia, *Daud.* Rept. tom. vi. page 417. Elaps Hygeæ, *Schleg.* Essai sur la Physionomie des Serpens, part descript. page 446. Kouseband of the Cape Colonists.

Individuals of this species are found in all parts of Southern Africa.

ELAPS DORSALIS, n. s.

Head quadrangular, scarcely if at all wider than the neck; nose rounded. Body slender, sub-cylindrical, and of equal thickness, being rather more than a line in diameter. Tail cylindrical, rather more slender than the body, and tapered towards the apex, which is formed of a horny spine. Nostril situated in the anterior part of the nasal plate. Scales of body rhomboidal, or slightly six-sided. First pair of submental plates truncated behind, second pair truncated in front, pointed behind; the inner sides oblique. The upper and lateral parts of the head, body, and tail, deep liver-brown, with a narrow reddish yellow line along the back from the nose to the apex of the tail; under parts intermediate between sienna-yellow and cream-yellow. Rows of scales on the body 15; abdominal plates 219. Subcaudal scales 28 pairs. Length from nose to base of tail, $9\frac{1}{2}$ inches; length of tail, 1 inch 1 line.

Inhabits Kaffirland, and the country towards Port Natal.

This is distinct from *Elaps Hygeæ*, but very closely allied to it. The latter presents many varieties, but I have never found one of them so long and so slender, nor one which had the first pair of submental plates truncated posteriorly. In all the species of *Elaps Hygeæ* which I have examined, the plates mentioned were pointed behind, and prolonged considerably beyond the anterior edge of the second pair.

ASPIDELAPS LUBRICUS, *Fitzinger*, Elaps lubricus, *Merr.* Beitr. i. S. 9, t. ii. Col. latonia, *Daud.* Rept. tom. vii. page 156. Naja lubrica, *Schleg.* Essai sur la Physionomie des Serpens, part descript. page 482. Nacht Slang of the Cape Colonists.

Inhabits Southern Africa, more particularly towards Cape Town. It moves about principally in the evening, or during the night, hence the Colonists call it Night Snake.

SEPEDON RHOMBEATUS, *Licht.* Berl. Dubl. Verz. 1823, Sp. 106. Vipera V. Nigrum, *Cuv.* Reg. Animal, tom. ii. p. 86. Naja rhombeata, *Schleg.* Physionomie des Serpens, part descript. p. 483.

This species is widely distributed over Africa. Individuals are frequently found in the Cape Colony, and I have seen others from the Gold Coast, Sierra Leone, and the Gambia.

ECHIDNA ARIETANS, *Merr.* Beitr. iii. p. 121. Vipera Inflata, *Burchell*, Travels in South Africa, vol. 1, p. 469. Vipera Brachyura, *Cuv.* Reg. Animal, tom. ii. page 90. Vipera Arietans, *Schleg.* Physionomie des Serpens, part descript. page 577. Poff Adder of the Cape Colonists.

Individuals of this species have been observed in all the districts of Southern Africa which have been visited by Europeans. I have also seen specimens which were obtained on the Gold Coast, and others which were found to the northward of Sierra Leone.

CYRTOPHIS, *Sundewall*, n. g.

Ch. Gen. Head short and deep. Nose covered anteriorly by a very large raised rostral plate. No frenal plate. Nostril formed by naso-rostral and three smaller plates. Preocular plate, one; postocular plates, three. Body subcylindrical. Scales of body subcarinated, and arranged in oblique, transverse rows. Seuta of abdomen narrow and very long. Tail short and tapered. Pupil circular. Teeth—one poison fang in each side of maxilla; the palatal teeth small and numerous.

CYRTOPHIS SCUTATUS, *Sundewall*.

