

3. On a Collection of Reptiles and Frogs chiefly from Singapore. By W. T. BLANFORD, F.R.S., F.Z.S., &c.

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(Plates XX. & XXI.)

Through the kindness of Dr. N. B. Dennys, I have had an opportunity of examining a collection of Reptiles and Frogs made at Singapore, and belonging to the Raffles Museum at that port. The majority of the specimens were collected in the island of Singapore; but a few are from other localities; and in the case of some of the Lizards and Frogs, I am not quite certain whence they were originally obtained. Of all the Snakes (and these form the bulk of the collection) the localities are appended. The number of new species is small. It is evident that the Lizards and Frogs are but imperfectly represented; but the Snakes probably comprise, as I learn from Dr. Dennys, nearly all the forms occurring at Singapore.

The following is a list of the species; those on which remarks are added are distinguished by an asterisk (*). The nomenclature is in most cases that employed by Dr. Günther in the 'Reptiles of British India.'

REPTILIA.

LACERTILIA.

Hydrosaurus salvator.

*—, sp.

**Eumeces chinensis*.

Gecko guttatus.

Bronchocela cristatella.

Calotes versicolor.

OPHIDIA.

Typhlina lineata. Macassar.

Cylindrophis rufus. Singapore.

*— *lineatus*, sp. nov. Singapore.

Xenopeltis unicolor. Singapore.

**Oxycalamus longiceps*. Singapore.

Simotes octolineatus. Singapore.

*— *dennysi*, sp. nov. Singapore.

Ablabes melanocephalus. Singapore.

**Nymphophidium subannulatum* (Odontomus subannulatus, D. & B.) Singapore.

Compsosoma melanurum. Singapore.

Dendrophis picta. Singapore.

— *caudolineata*. Singapore.

**Ptyas mucosa*. Hongkong.

*— *korros*. Singapore.

Tropidonotus quincunciatus.

Hongkong.

— *trianguligerus*. Singapore.

— *stolatus*. Singapore,

Hongkong.

*— *rhodomelas*. Macassar.

Cerberus rhynchops. Singapore.

Homolopsis buccata. Singapore.

Hipistes hydrinus. Singapore.

Chrysopelea ornata. Singapore, Macassar.

Tragops prasinus. Singapore, Macassar.

Dipsas cynodon. Singapore, Sarawak.

— *dendrophila*. Singapore.

<i>Lycodon aulicus</i> . Singapore, Macassar.	<i>Callophis intestinalis</i> . Singapore, Macassar.
* <i>Ophites subcinctus</i> . Singapore.	<i>Platurus scutatus</i> . Singapore.
<i>Python reticulatus</i> . Singapore.	* <i>Hydrophis stokesi</i> . Singapore.
* <i>—— curtus</i> . Singapore.	* <i>—— viperina</i> . Macassar.
* <i>Naja tripudians</i> . Singapore.	<i>Pelamis bicolor</i> . Singapore.
<i>Ophiophagus elaps</i> . Singapore, Perak.	<i>Trimeresurus gramineus</i> . Singapore.
<i>Bungarus fasciatus</i> . Singapore.	<i>—— erythrurus</i> . Singapore.
<i>—— semifasciatus</i> . Honkong.	* <i>—— wagleri</i> . Singapore, Selangore.
<i>Callophis bivirgatus</i> . Singapore.	

AMPHIBIA.

BATRACHIA.

* <i>Rana macrodon</i> .	* <i>Rhacophorus dennysi</i> , sp. nov.
<i>Megalophrys nasuta</i> .	<i>Bufo melanostictus</i> .

HYDROSAURUS, sp.

Two young specimens of *Hydrosaurus*, of nearly the same size (13 and 14 inches long), occur in the collection. One of these is an undoubted example of the common *H. salvator*; the other differs somewhat both in the character of the head-scales and in coloration. The general proportions and the scales of the body, tail, and limbs appear similar in the two examples; there are about 80 transverse rows of ventral shields between the gular fold and the loin in the specimen agreeing with *H. salvator*, 77 in the other.

The differences in coloration, taken by themselves, would not be of much importance, there being some variation in most Monitors. The doubtful specimen is darker; the alternating rings of dark brown and white on the tail are more broken up into rows of spots; and narrow white rings occur in the intervals between the broader bands, whilst the white cross bands above the snout and the dark cross bands on the chin are wanting; they are, however, indicated on the sides of the head.

The more important distinctions are that the scales on the crown of the head in the abnormal specimen are smaller and marked by a central depression, and the enlarged superciliary scales are more numerous, 8 to 10 in number, instead of 5 or 6, and marked with a few comparatively large impressed dots instead of several minute spots. How far these characters are constant it is impossible to say without more specimens. It is probable that the two specimens are from different localities.

EUMECES CHINENSIS.

Tiliqua chinensis, Gray, