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II.—An account of the Earth-Snakes of the peninsula of India and Ceylon

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what similar form from the Inferior Oolite of Dundry and elsewhere. That species and its allies, *R. bradfordiensis* and *R. Crossi*, are profusely covered with longer spines, which appear to be a characteristic of age, as they are not so developed in young specimens. *R. Döderleini* therefore exhibits an interesting survival of a form of shell-ornamentation which formerly prevailed among the Palæozoic Productidæ, Orthidæ, &c., and the Oolitic Spiriferidæ and Rhynchonellidæ. No spinose Brachiopoda are known from the Cretaceous or Tertiary period, and the species now described is the first example of the kind among living species of the group.

I have named *Rh. Döderleini* after its discoverer, Dr. L. Döderlein, of the Naturhistorisches Museum of Strassburg, who kindly placed the specimens he dredged in Sagami Bay, Japan, at my disposal for description and illustration.

THOMAS DAVIDSON.

II.—*An Account of the Earth-Snakes of the Peninsula of India and Ceylon.* By Colonel R. H. BEDDOME, F.L.S.

Uropeltidæ.

Body cylindrical, with a small head, not distinct from the neck; eye very small or moderate. Cleft of the mouth of moderate width; teeth small in the maxillary and mandibular bones, none in the palate; only one pair of frontals, four upper labials; a longitudinal fold at the chin only in *Melanophidium*; tail very short, truncated, and terminating in a rough shield, which is rounded, square and more or less bicuspid, or flat with the caudal scales more or less keeled; or somewhat tapering, with a small terminal scute, which is 1-2-pointed, or with a horizontal ridge, with the caudal scales often quite smooth; anal bifid.

The species of this tribe are confined to the peninsula of India and Ceylon and are peculiar to the mountainous districts or to the heavy forests at the immediate foot of the mountains; their headquarters are the western ranges of mountains from Canara to Cape Comorin, only one species having been found on the mountains of the east coast, and only three north of the Kudra Mukh in South Canara, on the west side; some few only are widely distributed, others are exceedingly local and appear to be very rare in their localities.

They burrow into the ground, and are often dug up about coffee- and tea-estates; but they can always be collected by

turning over logs and large stones in the forests, and even on the grass-land at high elevations, and during the rainy season they are not unfrequently found about the roads. They are generally of small size, about 1 foot long, with a girth of scarcely 1 inch; the maximum length as yet known is 24 inches (a specimen of *Silybura grandis*), the maximum girth 3 inches (*Uropeltis grandis*). They never attempt to bite, however much they may be handled or teased; they will at once twine themselves tightly round a stick, and can be carried along without their attempting to escape. They are all ovoviparous; they live almost entirely upon earth-worms. The eye is generally exceedingly small and lies well within the margin of the ocular shield (which is formed by the confluence of the supraorbital and postocular); it is only in *Platyplectrurus* that the eye can be said to be distinct and to have a postocular as well as a supraorbital, for, although there is a supraorbital in *Plectrurus* and in *Teretrurus*, the ocular shield is more or less produced round and underneath the eye, and cannot be strictly called a postocular. *Melanophidium* shows an approach to the Calamaridæ in the longitudinal fold at the chin, and *Platyplectrurus* shows a still nearer approach in its broad head, the situation of the eye, and the arrangement of the surrounding shields, so that the tribe Uropeltidæ will probably not be allowed to stand unless it be only for the genera with the truncated tail. Many of the species are beautifully coloured with red and yellow when alive; the yellow colour always, and the red sometimes, fades to white in spirits. Green and blue colours are never present, but many of the species, particularly of the genus *Melanophidium*, have a most lovely iridescence when held in a certain light, and the violet and blue tints are very beautiful.

I have had many of the commoner species for long periods in captivity in boxes of earth, feeding them on earth-worms; but I have never known them to breed in captivity.

Synopsis of the Genera.

Tail truncated.

The caudal shield rounded, scaleless, the caudal scales generally smooth RHINOPHIS.

The caudal shield large, flat, scaleless UROPELTIS.

The terminal scute square at the end or bicuspid, the points side by side; the caudal scales generally strongly keeled SILYBURA.

The terminal scute vertically compressed, the points superposed PLECTRURUS.

Tail tapering.

The terminal scute a single sharp point; no median groove along the chin TERETRURUS.

- The terminal scute a single sharp point or furnished above with two parallel ridges, which are pointed at the end; a median groove along the chin MELANOPHIDIUM.
- The terminal scute, at least in the male, ending in a horizontal ridge; no median groove.... PLATYPLECTRURUS.

RHINOPHIS, Hemprich.

(Dapatnaya, Kelaart; *Mytilia*, Gray.)

Tail cylindrical, very short in the female, rather longer in the male, terminating in a rounded scaleless rough shield, the caudal scales smooth, but sometimes with faint traces of keels; head conical, rostral acutely pointed, produced back, and separating the nasals; eye always very small, lying in the front part of the ocular shield and well within the margin; the first pair of lower labials generally form a suture behind the median shield, followed immediately by the first ventral; a pair of chin-shields sometimes present. No supraorbital. No mental groove. Scales round the middle of the body in 17, rarely in 15 rows.

Hab. Ceylon and South India.

Synopsis of the Species.

- Caudal shield in extent equal to the head.
- Rostral very long, with distinct keel above.
- Colour nearly uniform *oxyrhynchus*.
- Much dotted..... *punctatus*.
- Rostral shorter, without distinct keel.
- No red markings (Ceylon species).
- Ventrals 156-176..... *planiceps*.
- " 191-202..... *Trevelyanus*.
- Belly red (South-Indian species) *sanguineus*.
- Caudal shield much smaller than the head *Blythii*.

Rhinophis oxyrhynchus.

Typhlops oxyrhynchus, Schneider, Hist. Amph. ii. p. 341.

Rhinophis oxyrhynchus, Hemprich, Grundr. Naturg. p. 119; Dum. & Bibr. vii. p. 154; Peters, Uropelt. p. 9, tab. 2. fig. 1; Günther, Rept. of Brit. Ind. p. 184.

Dapatnaya lankadivana, Kelaart, Prod. ii. p. 16.

Mytilia unimaculata, Gray, Proc. Zool. Soc. 1853, p. 264.

Snout acutely pointed; rostral about half as long as the head, compressed, and furnished with a distinct longitudinal keel above; caudal shield large, obtusely rounded, extending to the lower surface of the tail, its extent equal to that of the head; all the caudal scales quite smooth both on the upper and lower surface of the tail; the first pair of lower labials scarcely meet behind the median, but there is a pair of chin-

shields (often unequal) between them and the first ventral. Scales round the middle of the body in 17 rows; ventrals not much larger than the adjoining scales, from 214 in the males to 223 in the females; subcaudals 7 or 8 in the males, 5 or 6 in the females, generally in pairs, but often some of them single. Adults up to about 15-17 inches in length, with a girth of about $1\frac{1}{8}$ - $1\frac{3}{8}$ inch. Body and belly nearly uniform brown, each scale with a lighter margin, some yellow markings about the tail.

Hab. Ceylon, Central Provinces.

Rhinophis punctatus.

Rhinophis punctatus, J. Müller, Treviran. Zeitschr. Phys. iv. p. 248;

Dum. & Bibr. vii. p. 157; Peters, Urop. p. 12, tab. 3.

Pseudotyphlops oxyrhynchus, Schl. Abbild. p. 43, t. 12.

Snout acutely pointed; rostral about half as long as the head, compressed and furnished with a distinct longitudinal keel above; caudal shield large, obtusely rounded, extending to the lower surface of the tail, its extent being equal to that of the head; all the caudal scales quite smooth both on the upper and lower surface of the tail; the first pair of lower labials do not form a suture behind the median shield, but a pair of chin-shields, often unequal in size, form a suture between the median and the first ventral. Scales round the middle of the body in 17 rows; ventrals not much larger than the adjoining scales, 228 to 246 without reference to sex (a male with 9 subcaudals having 246, and a female with 6 subcaudals 240). Subcaudals 8 or 9 in the males, 6 or 7 in the females; the caudal scales faintly keeled. Length of adults up to 15-18 inches, with a girth of $\frac{7}{8}$ -1 inch. Yellowish in colour, each scale with a blackish or brown central spot, the scales in the series adjoining the vertebral series without spot.

Hab. Ceylon, Central Provinces; in the neighbourhood of Kandy, under stones.

Rhinophis planiceps.

Typhlops philippinus, Cuv. Règne Anim. ii. p. 74.

Rhinophis philippinus, Müll. Trev. Zeitschr. Phys. iv. p. 249; Dum. & Bibr. vii. p. 154, t. 59. fig. 1; Peters, Uropelt. p. 15; Jan, Icon. Générale des Ophidiens.

Rhinophis planiceps, Peters, Uropelt. p. 17, fig. 9.

Snout acutely pointed; rostral less than half the length of the head, quite flat or scarcely compressed above; caudal shield large, obtusely rounded, extending to the lower surface of the tail, its extent being about equal to that of the head; some of the caudal scales, both on the upper and lower surface

of the tail, with faint traces of keels both in males and females, but fainter in the latter, some of those along the central row on the upper surface often much enlarged; no chin-shields between the first pair of lower labials and the ventrals. Scales round the middle of body in 17 rows; ventrals not twice as large as the adjoining scales, from about 154 in the males to 176 in the females; subcaudals 6 or 7 in the males, 3 or 4 in the females, generally in pairs, sometimes single. Length of adults 11–12 inches, girth about $\frac{7}{8}$ inch. Blackish brown or brown above, each scale with a lighter margin, a lighter colour below; a yellow band across the vent; sometimes some yellow blotches on the anterior portion of the trunk.

Hab. Ceylon, Central Provinces.

I have adopted Peters's later name, as the older one of *philippinus* was given on the erroneous supposition that this species was found in the Philippine Islands. The vertical shield does not afford a specific character in any species of *Rhinophis* or *Silybura*, as it differs as much in individuals of the same species as it does in different species; the supposed *planiceps* differs in no way from *philippinus*.

Rhinophis Trevelyanus.

Dapatnaya Trevelyan, Kelaart, Prodr. Fauna Zeyl. ii. p. 17.

Mytilia Gerrardi, Gray, Proc. Zool. Soc. 1858, pp. 58, 263, tab. 13.

Rhinophis homolepis, Hemprich, Grundr. der Nat.; Peters, Urop. p. 14.

Snout acutely pointed; rostral shield much less than half the length of the head, slightly compressed into a keel above; caudal shield large, obtusely rounded, extending to the lower surface of the head, its extent being rather more than that of the head; all the caudal shields quite smooth both on the upper and lower surface of the tail; the first pair of lower labials form a suture behind the mental, but there are no chin-shields between these and the ventrals. Scales round the middle of the body in 17 rows; ventrals not much larger than the scales of the adjoining series, from about 191 in the males to 203 in females; tail very short, 5 subcaudals in the males and 4 in the females. Length of adults about 11–12 inches, with a girth of about 1 inch. Body blackish, with the margins of the scales lighter; belly cream-coloured, the sides with a series of triangular cream-coloured or whitish bands which do not meet across the back.

Hab. Ceylon, Central Provinces; in the vicinity of Kandy, under stones.

Rhinophis sanguineus.

Rhinophis sanguineus, Bedd. Proc. Zool. Soc. 1863, p. 227; Günther, Rept. Brit. India, p. 186.

Rhinophis microlepis, Bedd. l. c. cum icon. (young).

Snout acutely pointed; rostral one third as long as the head, slightly compressed, with an obtuse longitudinal keel above; caudal shield large, roughly lined, obtusely rounded, extending to the lower surface of the tail, its extent being about that of the head; caudal scales in the males smooth on the upper surface of the tail, 4-8 keeled on the lower surface, in the females smooth both above and below, scales of the central row along the upper surface of the tail often enlarged; a pair of chin-shields present between the first pair of lower labials and the ventrals. Scales round the middle of the body in 15 rows; ventrals twice as large as the scales of the adjoining series, a few near the anal region in the male keeled (as are often some of the adjoining scales of the body), from 197 to 209 without reference to sex (a male with 9 subcaudals having 209, a female with 6 subcaudals, 204). Subcaudals 9 or 10 in the males, 5 or 6 in the females, generally in pairs, sometimes a few entire. Length of adults 16-17 inches, girth up to $1\frac{3}{8}$ inch. Back uniform bluish black, belly and 3 or 4 outer series of scales bright red blotched with black; caudal shield black, with a red band on each side and sometimes a similar one down the centre (the red colours fade to white in spirit).

Hab. South India: Cherambady in the Wynad, at about 3000 feet elevation; on the Brumagherries (North Wynad), under stones, 3000 to 4000 feet elevation; Nellambur, in Malabar, dug up in the forests about the Government teak-plantations, about 500 feet above sea-level (but close under the mountains); the Anamallays; Tinnevely and Travancore ghats.

This species has exactly the caudal disk of the Ceylon species of this genus; but it differs from them in having 15 rows of scales instead of 17, and in its much larger ventrals. It is a curious fact that only one species should have been found in Southern India when Ceylon possesses five; but the fact of its occurring almost throughout the South Indian Uropelt region is rather against the chance of other species being detected.

Rhinophis Blythii.

Rhinophis Blythii, Kelaart, Prodr. ii. p. 14; Peters, Uropelt. p. 17; Günther, Rept. of Brit. Ind. p. 186, in part only.

Mytilia Templetonii, Gray, Proc. Zool. Soc. 1858, p. 263.

Snout acutely pointed; rostral much less than one half the length of head, very slightly compressed, generally produced

back to the middle of the frontals ; caudal shield much smaller than in the other species, asperous, in extent less than one half the surface of the head, obtusely rounded, rarely with a small ridge down its centre. Some of the final caudal scales on the upper surface of the tail in both males and females with faint traces of keels, some of the central row on the upper surface often enlarged ; no chin-shields between the first pair of lower labials and the ventrals. Scales round the middle of the body in 17 rows ; ventrals not much larger than the scales of the adjoining series, from 145 to 156 in the males, and from 159 to 164 in the females. Subcaudals 7 pairs in the males, 5 or 6 pairs in the females. Length of adults up to 13-14 inches, girth $1\frac{7}{8}$ inch. Body brown, belly and sides more or less mottled with yellow or with a yellowish band along the anterior portion of the trunk ; a complete yellowish ring round the end of the trunk near the anal region, and generally several triangular yellowish blotches up the sides of the anterior portion of the trunk, but not meeting over the back.

Hab. Ceylon, Central Provinces ; common about Kandy and elsewhere.

This appears to be the stoutest of all the species of this genus, being nearly 2 inches in circumference ; it has been confounded with *Silybura melanogaster* by Dr. Günther, but it is much larger than that species, has a different caudal disk, and a different coloration ; this and *Silybura melanogaster* appear to be the only species very common in Ceylon, and I took them both all over the Central Provinces, though never together ; whereas I only found a single example each of *Rhinophis punctatus*, *R. Trevelyanus*, and *Uropeltis grandis*. I never found *Rhinophis oxyrhynchus* or *planiceps*.

UROPELTIS, Cuvier.

Tail cylindric, obliquely truncated as if cut by a knife, the truncated portion flat, scaleless, rough ; head conical, nasal shields forming a suture behind the rostral, no supra-orbital ; the first pair of lower labials form a suture behind the median shield and are followed by a pair of chin-shields. No mental groove.

Hab. Ceylon.

Uropeltis grandis.

Uropeltis philippinus, Cuv. Règne Anim. ii. p. 76 ; Dum. & Bibr. vii. p. 161, pl. lix. fig. 2 ; Peters, Uropelt. p. 20 ; Tennant's Ceylon, vol. i. p. 195.

Pseudotyphlops philippinus, Schlegel, Abbildungen, p. 44.

Uropeltis saffraganus, *grandis*, and *pardalis*, Kelaart, Prodr. ii. pp. 15, 16.

Uropeltis grandis, Günther, Rept. Brit. Ind. p. 188.

Snout pointed ; rostral convex, produced behind, nearly as long as the vertical ; ventrals not much larger than the scales

of the adjoining series, from 130 to 148, probably without reference to sex, or at least not more in the female than in the male (one with 5 subcaudals having 133; one with 6 having 138; one with 9 having 143); subcaudals 5 to 9 pairs; very faint traces of keels on some of the terminal caudal scales; scales in 19 rows round the middle of the body. Length of large adult 20 inches, with a girth of 3 inches. Back a metallic bluish brown, the lateral scales and ventrals brown with a broad yellowish margin.

Hab. Ceylon, Central Provinces.

There are only 19 rows of scales round the middle of the body in all the specimens in the British Museum. Schlegel and Günther have described it with 21.

SILYBURA.

(*Siluboura*, Gray; *Silybura*, Peters.)

Caudal disk flat, as if severed by a knife, or convex and ill-defined; the scales on the upperside generally furnished with very prominent keels, rarely smooth or nearly so, but faint keels are nearly always visible; terminal scute a horny horizontal scale, which is generally bispinous with the points side by side, more rarely square. Head more or less conical; nasal shields forming a suture behind the rostral, or more rarely separated by that shield; no supra-orbital; no mental groove. Eye small or moderate, lying in the front part of the ocular shield; the first pair of lower labials generally form a suture behind the median shield, followed immediately by the first ventral, or in some cases a pair of chin-shields intervene between the lower labials and the first ventral. Scales in 19, 17, or 15 rows.

Hab. S. India and Ceylon.

Synopsis of Species.

Scales in 19 rows.

Caudal disk flat, snout pointed..... *Broughami*.

Caudal disk convex.

Not ocellated; ventrals 206-214..... *grandis*.

Ocellated; ventrals 164-185..... *nigra*.

Scales in 17 rows.

Caudal disk flat.

Snout pointed..... *dindigalensis*.

Snout obtuse.

With red markings.

Two broad red lines..... *rubrolineata*.

Large red blotches..... *rubromaculata*.

Without red markings..... *nilgherriensis*.

Caudal disk convex.

Snout pointed.

Ocellated.

Ventrals 214 in males to 233 in females..... *ochracea*.

Ventrals 193 in males to 203 in females	....	<i>ocellata</i> .
" 173 in males to 188 in females	....	<i>liura</i> .
Not ocellated.		
Ventrals 226 in females	.....	<i>macrorhyncha</i> .
" 188 in males to 194 in females	....	<i>nitida</i> .
" 156 in males to 166 in females	....	<i>melanogaster</i> .
Snout variable, pointed or obtuse; ventrals 147-		
184	.....	<i>Ellioti</i> .
Snout obtuse.		
Nasals not separated by rostral.		
Without red markings	.....	<i>Petersi</i> .
With red blotches	.....	<i>maculata</i> .
Nasals separated by rostral.		
Belly brown, with yellow blotches or crossbars	...	<i>pulneyensis</i> .
Belly uniform yellow	.....	<i>Güntheri</i> .
Scales in 15 rows	.....	<i>macrolepis</i> .

* Scales in 19 rows.

|| Caudal disk flat; snout pointed.

Silybura Broughami.

Silybura Broughami, Bedd. Proc. Zool. Soc. Nov. 1878.

Silybura Levingii, Bedd. l. c.

Snout pointed; rostral longer than the vertical, vertically compressed into a sharp ridge, produced back, but not quite separating the nasals; eye very small; caudal disk flat (the scales generally more or less confluent), prominently 3-5-keeled (or with many more keels when confluent); the terminal scute rough, bicuspid, the points side by side; no chin-shields between the first pair of lower labials and the ventrals; ventrals about twice as large as the adjoining scales, from 196 in males to 228 in females; subcaudals about ten pairs in males and six pairs in females. Length about 16-17 inches, girth up to $1\frac{3}{8}$ inch. Brown with a series of transverse wavy black blotches in which are present ocellated white spots, the sides with yellowish angular blotches; ventrals dark brown.

Hab. The Sirumallays, Madura district, 5000 to 5500 feet elevation; the Lower Pulneys 4000 feet elevation.

||| Caudal disk convex; snout pointed.

Silybura grandis.

Rhinophis grandis, Bedd. Madras Quarterly Journal of Medical Science, 1867, cum icon.

Silybura grandis, Günther, Proc. Zool. Soc. March 16, 1875.

Snout rather pointed; rostral one third to one fourth the length of the head, simply convex above, produced back, but only rarely quite separating the nasals, which generally form a suture behind it; eye very small, in front of ocular shield;

caudal disk convex, the terminal scute small, bicuspid, the points side by side; the caudal scales 2-7-keeled; the first pair of lower labials form a suture behind the median shield and are followed by a pair of chin-shields. Scales round the middle of the body in 19 rows. Ventrals about twice as large as the scales of the adjoining series, from about 200 in the males to 214 in the females; in the males about 12 or 13 of the last ventrals and the scales of the trunk adjoining have similar keels to those on the caudal disk; subcaudals keeled, 10 to 12 pairs in the males, 7 or 8 pairs in the females. Length of adults up to about 24 inches, and girth up to $1\frac{1}{2}$ inch. Back brownish violet; belly with alternate yellow and dark violet cross bands.

Hab. Anamallay forests, above Ponachi, at an elevation of about 4000 feet; not uncommon.

Silybura nigra.

Silybura melanogaster, Günther, Proc. Zool. Soc. March 16, 1875, pl. xxxi. fig. B.

Silybura nigra, Bedd. Proc. Zool. Soc. Feb. 5, 1878.

Snout more or less pointed; rostral about as long as the vertical, sometimes produced back and quite separating the nasals, or sometimes the nasals form a suture behind the rostral; eye very small; caudal disk convex, not well defined, terminal scute small, bicuspid, the caudal scales more or less keeled, but not prominently, sometimes all quite glabrous except a few of the terminal ones, on which the keels are very faint; no chin-shields between the lower labials and ventrals. Scales in 19 rows round the middle of the body; ventrals twice as large as the adjoining scales, from about 164 in the males to 185 in the females; subcaudals (some often single) 9 or 10 pairs in the male, about 6 pairs in females. Length about 9-12 inches, girth nearly 1 inch. Body blackish or dark violet, very iridescent, with regular transverse rows of yellowish or ocellated spots; belly uniform blackish, the sides with a yellow band more or less broken up into spots, or the belly and sides pretty regularly banded with black and yellow.

Hab. The Pulneys and other ranges of hills in Madura and North Tinnevely, 4000 to 5000 feet elevation. Not uncommon; it can always be found under the rocks between Shembanganoor and Kodiekarnal, though not nearly so common as *S. pulneyensis*, which abounds there.

The typical *S. melanogaster* of Günther has the rostral separating the nasals as in the Ceylon *Rhinophis* (but I have

specimens in which the nasals form a suture behind the rostral), fewer ventrals, the belly uniform blackish, and the spots on the back ocellated; in typical *S. nigra* the nasals form a suture behind the rostral, the ventrals are more in number, and the spots are not ocellated; further collections, however, have shown that these characters are not constant, and I believe that any herpetologist examining all the specimens in the British Museum would unite the two. Dr. Günther's name is the older, but is now occupied by a Ceylon species, as I have found it necessary to remove *Rhinophis melanogaster* to *Silybura*.

** Scales in 17 rows.

|| Caudal disk flat.

A. Snout pointed.

Silybura dindigalensis.

Silybura dindigalensis, Bedd. Proc. Zool. Soc. March 6, 1877, p. 167.

Snout pointed; rostral sharp (as in *Broughami*), produced back, but not separating the nasals; eye very small; caudal disk flat, the terminal scute rather large, square at the end, or terminating in two points side by side, the caudal scales prominently 3-8-keeled (or, where confluent, with many more keels); no chin-shields between the lower labials and the ventrals; the scales in 17 rows round the middle of the body; ventrals twice as large as the scales of the adjoining series, from 158 in males to 169 in females; subcaudals, 10 pairs in males, about 6 pairs in females, or some of them often single. Length 12-15 inches, by $1\frac{3}{4}$ inch in girth. Body yellowish, with an open net-pattern of black markings; belly blackish, with very irregular transverse bars of yellow; a yellow line runs along the labials and a short way along the sides of the trunk; tail yellow beneath.

Hab. Sirumallays, in the Madura district, 4000 to 5000 feet elevation.

The black markings have a tendency to form cross bars; but the spots are never ocellated as in *S. Broughami*, which it much resembles in colour; the head and tail are quite the same in both, but as it has only 17 rows of scales and the ventrals differ so considerably in number they must be regarded as distinct species.

B. *Snout obtuse.*

a. *With red markings.*

Silybura rubrolineata.

Silybura rubrolineata, Bedd., Günther, Proc. Zool. Soc. March 16, 1875, p. 228.

Snout obtuse, with the head and tail, chin-shields, &c. exactly as in *nilgherriensis*; ventrals 164 to 170. Colour uniform brown above and below; a broad bright red band along each side.

Hab. Travancore hills and Anamallays.

The typical specimen is from the Travancore hills and has a broad unbroken red band along each side, 164 ventrals and 6 subcaudals; the other two specimens in the British Museum are from the Anamallays, one with 170 ventrals and 8 subcaudals, the other with 165 ventrals and 6 subcaudals (so that the number of ventrals has no reference to sex, as is the case in *S. nilgherriensis*), and they differ from the type in having the lateral bands less distinct or more or less broken up into blotches.

Silybura rubromaculata.

Silybura rubromaculata, Bedd. Madras Quart. Journ. of Medical Science, 1867, cum icon.; Günth. Proc. Zool. Soc. March 16, 1875.

Snout obtuse, the head, tail, chin-shields, &c. exactly as in *S. nilgherriensis*; ventrals 127 to 135, without reference to sex; subcaudals 9 or 10 in the males, 6 in the females. Length about 12–13 inches, girth about $1\frac{1}{2}$ inch. Colour brownish; a portion of each scale dull yellow, the yellow colour predominating on the belly and sides; five larger blood-red blotches along the sides of the anterior portion of the trunk, and one on each side of the tail near the vent.

Hab. Anamallays, in the forests above Ponachi, 4000 feet elevation.

This and the last are perhaps only varieties of *S. nilgherriensis*; but I have kept them distinct on account of the red colouring, there being no trace of that colour in hundreds of *S. nilgherriensis* that I have examined from time to time.

b. *Without red markings.*

Silybura nilgherriensis.

Uropeltis ceylanicus, Cuvier.

Coloburus ceylanicus, Dum. et Bibr.

Silybura nilgherriensis, Bedd. Proc. Zool. Soc. 1863, p. 226, pl. xxvi. fig. 1.

Silybura bicatenata, Günther, Reptiles of Brit. Ind. p. 191.

Silybura brevis, Günther, Ann. & Mag. Nat. Hist. 1862, p. 56; and Reptiles Brit. Ind. p. 192.

Silybura Elliotti, Günther, Rept. of Brit. Ind. p. 190 (in part).

Silybura ceylanica, Günther, Proc. Zool. Soc. March 16, 1875.

Snout obtuse; rostral shield rounded, quite flat, shorter than the vertical; nasals forming a suture behind the rostral; eye rather large; caudal disk flat, well defined, as if cut off at an angle with a knife, about as long as the tail; the terminal scute broad, more or less bicuspid, sometimes very sharply so, the caudal scales very prominently 1-3-keeled; the first pair of lower labials form a suture behind the median, followed by a pair of chin-shields. Scales round the middle of the body in 17 rows; ventrals twice as large as the adjoining scales, 122 to 142 (155 in two specimens from Bombay presidency), without reference to sex; subcaudals, about 12 pairs in males and 6 pairs in females. Length of largest adult 19 inches, girth $2\frac{3}{4}$ inches (but this is exceptionally large). Colour generally brown or blackish brown above, the belly more or less yellowish, or with a more or less distinct lateral yellow band; a broad yellow band on each side of the tail, which latter is black down the centre.

Hab. Nilgiris Mountains, from 3000 to 7000 feet elevation; and, I believe, throughout the Uropelt region of the western coast of the peninsula, and extending up into the mountains of the Bombay presidency, but not found on the mountains of the east coast or in Ceylon.

The name *ceylanica* cannot be kept up, as the species is not found in Ceylon.

Var. β . *Shortii*.

Silybura Shortii, Bedd. Proc. Zool. Soc. 1863, p. 225, pl. xxv. fig. 1.

The back ornamented with more or less regular yellow cross bars.

Hab. Shevaroy Hills, Salem district; the Anamallays.

Var. γ . *annulata*.

Body violet-brown, encircled with about thirty complete transverse rings of a darker shade; belly yellowish. (Ventrals 133, subcaudals 10 pairs in the unique specimen.)

Hab. The Wynad, Malabar, 3500 feet elevation.

Var. δ . *myhendree*.

Colour slaty purple above, with the posterior third of each

scale yellowish ; 3 or 4 dark triangular blotches on the anterior portion of the trunk and 1 or 2 similar ones about the anal region ; belly yellowish, blotched with seaweed-like purplish markings. (Ventrals 139 to 141, subcaudals 7 pairs in the two specimens known.)

Hab. South Travancore, on the Myhendra Mountain.

A very beautiful variety, but not differing from the type in any way but coloration.

Var. *ε. arcticeps*.

Silybura arcticeps, Günther, Proc. Zool. Soc. March 16, 1875, p. 229.

Silybura madurensis, Bedd. Proc. Zool. Soc. Nov. 5, 1878, p. 802.

Brown or blackish purple above ; belly and sides of the same colour, with irregular yellowish cross bars. (Ventrals 128 to 149, subcaudals 7 to 9 pairs.)

Hab. Mountains in the Madura district above the Cumbum valley ; mountains of North Tinnevely, 4000 to 6000 feet elevation.

The typical *arcticeps* of Günther (two specimens) has 128 to 130 ventrals ; *madurensis* (Bedd.) 142 to 149 ; they are, however, I believe identical.

Var. *ζ. picta*.

Back blotched with orange-yellow and black, the two colours nearly equally divided, some scales being black and some yellow, others half black and half yellow ; belly and sides (2 or 3 rows of scales) jet-black, iridescent, with very irregular broad orange-coloured blotches or cross bars.

Hab. North Travancore near Peermede.

A single example only of this most beautifully coloured variety was captured on Mr. Maltby's coffee-estate at an elevation between 3000 and 4000 feet ; it has 150 ventrals and 8 pairs of subcaudals (the two central ones being single).

Some herpetologists will probably consider these five varieties distinct species ; they, however, I believe differ only in coloration, and are, I think, only geographical varieties, though probably quite permanent as such in their respective localities.

Dr. Günther described *S. brevis* as a distinct species on account of its shorter form and fewer ventrals, 122 to 131 against 139 to 155 in what he considered typical of this species ; I found out in India, however, that it was quite impossible to draw a line between them or to distinguish *S. brevis* in any way : the ventrals vary from 122 to 140, the coloration is exactly the

same, and they are found indiscriminately over the same area. The two specimens with 155 ventrals are both from the Bombay presidency (collected by Dr. Leith probably at Matheran); I have never counted so many, or more, I believe, than 142, in the type form, and these two specimens also differ in wanting chin-shields, so that it is probable that this Bombay form will have to be considered a seventh variety. The two specimens are poor, and more are required to settle this satisfactorily; I shall not be surprised, however, if some herpetologists unite *rubrolineata*, which has up to 170 ventrals, with this species.

||| *Caudal disk convex.*

A. *Snout pointed.*

a. *Ocellated.*

Silybura ochracea.

Silybura ochracea, Bedd. Proc. Zool. Soc. Nov. 1878, p. 801.

Silybura Dupont, Bedd. *l. c.*

Snout pointed; rostral moderate; nasals forming a suture behind the rostral; eye very small; caudal disk more or less convex, the terminal scute much broader than long, ending in two points side by side, the caudal scales 3-8-keeled; the first pair of lower labials form a suture behind the median, followed by a pair of chin-shields; scales in 17 rows round the middle of the body; ventrals twice as large as the adjoining scales, 214 to 233, without reference to sex. Subcaudals about 10 pairs in the males, 6 pairs in the females. Length of largest adults about 20 inches, girth $1\frac{1}{2}$ inch. Back yellowish in life (yellowish brown in spirits), in the half-grown and young purplish brown; irregular cross bars of ocellated spots, which are yellow, with a black ring; sides and belly yellow, but the latter much mottled and blotched irregularly with the ground-colour; tail dark-coloured beneath, surrounded by a bright yellow band.

Hab. Anamallays, about Nelliampady, on the Cochin side, at 3000 feet elevation; also above Ponachi, on the Coimbatore side of the same hills, 4500 feet elevation; also the Bolampatty hills, near Coimbatore, 2000 feet elevation.

Silybura ocellata.

Silybura ocellata, Bedd. Madr. Quart. Journ. of Med. Scien. 1863, cum icon.; and Proc. Zool. Soc. June 9, 1863; Günther, Proc. Zool. Soc. March 16, 1875.

Snout pointed; rostral much shorter than the vertical,
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slightly compressed; nasals forming a suture behind the rostral; eye very small; caudal disk convex, twice as long as broad, the terminal scute more or less bicuspid, the caudal scales prominently 3-4-keeled; the first pair of lower labials form a suture behind the median, followed by a pair of chin-shields; scales in 17 rows round the middle of the body; ventrals twice as large as the adjoining scales, from 193 in males to 203 in females; subcaudals, 10 pairs in males, about 8 in females (sometimes entire). Length 10-15 inches, girth $\frac{7}{8}$ -1 inch. Colour of the male yellowish, yellowish brown towards the head and tail; female dull brownish; young purplish brown: all banded with rather irregular close-set transverse series of yellow black-edged ocelli; a series of yellow transverse bands along each side or right across the belly corresponding to the ocellated bands.

Hab. Nilgiris, western slopes below Sispara, about 3500 feet elevation, in dense moist forests; Tinnevely Hills.

Silybura liura.

Silybura liura, Günther, Proc. Zool. Soc. March 16, 1875, pl. xxxi. fig. A.

Snout rather pointed, but more obtuse than in *S. ocellata*; rostral very short; nasals forming a suture behind the rostral; eye very small; caudal disk very convex above, terminal scute small, bicuspid; the caudal scales smooth, except very inconspicuous keels on some of the final ones; the first pair of lower labials form a suture behind the median, followed by a pair of chin-shields; scales round the middle of body in 17 rows; ventrals twice as large as the adjoining series, from 173 in males to 188 in females; subcaudals about 12 pairs in males, 8 in females. Length of adults 10-13 inches, girth $\frac{7}{8}$ -1 $\frac{3}{8}$ inch, the females the stouter. Colour purplish brown, with transverse series of ocellated small yellow spots; belly and sides (2 or 3 outer rows of scales) with numerous irregular yellow cross bars.

Hab. Tinnevely and Madura Hills, 3000 to 5000 feet elevation.

Two males in the British Museum have 173 and 183 ventrals and 12 subcaudals; a female has 188 ventrals and 8 subcaudals; the coloration is that of *S. ocellata*, and it only differs, besides having rather fewer ventrals, in the rostral being more obtuse and in the caudal scales being much smoother, neither of which characters may prove to be constant, and it may have to be united with the preceding species.

b. *Not ocellated.**Silybura macrorhyncha.**Silybura macrorhyncha*, Bedd. Proc. Zool. Soc. March 6, 1877.

Snout sharply pointed; rostral nearly $\frac{1}{4}$ inch long, very acute and compressed into a sharp ridge; nasals large, very oblique, broad below, very narrow upwards, and only just meeting behind the rostral; eye very small; vertical square in front, shield-shaped and three-sided; caudal disk more or less convex, terminal scute large, bicuspid, the points side by side; the caudal scales prominently 4-5-keeled; no chin-shields, and the first pair of lower labials do not form a suture behind the mental. Scales round the middle of body in 17 rows; ventrals twice as large as adjoining series, 226, with 6 pairs of subcaudals (female). Length 22 inches, with a girth of $1\frac{1}{2}$ inch. Colour uniform brown, but somewhat paler below; a lateral yellow band along the anterior portion of the trunk for a short distance, commencing at the fourth labial; tail black below, with a yellow band on each side.

Hab. Anamallays, dense forests above Ponachi, at an elevation of 4000 feet. A unique specimen in the British Museum.

The coloration is quite that of *S. Elliotii*, and when I first found it I set it down as a very large form of *S. Beddomei*; but its much larger size, its very long and sharp rostral, and the much greater number of ventrals make this, I think, almost impossible.

*Silybura nitida.**Silybura nitida*, Bedd. Proc. Zool. Soc. Feb. 5, 1878.

Snout scarcely pointed; rostral very small, sometimes somewhat compressed and pointed, not separating the nasals; eye very small; caudal disk convex, terminal scute square or bicuspid, the caudal scales slightly keeled; no chin-shields between the first pair of lower labials and the ventrals. Scales in 17 rows round the middle of the body; ventrals twice as large as the adjoining scales, from 185 to 194, without reference to sex; subcaudals, in the males 12 pairs, in the females 5 or 6 pairs. Length up to about 14 inches, girth about $1\frac{1}{4}$ inch. Colour nearly jet-black, but very iridescent; the belly (ventrals and 2 or 3 outer rows of scales) with very distant, broad, bright yellow blotches, which sometimes meet and form cross bars, the black colour much predominating.

Hab. The Anamallays, about the Nelliampady estates on the Cochin side, elevation 4000 to 5000 feet.

Silybura melanogaster.

Rhinophis melanogaster, Peters, Monogr. p. 18, tab. ii. fig. 4.
Mytilia (Crealia) melanogaster, Gray, Proc. Zool. Soc. 1858, p. 264.
Plectrurus ceylonicus, Peters, Monatsber. Berl. Acad. 1859, p. 338.
Rhinophis Blythii, Günther, Rept. of Brit. Ind. (in part only).

Snout rather pointed; rostral small, flat or very slightly compressed, nearly as long as the vertical, separating the nasals, but not reaching to the middle of the frontals, or in some cases only barely touching those shields; eye very small; caudal disk convex, terminal scute small, generally more or less bicuspid, with the points side by side, sometimes square at the end; faint traces of keels are generally present more or less on the scales of the lower surface of the tail, and sometimes on a few of the terminal ones of the upper surface, and these traces are clearer in the males than in the females; no chin-shields between the first pair of lower labials and the ventrals. Scales in 17 rows round the middle of the body; ventrals only a little larger than the adjoining scales, about 154 to 156 in the males, and 162 to 166 in the females; subcaudals 9 to 12 in the males, 4 to 6 in the females. Length 10-12 inches, girth $\frac{7}{8}$ inch to 1 inch. Back and belly brownish or blackish; a more or less perfect yellowish lateral streak along each side; no transverse band in front of tail.

Hab. Ceylon, central provinces, about Kandy and Peradenia and elsewhere, very common.

This species has generally been placed in the genus *Rhinophis*; the terminal scute of the tail is, however, quite that of *Silybura*, the separation of the nasal shields by the rostral is not a generic character peculiar to *Rhinophis*, as it occurs also in *S. pulneyensis* and *Güntheri*, and occasionally in *S. grandis* and *nigra*; again, the male of this species has a greater number of subcaudals than ever occurs in any of the species of *Rhinophis*, but agrees in this respect with *Silybura*.

B. Snout variable.

Silybura Elliotti.

Siloboura ceylonicus, Gray, Cat. of Lizards, p. 142, excl. synonym.
Siloboura Elliotti, Gray, Proc. Zool. Soc. xxvi. p. 262 (1858).
Silybura Elliotti, Günther, Reptiles of Brit. India, p. 190, in part (the male specimens); Günther, Proc. Zool. Soc. March 16, 1875, p. 228.
Silybura Beddomei, Günther, Rept. Brit. India, p. 190, and Proc. Zool. Soc. l. c.
Silybura punctata, Günther, Proc. Zool. Soc. l. c. p. 229.

Snout pointed or more or less obtusely conical; rostral varying in length and often compressed into a slight keel, not separating the nasals; eye small; caudal disk convex, the

terminal scute small, bicuspid or square at the end, the caudal scales rather strongly 2-5-keeled; no chin-shields between the first pair of labials and the ventrals; scales in 17 rows round the middle of the body; ventrals nearly twice as large as the scales of the adjoining series, 147 to 189, without reference to sex; subcaudals about 10 pairs in the males and 6 in the females. Length about 10-12 inches, with a girth of about 1 inch. Colour generally uniform brown, with a yellowish line along each side of the neck; anal region with a broad yellow band, and a more or less perfect lateral yellow band along each side of the tail excurrent from the cross band of the anal region; belly often somewhat blotched with yellow; sometimes the colour of the body is almost black with two yellow spots on each scale, or brown with similar spots (*punctata* of Günther), but the markings about the tail are always more or less present.

Hab. This is the commonest Uropelt in Southern India, and has by far the widest geographical range, being, I believe, the only one found in the mountains of the eastern coast (Cuddapa, Kurnool, and Vizagapatam); it is also common on the hills in the Salem district, on the Mysore tableland, and in all the western-coast mountains from North Canara southwards.

Silybura Beddomei was distinguished by Günther as having a more pointed snout; and *S. punctata* from *Beddomei* as having fewer ventrals as well as being spotted; but when collecting many specimens in India I could never satisfactorily distinguish between them. Of the specimens in the British Museum I find three specimens of *S. Ellioti* collected by myself in North Canara, in which two have the rostral rather pointed (ventrals 148 and 178), the other the rostral obtuse (ventrals 153). Two males from Vizagapatam mountains have 10 and 9 subcaudals and 168 and 176 ventrals, and a female has 6 subcaudals and 178 ventrals. The specimens labelled *Beddomei* have the rostral pointed (ventrals 178, 184, and 189), but the coloration exactly the same as in *S. Ellioti*. In *S. punctata* the rostral is always more or less pointed, though sometimes only very slightly, and the ventrals vary from 147 to 173, viz. 147 and 153 in two examples from the Pulney hills, 153 in one from the Anamallays, 173 in a female from Jeypore (near Vizagapatam), in which the rostral is much pointed and all but separating the nasals, and 169 in a male (11 subcaudals) from the same hills, whereas another from the adjacent hills of Golconda has only 153. The correct spelling is *Ellioti*, not *Ellioti*, as the species is named after Sir Walter Elliot, who first sent it home to the British Museum.

*C. Snout obtuse.**a. Nasals not separated by the rostral.**a. Without red marking.**Silybura Petersi.*

Silybura Petersi, Bedd. Proc. Zool. Soc. Feb. 5, 1878.