Head subeordiform, slightly broader than the neck. Body subcylindrical. Abdomen rather full and broad. Tail short, tapered, and pointed. The upper and lateral parts of the head are convex; the hinder surface flat. The rostral plate is somewhat eordiform, very large, and, to appearance, loosely attached to the other parts of the head; its edges project laterally in front of the naso-rostral plates, and its apex is in contact with the fronto-nasal plates. Naso-rostral plates small and triangular, the outer edge of each forms the upper margin of the nostril; the remainder of nostril formed of three plates, an anterior, posterior, and middle, the latter small, the others lengthened vertically; fronto-nasal plates somewhat five-sided. Frontal-plate six-sided, approaching to eordiform. Occipital plates irregularly five-sided. Palpebral plate broad posteriorly, narrow and pointed anteriorly. Preocular plate quadrangular; postocular plates four-sided and small. Plates of upper lip six, the fifth and last divergent, to admit of the lodgment between them of the lower edge of large cheek plate. Plates of lower lip seven, exclusive of mental; the latter small and triangular. Submental plates two pairs; a few small scales between them and the first abdominal shield. Scales of body, along centre of back, subrhomboidal, more laterally subovate, and arranged in oblique transverse rows, 19 scales in each row. Towards and on the tail the scales are distinctly keeled towards their base, elsewhere they appear smooth; but were the outer covering present, they would also be slightly keeled. Abdominal plates narrow, and very long, especially at the throat, which is very full. The upper and lateral parts of the head, the back, the sides, and the tail, superiorly straw-yellow (perhaps red, when alive) variegated with liver-brown. The variations are a large cordiform blotch on the upper surface of the head, with a prolongation at its base, on each side, which extends to the angle of the mouth, a spot on the upper lip, immediately below the eye, a stripe on the lower lip, near the angle of the mouth; an irregular ring round the neck, widest superiorly; a large oval blotch bifid posteriorly on vertebral line; a series of small, somewhat circular freckled spots along the middle of the back and tail, and a number of very short lines on each side. Under parts cream-yellow. Abdominal plates, 135; subcaudal scales, 24 pairs. Length from nose to base of tail, 6 inches 9 lines; length of tail 1 inch.

Inhabits Kaffirland and the country towards Port Natal.

 BATRACHIA.

RANA FUSCIGULA, *Dum. et Bib.* Erpet. General, tom. viii. p. 386.

Common throughout the whole of Southern Africa, and is generally observed near rivers, lakes, or marshy grounds. If disturbed while on land, it immediately retreats to the water, and individual

are often captured in it by means of fish-hooks baited with flesh. In the vicinity of Cape Town specimens are to be procured in abundance.

PYXICEPHALUS DELALANDII, *Tschudi*, Classif. Batrach, Mem. Societ. Nat. Neuch, t. ii. p. 84.

Dum. et Bib. Erpet. Gener. tom. viii. p. 445, pl. 87, fig. 1, 1 *a*, 1 *b*.

Occurs throughout the whole of Southern Africa, but nowhere abundantly. I obtained specimens close to Cape Town, and others near to the Tropic of Capricorn.

PYXICEPHALUS NATALENSIS, n. s.

Figure oval. Head rather small; hindhead not so wide as the body. Nose narrow, and nearly pointed; palpebral shield prominent and convex; rostral canthus obtuse; nostril in the line of the *canthus*, about midway between eye and apex of nose. Tongue subcircular; hinder half free and deeply bifid. Eyes large. Tympanum circular, moderately large, and situated immediately under and behind the external angle of eye; its surface slightly rugose or subgranular. Back convex; sides protuberant and arched; hinder extremity of body contracted. Anterior extremities short, rather slender, and of equal thickness: toes free; the first, or outermost, and the third of equal length; the innermost slightly longer; the second considerably longer. Hinder extremities long and moderately robust; toes connected at base by a rudimentary web; the outermost toe not quite so long as the second; the fourth considerably shorter; the innermost, or fifth, very short; the second double the length of the first; and each with a globular tubercle under each joint. Skin generally smooth; hinder part of back, and posterior, and under surface of thighs, granular. The ground colour of the upper surface of the head, the back, the sides, and the outer surface of the extremities, intermediate between yellowish white and yellowish gray, or a rusty yellowish gray, and variegated slightly with blackish green; the variegations are a blackish green band, which surrounds the nose and extends along each side nearly to the hinder extremities, a short narrow transverse line on the anterior part of the back, and a longitudinal one of the same kind on the middle of the back; broad transverse bars on the outer surface of the extremities, and a curved dotted band across the posterior part of the back, the extremities of which join the lateral band described as continued from the nose; in some specimens this appears a continuation of the band just mentioned, but, instead of being continuous, consists of small spots. Under surface of body, and inner surface of extremities, pale ochre-yellow. Length from nose to anus, 1 inch 9 lines; of anterior extremities to the point of the longest toe, 10 lines; of posterior extremities, 2 inches 1 line. In this species the head in front of the eyes is considerably longer, and narrow in proportion, than in *Pyxicephalus Delalandii*; the position of the nostril is different; and the body, for its length, is much less bulky.

Inhabits the country to the eastward of the Cape Colony, more particularly the districts in the neighbourhood of Port Natal.

STENORHYNCHUS, n. g.

Ch. Gen. Teeth of upper jaw small and thinly set. Tongue large, ovate, and slightly bifid behind; the last third free. No palatal teeth. Tympanum invisible. Opening of Eustachian tubes very small. Back and sides warty. Toes of anterior extremities free; of posterior, half-webbed.

STENORHYNCHUS NATALENSIS, n. s.

Figure oval. Head small and tapered to the nose, the latter narrow; rostral canthus obsolete; nostrils close to the nose. Eyes large; palpebral shields prominent; angle of mouth a little behind the outer canthus of the eye. Back convex; sides protuberant and arched. Anterior extremities slender; the first or outermost toe, the third, and the innermost of equal length, the second considerably longer; all with a tubercle under each joint. Posterior extremities rather long, and moderately robust; the toes for two-thirds of their length connected by a web; the outermost and the third nearly the same length, the fourth a little shorter, and the fifth much shorter; the second considerably longer than the first and third; a small, subovate, flat tubercle on the inner edge of tarsus, some distance behind the base of inner toe; a tubercle under each of the joints of the toes. Surface of back and sides rugose, from a number of oblong and circular glandular elevations and minute warts; upper surface of head and outer surface of extremities slightly warty; under surface of head, body, and inner surface of extremities, smooth; under surface of thighs slightly granular. The ground colour of the upper and lateral parts of the head, body, and outer surface of the extremities, intermediate between blackish green and brownish red; the head and anterior portion of back tinted with gray; the back freckled with pale cream-yellow, and the extremities barred with dull ash-gray. Under surface of head, belly, and inner surface of extremities, bluish white; the former, together with the throat and sides of the breast, profusely dotted with liver-brown; under surface of thighs pale ochre-yellow; upper and lower lip dull gray, with broad bars of brownish red. Length from nose to anus, 1 inch 4 lines; length of anterior extremities to point of longest toe, $6\frac{1}{2}$ lines; of hinder extremities, 1 inch 7 lines.

Inhabits the country around Port Natal.

So far as figure is concerned, this species has considerable resemblance to *Pyxicephalus*. Like *Oxyglossus* and *Leinuperus*, it is destitute of palatal teeth, but is easily distinguished from either of these by the form of its tongue and the non-visibility of its tympanum.

ARTHROLEPTIS, n. g.

Maxillary teeth short, slender, and closely set; no palatal teeth. Tongue slightly bifid behind, the last two-thirds free. Tympanum distinct. Opening of Eustachian tubes very small and oblong. Toes of anterior and posterior extremities free.

ARTHROLEPTIS WAHLBERGII, n. s.

Figure slender. Head in front of eyes very short, the sides converging towards the nose; the latter narrow and rounded. Eyebrows prominent; eyes large and laterally protuberant. Tympanum small, subovate, directly over the angle of the mouth; a series of minute warts above and behind angle of mouth. Anterior extremities rather long and very slender; toes free to the base, each, beneath, with several small tubercles. Posterior extremities slender, the toes delicate and without webs, a tubercle under each joint; apex of toes slightly swollen; the outermost and third toe of the same length, the fourth about half the length of the third, the innermost much shortest, the second about double the length of the outermost. Skin of back, sides, extremities, and under surface of lower jaw, smooth; that of abdomen and under surface of thighs, subgranular or slightly corrugated. Colour of the upper surface of the head, the back, the sides, and the outer surface of the extremities, rusty ash-gray,