Snout obtuse; rostral very small, not separating the nasals; eye small; tail somewhat compressed, caudal disk convex, terminal scute very small, square at the end or shovel-shaped; caudal scales mostly quite smooth, a few of the terminal ones very inconspicuously 2-5-keeled; no chin shields between the first pair of lower labials and the ventrals. Scales in 17 rows round the middle of body; ventrals 155 to 160, without reference to sex; subcaudals 10 to 12 pairs in the males, about 6 in the females. Length 6-7 inches, girth $\frac{3}{4}$ inch. Colour uniform brown, sides with indistinct yellowish spots or narrow transverse bars, which sometimes extend across the belly, a broad yellowish band across the anal region (but no lateral bands as in *S. Elliotii*).

Hab. Anamallays, 4000 feet, in forests above Ponachi; rare.

This is not unlike *S. Elliotii* in coloration, except that it has not the lateral bands on the tail; it differs, however, much in the caudal disk.

*b. With red blotches.**Silybura maculata.*

Silybura maculata, Bedd. Proc. Zool. Soc. Feb. 5, 1878.

Snout obtuse; rostral rounded, very small, not separating the nasals, which are as large as the frontals; eye rather large; tail somewhat compressed; caudal disk convex; the terminal scute small, size of two scales only, square at the end or inconspicuously bicuspid, the points side by side, the caudal scales smooth, but a few of the terminal ones have faint traces of keels; no chin-shields between the first pair of lower labials and the ventrals; scales round the middle of the body in 17 rows; ventrals about twice as large as the scales of the adjoining series, about 155 in the males and 164 in the females; subcaudals 11 to 13 pairs in males, about 8 pairs in females (some of them often entire). Length 12-14 inches, girth about $1\frac{3}{8}$ inch. Colour of a uniform dark brown or blackish, with several deep red blotches along the sides of the anterior portion of the trunk and about the tail, and rarely several are present along the sides of the trunk.

Hab. Anamallays, higher ranges 6000 to 7000 feet elevation. Not uncommon.

*β. Nasals separated by rostral.**Silybura pulneyensis.*

Plectrurus pulneyensis, Bedd. Proc. Zool. Soc. 1863, cum icon.

Rhinophis pulneyensis, Günther, Rept. of Brit. Ind. p. 187.

Silybura Wood-Masoni, Theob. Cat. Rept. of Brit. Ind. p. 135.

Snout rather obtuse; rostral flat, not compressed, rather broad behind, and completely separating the nasals; eye small; tail somewhat compressed; caudal disk convex; the terminal scute the size of three scales, bicuspid, the points side by side, the caudal scales smooth or generally a few of the final ones with faint keels; no chin-shield between the first pair of lower labials and the ventrals; scales in 17 rows round the middle of the body; ventrals nearly twice as large as the adjoining scales, 173 to 179, without reference to sex; subcaudals 12 pair in the males, 6 to 9 pair in females (or sometimes entire). Length 10–14 inches, girth up to 1½ inch, but seldom more than 1¼. Colour uniform earthy brown; a lateral bright yellow streak from middle of fourth labial continued for 1–1½ inch along the trunk; a few minute yellow specks on the back; belly with broad, bright yellow, transverse bands, very irregular as to number and shape; some yellow markings about the vent and tail.

Hab. Pulney hills (Madura district), 5000 to 7000 feet elevation. This is the common species on these hills, very abundant on the higher ranges, often found about the roads in wet weather, and dug up in gardens, also common on the short cut up from Shembaganoor under rocks, associated with *Silybura nigra* and *Platyplectrurus madurensis*.

The ventrals in this species are not more in the female than in the male, as is usually the case. A male with 12 subcaudals has 174 ventrals, and females with 9, 7, and 6 respectively have 177, 173, and 179 ventrals.

Silybura Güntheri.

Silybura Güntheri, Bedd. Proc. Zool. Soc. Nov. 5, 1873.

Snout broad, obtuse; rostral small, but quite separating the nasals; eye small; tail rather long, somewhat compressed; the terminal scute square at the end, slightly bicuspid, the points side by side, all the caudal scutes perfectly smooth; no chin-shields between the first pair of lower labials and the ventrals; scales in 17 rows round middle of body; ventrals much larger than the adjoining scales, 168; subcaudals 13 pairs. Body uniform purplish black, iridescent; belly and the 1 or 2 adjoining rows of scales yellow; chin and the first

inch or so of the belly black; tail black beneath, but with a yellow band on each side; upper labials and terminal scute yellow.

Hab Madura district, in moist woods on the "High Wavy," a mountain at the head of the Cumbum valley, at an elevation of about 5000 feet. Only a single specimen (now in the British Museum) is known, and not apparently adult; it is certainly rather abnormal in the genus, and when better known may have to be removed elsewhere.

*** Scales in 15 rows.

Silybura macrolepis.

Silybura macrolepis, Peters, Monatsber. Berl. Acad. 1861, p. 904; Günther, Rep. Brit. Ind. p. 189.

Snout obtuse; rostral shorter than the vertical, flat above, not separating the nasals; eye large; caudal disk flat, well defined (exactly as in *S. nilgherriensis*), twice as long as broad, prominently bicuspid; the caudal scales with 1 or 2 prominent keels; the first pair of lower labials form a suture behind the median shield, followed by a pair of chin-shields. The scales in 15 rows round the middle of the body, ventrals twice as large as the adjoining scales, 128 to 138 without reference to sex; subcaudals 8 or 9 pairs. Length about 1 foot, a large adult female being $1\frac{1}{2}$ inch in girth, and a large male $1\frac{1}{4}$ inch. Colour violet or purplish black or brown, with yellowish blotches along the anterior sides of the trunk; tail yellowish on each side.

Hab. Bombay ghats; Matheran hills.

There are four specimens in the British Museum, three collected by Dr. Leith on the Matheran hills, the other without locality. Two females with 8 subcaudals have 131 and 134 ventrals, and one male with 9 subcaudals has 130 ventrals; it has quite the aspect and colouring of *S. nilgherriensis*, and might be taken for that species unless the rows of scales were counted; it appears to differ also in the number of subcaudals.

PLECTRURUS.

Plectrurus, Dum. & Bibr.

Maudia, Gray, Proc. Zool. Soc. 1858, p. 261.

Terminal scute of the tail much compressed vertically, horny, bicuspid, the points one above the other, single or double. Snout obtusely rounded, the nasals forming a suture behind the rostral; eye pretty large in the front part of the ocular shield; a supraorbital generally present, but wanting in one species. Scales round the body in 15 rows; generally

a pair of chin-shields separate the first pair of lower labials from the ventrals, but these are sometimes wanting.

Hab. South India.

Synopsis of Species.

A supraorbital present.

Uniform brown	<i>Perrotetii</i> .
Each scale yellow, encircled with a black ring	<i>Davidsoni</i> .
Reddish, with a yellow belly	<i>Güntheri</i> .
Golden, with black cross bars	<i>aureus</i> .
No supraorbital	<i>canarius</i> .

Plectrurus Perrotetii.

Plectrurus Perrotetii, Dum. & Bibr. vii. p. 167, pl. lix. fig. 4; Günther, Rept. of Brit. Ind. p. 193.

Snout obtuse; rostral short, flat, rounded, as long as a nasal; vertical elongate, produced behind, much longer than broad; tail compressed; terminal scute compressed vertically and ending in two superposed points, which are single; the caudal scales keeled; the first pair of lower labials form a suture behind the median followed by a pair of chin-shields; scales round the middle of body in 15 rows; ventrals nearly twice as large as the adjoining scales, 153 to 162 without reference to sex; subcaudals 11 or 12 pairs in males, 6 or 8 pairs in females. Length of adults about 12-14 inches, with a girth of little over an inch; but exceptionally large specimens have been found with a girth of $1\frac{3}{4}$ inch, though not exceeding 14 inches in length. Colour uniform brownish, the belly a little paler; the young with small yellowish-white dots on the scales forming longitudinal lines.

Hab. Nilgiris mountains, 5000 to 8000 feet elevation. Very common about Ootacamund, where it can easily be found by turning over stones both on the grassland and in the woods; it is often dug up in gardens, and in wet weather is found crawling about the roads.

Plectrurus Davidsoni, n. sp.

Snout obtuse; rostral very small; nasals forming a suture behind the rostral; vertical large, much elongated behind, twice as long as broad; supraorbital small; occipitals large, much elongated; tail, terminal scute, and caudal scales as in *P. Perrotetii*; eye and chin-shields as in *P. Perrotetii*; ventrals nearly twice as large as the adjoining scales, 181 (in the unique specimen); subcaudals 8 pairs. Length $16\frac{1}{2}$ inches, girth $1\frac{1}{2}$ inch. Each scale yellow, more or less encircled with a black ring; ventrals blotched with black.

Hab. Anamallay hills, 4700 feet elevation. Collected by Mr. Davidson of Conoor, and presented by him to the British Museum.

Nearly allied to *P. Perrotetii*, but its coloration is distinct and very pretty; it is besides a longer snake with a greater number of ventrals; it has much longer occipitals, but this may not be a constant character.