or a tint intermediate between yellowish brown and ash-gray, and variegated with liver-brown: the variegations are a stripe on each side of nose; another behind the eyes on side of neck; a third, more or less distinct, immediately over the base of the fore-legs; an irregular transverse stripe or two blotches between the eyes; a diamond-shaped mark on the middle of the back between the fore-legs, in some individuals only in outline; two spots towards hinder part of back, one a little before each hinder extremity; extremities with one transverse bar to each joint, and a few small dark freckles. Under surface of head and neck pale brownish red, the latter freckled with bluish white; abdomen pale bluish white; under surface of thighs pale brownish red. Anus encircled with a dark ring. Length from nose to hinder extremity of back, 1 inch; of anterior extremities to apex of longest toe, 7 lines; of hinder extremities to point of longest toe, 1 inch 4 lines.

Inhabits the interior of Southern Africa.

This species might be classed in the group *Stenorhynchus*, were it not that its *tympanum* is distinctly visible, and its toes free to their base.

POLYPEDATES NATALENSIS, n. s.

Head not quite so wide as the body. Back slightly convex; sides protuberant; posterior part of body very narrow. Anterior extremities short, and robust; toes slightly webbed at the base, their points moderately dilated. Hinder extremities long, and rather robust; the basal half of the toes webbed. Nose rounded; rostral canthus distinct; nostrils lateral, nearer to the nose than the eyes, and immediately under rostral canthus. Eyes large, but not very prominent. Tympanum distinct, large, nearly circular, and close to external edge of eye. The skin of upper and lateral parts of the head, back, and extremities, smooth; of the sides, chin, under parts of the head, belly, and under surface of thighs, granular; on the sides and belly the granulations are largest, and somewhat oblong. Tongue large, somewhat pointed anteriorly; free behind for nearly half its length, and deeply bifid. Palatal teeth in two short oblique rows, one inside of each posterior nostril. Opening of Eustachian tube moderately large. The ground colour of the upper and lateral parts of the head, back, and the outer sides of the extremities, pale cochineal-red, variegated with dull duck-green; the variegations are a longitudinal stripe under each rostral canthus, two spots immediately below each eye, and a long narrow waved longitudinal stripe behind each *tympanum*; each of these variegations narrowly edged with deep black; two or three small liver-brown spots on each side towards the base of hinder leg, each spot edged with dots of a darker colour. Outer surface of anterior extremities marked with a few imperfect liver-brown bars, and the same parts of posterior extremities barred or freckled with the same colour; the hinder and under surface of thighs light brownish red, freckled with sienna-yellow; inner surface of extremities bluish white. Sides of body cream-yellow, irregularly variegated with brownish red. Chin and throat pale cochineal red, dotted with pale cream-yellow; breast bluish white; belly pale cream-yellow. Length $2\frac{1}{2}$ inches; length of anterior extremities 13 lines, of posterior extremities $3\frac{1}{2}$ inches.

The individual described (a female) is the only one I have seen, and was found on the leaf of a thick reed, growing on the marshy banks of a small river a little to the westward of Port Natal.

HYPEROLIUS HORSTOCKII.* *Eucnemis* Horstockii, *Tschudi*, *Classif. Batrach*, Mem. Societ. Scienc. Nat. Neuch, tom. ii. page 35 et 76, No. 19. *Dum. et Bib.* Erpet. Gener. tom. viii. folio 529. *Hyla* Horstockii, *Schleg.* *Abbild. Amph.* Decas 1, p. 24.

Inhabits marshy districts, and the banks of rivers, and is usually obtained on the leaves of small shrubs, reeds, or strong grass, which frequently abound in the localities mentioned.

HYPEROLIUS MARMORATUS, *Rapp*, *Archiv. fur Naturgeschichte*, von Dr. W. F. Erichson, Band 1, folio 289, taf. vi. figs. 1 & 2.

This, like *Hyperolius Horstockii*, is about an inch in length. In some specimens the upper parts are dark liver-brown, profusely marked with pale yellow dots; in others the ground colour is pale cream-yellow, variegated with irregular liver-brown bands, streaks, or blotches. The eyes are very large, and the head in front of the eyes is much shorter than in *H. Horstockii*, and shows no distinct rostral canthus; its abdominal surface is finely corrugated: in *H. Horstockii* that is distinctly granular.

This species is found abundantly in the neighbourhood of Port Natal, and, like *H. Horstockii*, is found on the leaves of shrubs, reeds, and strong grass.

HYPEROLIUS VERRUCOSUS, *Sundevall*, n. s.

Head the same width as the body, very short and narrow in front of the eyes; nose rounded, nasal canthus obsolete; nostrils close to nose. Eyes large and very prominent. Body convex above; sides nearly perpendicular; extremities moderately robust; apex of toes moderately enlarged. Toes of hinder feet webbed till near the point; those of fore feet free. Upper surface of head, back, and outer surface of extremities, with small, thinly set granulations; under surface with larger ones closely set, those of the belly largest. The colour of the upper surface of the head dark greyish brown, variegated with spots, stripes, or broken bars of pale sienna-yellow or cream-yellow. Extremities pale buff-orange; the thighs externally freckled with dull olive-green. Inner surface of thighs and belly, dull reddish orange; chin and throat pale yellow. Length 1 inch. The colours are those of a specimen preserved in spirits.

Inhabits Kaffirland to the eastward of the Cape Colony. It may possibly be only a variety of *Hyperolius marmoratus*, but in order to decide this it will be necessary to have an opportunity, beyond what I have, of examining more than one specimen.

HYPEROLIUS TUBERILINGUIS, *Sundevall*, n. s.

Head not quite so wide as the body, short and narrow in front of the eyes; nose slightly rounded; rostral canthus obtuse. Nostrils small, immediately under rostral canthus, and close to apex of nose. Eyes moderately large, and not very prominent. Body broad anteriorly, very narrow posteriorly; sides rather protuberant; back convex. Extremities long, and rather slender; toes of fore feet free, hinder considerably webbed. The skin of the upper parts of the body, the throat, and extremities smooth, of the abdomen and under surface of the thigh granular. Tongue posteriorly

* In 1842, the term *Hyperolius* was proposed by Rapp as a substitute for *Eucnemis* of Tschudi, the latter having in 1823 been adopted for a group of insects. Vide *Archiv. fur Naturgeschichte*, von Dr. W. F. Erichson, Erster, Ban 1, folio 290.

free and bifid, anteriorly somewhat pointed, with a small distinct wart on each side, a little behind the apex. Colour of upper parts, in a specimen preserved in spirits, pale greenish grey; of under parts of body, and under surface of thighs, light reddish orange. Toes pale brownish red. Length 1 inch 3 lines.

Inhabits the country to the eastward of the Cape Colony. The small globular wart on each side of the tongue, near its apex, constitutes a good diagnostic character.

BUFO PANTHERINUS, *Boie. Tschudi*, *Classif. Batrach*, Mem. Societ. Scienc. Nat. Neuch, tom. ii. p. 88. *Bufo Arabicus*, *Ruppel*, *Atl. Reis*, Noerdl, Afrik, Rept. p. 20, tab. iii., fig. 2. *Bufo regularis*, *Reuss*. Mus. Senckenb, tom. i. page 60.

This toad is found abundantly throughout the whole of Southern Africa, and specimens are easily procured in the vicinity of Cape Town, more especially after a fall of rain.

BREVICEPS GIBBOSUS, *Merr.* *Tent. Syst. Amph.* page 178. *Bufo gibbosus*, *Daud.* *Hist. Rain. Gren. et Crap.* page 80, plate 29, fig. 1, and plate 35, fig. 2. *Engystoma dorsatum et granosum*, *Cuv.* *Reg. Animal*, 2nd edition, tom. ii. page 112, *Dum. et Bib.* *Erpet. Gener.* tom. viii. page 764. Regen-padda of the Cape Colonists.