Plectrurus Güntheri.

Plectrurus Güntheri, Bedd. Proc. Zool. Soc. 1863, p. 228, pl. xxvii.; Günther, Rept. Brit. Ind. p. 193.

Snout obtuse; rostral small, as long as broad, much shorter than a nasal; vertical elongate, produced behind, nearly twice as long as broad; tail compressed; the terminal scute tubercled, the two superposed points 2-3-pointed, or there are four superposed points; the caudal scales and some of the approximate scales of the trunk 3-6-keeled; the first pair of lower labials form a suture behind the median and are followed by a pair of chin-shields; scales in 15 rows round the middle of the body; ventrals nearly twice as large as the scales of the adjoining series, 171 to 175, subcaudals 10 to 12 pairs. Length 13-14 inches, girth about $1\frac{1}{2}$ to $1\frac{3}{8}$ inch. Body bright reddish purple; belly yellow, the yellow colour rising up on the sides of the trunk in triangular markings, the purple colour descending in the same form down to the ventrals.

Hab. Nilgiris hills, in the moist forests about Walaghat (halfway down the Sispara ghat), at an elevation of 3500 to 4000 feet; found under stones and rocks. Very rare, only five examples have been found.

Plectrurus aureus.

Plectrurus aureus, Bedd. Proc. Zool. Soc. March 2, 1880, p. 182.

Snout obtuse; rostral very small; vertical pointed behind; supraorbital about half as large as the postocular; eye large, occupying nearly half the ocular shield; tail compressed; the terminal scute with two double points, one above the other; the caudal scales and a few of the last scales of the trunk 3-7-keeled; the first pair of lower labials form a suture behind the median, a pair of chin-shields present or not; scales in 15 rows round the middle of the body; ventrals rather more than twice as large as the scales of the adjoining series, 164 or 165; subcaudals 12 pairs (in the two specimens known). Length about 14 inches, girth about $1-1\frac{1}{2}$ inch. Of a brilliant

golden colour, brighter beneath; the scales edged with violet, with or without a few irregular narrow violet-black cross bars along the back; the belly much ornamented with broad violet-black cross bars, sometimes confluent; tail beneath with a violet-black blotch.

Hab. The Wynad (in Malabar), on the Chambrá mountain. Only two examples were secured, and it has not been found elsewhere. One was at 6000 feet and the other at 4500, both in heavy forest, under old logs or stones; it is one of the most beautiful of the tribe, but the very brilliant golden colour soon fades in spirits.

Plectrurus canaricus.

Silyhura canarica, Bedd. Madras Journ. of Med. Science, 1870.

Plectrurus canaricus, Günther, Proc. Zool. Soc. March 16, 1875, p. 229.

Snout obtuse; rostral small, pointed behind and produced back, but not separating the nasals; vertical four-sided, produced back; no supraorbital. Eye in the front part of the ocular, but well within the margin; tail compressed; the terminal scute with two single superposed points; the caudal scales with 3-5 keels, or nearly quite smooth, the traces of keels being very faint or only on a few of the final scales; no chin-shields between the first pair of lower labials and the ventrals; scales in 15 rows round the middle of the body; ventrals not quite twice as large as the scales of the adjoining series, from 176 in the males to 188 in the females; subcaudals 6 pairs in the females, 11 or 12 pairs in the males. Length of adults up to about 16 inches, with a girth of 1½ inch. Brownish violet, very iridescent, each scale more or less blotched with yellow, often the anterior portion of the trunk variously streaked and blotched with yellow; a yellow band along each side of the tail and along the upper and lower labials.

Hab. South Canara; common on the Kudra Mukh, a mountain on the ghats near Mangalore, at a elevation of about 6000 feet; not met with elsewhere.

Mr. Theobald, in his 'Catalogue of Indian Reptiles,' describes a sixth species of *Plectrurus* as follows. This I have not seen.

Plectrurus scabricauda.

Scales in 15 rows; eye between 4 shields, frontal, superciliary, postocular, and third labial; nasals large; caudals 8 pairs; all the scales surrounding the tail and a few of the

last ventrals are roughened, with 1-2-3 tubercular keels; tip of tail flattened vertically, pustulose, simple, not cuspid; chin, tail, and body iridescent blackish brown, the ventrals and the adjoining row of scales yellow. Length 6.53 inches (tail 0.40 inch).

Hab. Anamallays.

TERETRURUS, new genus*.

Head obtusely conical, not so flat as in *Platyplectrurus*; snout obtuse, but not so rounded as in *Platyplectrurus*; eye rather large, occupying more than half of the ocular shield; a small supraorbital; a small temporal shield in conjunction with the ocular and between the fourth labial and the occipital; first pair of lower labials form a suture behind the median followed by a pair of chin-shields; scales round the middle of the body in 15 rows; tail very short in both sexes, and terminating in both in a single point; the caudal scales smooth or more or less keeled; no median groove along the chin; teeth small.

Hab. S. India.

Teretrurus sanguineus.

Plectrurus sanguineus, Bedd. Madr. Journ. of Med. Science, 1867, p. 14, with plate.

Platyplectrurus Hewstoni, Bedd. Proc. Zool. Soc. Nov. 7, 1876.

Snout obtuse; rostral very small, one third size of a nasal; frontals much larger than the nasals; temporal hardly more than half as long as the occipital; vertical six-sided, pointed behind; supraorbital not twice as large as the portion of the ocular not occupied by the eye; tail short, suddenly tapering, the terminal scute ending in a sharp point in both male and female; the caudal scales smooth in the female, a few of the terminal ones with very faint keels in the male; the first pair of lower labials form a suture behind the median followed by a pair of chin-shields; ventrals twice as large as the adjoining scales, 145 to 150 without reference to sex; subcaudals 7 or 8 in the male, 5 or 6 in the female. Length 6-8 inches, girth about $\frac{7}{8}$ inch. Colour blackish violet above; belly uniform red or often with a few violet-black blotches.

Hab. Anamallays, above Ponachi, elevation 4000 feet; very common.

Var. β . *Hewstoni*.

Ventrals 123 to 127 only, otherwise as in the type. Two specimens, one with 5 the other with 7 subcaudals.

Manantoddy (Wynad); elevation 2700 feet.

* τέτραρον an awl, and οὐρά.

Teretrurus travancoricus, n. sp.

Head as in *T. sanguineus*, which this species much resembles, but with the following differences:—Tail in the male with 7 to 9 subcaudals, the caudal scales being prominently keeled, as are also some of the last ventrals and adjoining scales; in the female, with 5 or 6 subcaudals, the caudal scales are smooth, or with very faint keels only on a few of the terminal ones; ventrals 130 to 135 without reference to sex. Length 7–8½ inches; the girth of adult males $\frac{7}{8}$ inch, of females $1\frac{5}{16}$ inch, being a larger and stouter snake than *T. sanguineus*, and the females of much greater girth than the males. Colour brick-red or reddish brown above; belly red, very much blotched with black, or sometimes the belly is all black, with only a few small red markings.

Hab. The mountains between Travancore and Tinnevely, above Paupanassum, 3000 to 5000 feet elevation; common, and easily found under large stones or decaying logs in these forests.

MELANOPHIDIUM.

Melanophidium, Günther, Rept. Brit. Ind. p. 193.

Tail tapering, slightly compressed, covered with smooth scales; the terminal scute small, smooth, horny, variable, ending in a single point slightly turned upwards, with or without a slight ridge down the centre of the scute, or with two parallel ridges above terminating in small points, generally side by side, or rarely superposed; snout obtuse; rostral small, simply convex; nasals forming a suture together behind the rostral; eye very small, in the front part of the ocular shield, well within the margin; no supraorbital; a median groove along the chin; the first pair of labials form a suture behind the median, followed by two pairs of chin-shields; the anterior large, the posterior pair small. Scales round the body in 15 rows; subcaudals 10 to 12 in females, 15 to 17 in males.

The snakes of this genus appear to be very rare, very few specimens having been found, though much search has been made in the localities they are known to inhabit. They are more beautifully iridescent than those of any other genus.

Hab. S. India.

Synopsis of Species.

- All uniform black, or the belly with irregular yellowish or whitish blotches *wynaudense*.
 Black, a broad yellow streak on each side from snout to tail *bilineatum*.
 Black; belly and sides whitish, spotted with black *punctatum*.

Melanophidium wynaudense.

Plectrurus wynaudensis, Bedd. Proc. Zool. Soc. June 9, 1863 (*wynaudensis* by misprint).

Melanophidium wynandense, Günther, l. c. p. 194.

Snout obtuse; rostral rather small, simply convex, as high as broad; nasals forming a suture behind the rostral; vertical hexagonal, longer than broad, pointed in front and behind; occipitals rather longer than vertical; caudal scales all quite smooth, terminal scute small, ending in a single point, or flattened above and square at the sides and ending in an upturned ridge. Scales round the centre of the body in 15 rows; ventrals nearly three times as broad as the scales of the adjoining series, 176 to 185 without reference to sex; subcaudals, 10 to 12 pairs in the females, 15 pairs in the males. Length of adults about 15-17 inches, girth about $1\frac{1}{4}$ - $1\frac{3}{8}$ inch. Colour black, but most beautifully iridescent; generally some broad yellowish or whitish blotches on the belly, which are larger and more numerous towards the tail; but these are sometimes absent, and the whole snake is uniform black; tail uniform black.

Hab. The Wynad (Malabar), 3000 to 3500 feet elevation, very rare. Six only have been found, with ventrals and subcaudals as follows:—

	{ 10 subcaudals and 185 ventrals.			
4 females	{ 11	"	"	185
	{ 12	"	"	176
	{ 12	"	"	176
2 males	{ 15	"	"	180
	{ 15	"	"	179

Melanophidium bilineatum.

Melanophidium bilineatum, Bedd. Madr. Journ. Med. Science, Sept. 1870.

Snout obtuse; rostral rather small, broader than high; nasals smaller than the frontals; vertical hexagonal, pointed in front and behind; occipitals very elongate, much longer than vertical; eye very small, well within the margin of the ocular shield; caudal scales quite smooth, the terminal scute scarcely larger than one caudal scale, ending in a single point. Scales round the body in 15 series; ventrals three times as broad as the scales of the adjoining series, 184 to 200; anal large, bifid; subcaudals 15 to 17 pairs. Length up to about 14 inches; girth about $\frac{7}{8}$ of an inch. Colour of the belly and back uniform bluish black, very iridescent; a broad yellow streak from the snout to the tail on each side, which occupies the whole of the second row of scales from the ven-

trals and half of the first and third row, the scales in the second row each with a black dot in their centre; tail yellow underneath.

Hab. The Wynad (Malabar), in forests on the Peria Peak and on the Tirrhioot Peak, 4000 feet elevation. Only four examples were found, three adults and one young. Two adults with 15 subcaudals each have respectively 184 and 191 ventrals, and one adult with 16 subcaudals has 200 ventrals; the young one has 17 subcaudals.

Melanophidium punctatum.

Melanophidium punctatum, Bedd. Madr. Journ. Med. Science, Dec. 1871.

Snout obtuse; rostral shield rather small, simply convex, nearly as high as broad; nasals forming a suture behind the rostral; frontals much larger than nasals; vertical hexagonal, nearly as broad as long, with an obtuse angle in front and an acute one behind; eye very small, well within the margin of the ocular shield and about one fourth its size; caudal scales all quite smooth, the terminal horny scute $1\frac{1}{2}$ to 2 lines long above, very little produced below the tail, furnished with two parallel ridges above, each ending in a small spine, side by side or superposed, or sometimes the terminal scute is only simply pointed. Scales in 15 rows round the middle of body; ventrals twice as broad as the adjoining scales, 183 to 198; subcaudals 15 to 17 (in all the six specimens collected); anal large, bifid. Length 16–21 inches, with a girth up to $1\frac{1}{8}$ inch. Back uniform blackish, very iridescent; belly and sides whitish, each of the three rows of scales on each side of the ventrals with a very regular oblong black blotch, forming three very regular parallel lines on each side; each ventral and subcaudal with a large parallelogrammoid black blotch.

Hab. Travancore Hills; in the Mutikuli Vayal, a valley in the mountains in South Travancore, elevation 4500 feet; also about Peermede and the neighbouring forest, in North Travancore, elevation about 4000 feet.

PLATYPECTRURUS.

Platypectrurus, Günther, Ann. & Mag. Nat. Hist., June 1868.

Head very flat; cleft of the mouth deep; snout broad, very obtusely rounded; eye distinct, rather large, surrounded by the supraorbital, postocular, frontal, and fourth labial; a long temporal shield between the fourth labial and the occipital; tail rather long, tapering, the posterior part somewhat compressed; the caudal scales quite smooth, or with

only very faint traces of keels on a few of the last; the terminal horny scute in the male broad, with a sharp horizontal edge, grooved or somewhat concave below, and compressed into a ridge on the upperside, which terminates in a single point; in the female very similar but smaller, ending in a single point, the horizontal ridge inconspicuous; the first pair of lower labials form a suture behind the median, followed by a pair of chin-shields; no median groove along the chin; teeth conspicuous, gradually longer behind, about 8 in the maxillary and 5 in the mandibular bones.

Hab. S. India.

Synopsis of Species.

Brick-red, with three longitudinal interrupted black lines.. *trilineatus*.
 Uniform brownish, belly and sides dotted *madurensis*.
 Blackish, with a longitudinal yellow line down each side of
 the back *bilineatus*.

Platyplectrurus trilineatus.

Platyplectrurus trilineatus, Günther, *l. c.*

Plectrurus? trilineatus, Bedd. Madr. Journ. Med. Sciences, 1867, p. 14.

Snout very obtusely rounded; rostral pointed behind, very small, one third the size of a nasal; nasals forming a suture behind the rostral; supraorbital three times as large as the postocular; a long temporal shield always present; tail compressed towards the end, the scales all quite smooth, or a few of the terminal ones very inconspicuously 2-3-keeled; terminal scute in the males shovel-shaped, with a horizontal edge, concave below, and with a ridge along the upper surface which ends in a sharp point; in the females very small, equalling 1 to 2 scales, ending in a single point, but generally with an inconspicuous ridge. Scales in 15 rows round the middle of the body; ventrals twice as large as the adjoining scales, from 165 to 168 in the males, to 174 in the females; subcaudals 14 or 15 in males, 8 to 10 in females. Length about 15 inches, the females much stouter than the males, being $1\frac{3}{8}$ inch in girth, the males only $\frac{7}{8}$ inch. Body and belly of a bright brick-red colour, with 1 dorsal and 2 lateral black punctated lines, which extend from the neck to the end of the tail, the black dots each occupying a scale; the lines are sometimes here and there interrupted by 1 to 3 consecutive scales wanting the black marks.

Hab. Anamallay forests, above Ponachi, at an elevation of about 4000 feet. A rare snake; only six have been found, with ventrals and subcaudals as follows:—

	{	8 subcaudals and 173 ventrals.	
Females	{	9 " " 171 "	
	{	10 " " 171 "	
	{	10 " " 174 "	
	{	14 " " 167 "	
Males	{	14 " " 168 "	
	{	15 " " 165 "	

Platyplectrurus madurensis.

Platyplectrurus madurensis, Bedd. Proc. Zool. Soc. March 16, 1877.

Snout very obtusely rounded; rostral very small, scarcely reaching the surface of the head; nasals very large; vertical six-sided, not much produced behind; supraorbital three times as large as the postocular (which latter is rarely confluent with it); a long temporal shield always present; tail not much compressed, the scales quite smooth, the terminal scute horny, in the male with a sharp horizontal ridge and compressed into a ridge on the upper surface, which ends in a single point, in the female very small, size of 1 to 2 scales only, and ending in a single point, with sometimes traces of the horizontal ridge. Scales round the middle of the body in 15 rows; ventrals not twice as large as the scales of the adjoining series, 149 to 159 in males to 170 to 176 in females; subcaudals 14 or 15 pairs in males, 9 to 11 pairs in females. Length of adults 12-14 inches, females up to $1\frac{1}{2}$ inch in girth, males about $\frac{7}{8}$ of an inch only. Above a nacreous purplish brown; ventrals and the two adjoining series of scales on each side white in the centre, but with a very complete ring round the margins of the same colour as the back.

Hab. Pulney mountains (Madura district), about Kodiekarnal, 6000 feet elevation, and a little above Shembaganoor, 5000 feet; also about Peermede, on the Travancore Hills, 4000 feet elevation.

Platyplectrurus bilineatus, n. sp.

Snout very obtusely rounded; rostral small, just reaching the surface of the head; nasals large; vertical six-sided; supraorbital as in *madurensis*; a long temporal shield always present; tail not much compressed, the scales quite smooth, the terminal scute somewhat dilated horizontally, ending in a small, single, upturned point. Scales round the body in 15 rows; ventrals twice as large as the adjoining scales, 168 to 172; subcaudals 13 or 14. Length 6-7 inches, girth $\frac{3}{4}$ of an inch. Body blackish, with a continuous longitudinal yellowish line down each side of the back, on the rows of scales on each side of the central dorsal series.

Hab. Madura Hills. The specimens are probably not adult.