Specimens of this species are rarely obtained, and those I have seen were all procured in the districts towards Cape Town.

BREVICEPS VERRUCOSUS, *Rapp.* *Archiv. fur Naturgeschichte*, von Dr. Erichson, Band 1, fol. 291, taf. vi. fig. 5.

Head scarcely distinct from the body, the latter subglobular. Above dirty reddish brown, variegated with two or four rows of dull orange-yellow spots, more or less distinct; under parts dirty greenish yellow; a blackish blotch on each side of head below the angle of the mouth. Surface of skin warty. Pupil transversely ovate. Iris coppery-green. Length from $2\frac{1}{2}$ inches to 3 inches.

Inhabits the whole of Southern Africa; but specimens are seldom procured. It lives in holes or burrows in the ground, from which it emerges before or during rain, and on such occasions croaks loudly; hence it is known in the Colony by the name of Rain Paddock. When irritated, it inflates the lungs to their utmost extent, and is then like a distended bladder, and discharges profusely from pores in the skin a tenacious acrid mucus.

ENGYSTOMA GUTTATA, *Rapp.* *Archiv. fur Naturgeschichte*, von Dr. Erichson, Band. i. fol. 219, taf. vi. figs. 3 and 4.

Head small; nose narrow, and nearly pointed. Body large, slightly depressed, and subcircular; back convex. Colour of upper surface of body and outer surface of extremities, pale brownish red, variegated with small, pale sienna-yellow spots; under parts yellowish white.

Inhabits the south-eastern coast of Africa, particularly towards Port Natal.

DACTYLETHRA CAPENSIS, *Cuv.* *Reg. Animal*, 2nd edition, tom. ii. page 107, plate 7, fig. 3. *Dum. et Bib.* *Erpet. Gener.* tom. viii. page 765, plate 92, fig. 1 & 1a. *Xenophus Boiei*, *Wagler*, *Syst. Amph.* page 199. Water-padda of the Cape Colonists.

Wherever stagnant water occurs in Southern Africa, specimens of this frog will generally be found, and in the extensive ponds which communicate with the Salt River, near to where it enters Table Bay, hundreds may be procured in a few hours. It is oftener found in water than on land, yet it is frequently observed on the latter close to the former, into which it instantly escapes on any cause of alarm. It is always covered with a thick mucus, in consequence is very slippery, and with difficulty retained in the hand.

POSTSCRIPT.

IN the letter-press description of *Bufo carens*, plate 68, I mentioned that I considered this *Batrachian* would require to be regarded as the type of a group, if the absence of parotids was a constant character. I have now, in addition to the specimen I possessed when the above was published, six others, in all of which the deficiency exists, I therefore propose to sink the name *Bufo carens*, and substitute for it *Schismaderma lateralis*.

SCHISMADERMA, N. G.

Ch. Gen. Teeth very small, in the lower jaw only. Tongue long, narrow, and rounded at each extremity, the posterior half free. No palatal teeth. Tympanum distinct. Eustachian tubes small. No parotid glands. Toes of anterior extremities free, of hinder ones webbed at their base. Granular tubercles on under surface of toes. Skin of back and sides slightly fissured, subtubercular, and porous. A gular vocal sac in the male.

ERRATA.

- For* Alanda Codca, Plate 87, *read* Alauda Codea.
— Alanda lagepa, Plate 87, *read* Alauda lagepa.
— Rhynchaspis, Plate 98, *read* Rhynchaspis.
— Walbergii, where it occurs, *read* Wahlbergii.
— Sunderwallii, where it occurs, *read* Sundevalli.
— Tarentola Bibroni, Plate 50, *read* Pachydactylus Bibronii.
— Tarentola Capensis, Plate 50, *read* Pachydactylus Capensis.
— Caprimulgus Europæus, in letter-press of Plate 102, *read* Caprimulgus Europæus.
— Bufo carens, Plate 68, *read* Schismaderma lateralis.

NOTE.—The descriptions of Figs. 2 and 3, Plate 47 Mammalia, which were accidentally omitted in Part 25, will be found in the present Part, together with separate Title-pages and Indexes for each Division of the Work.





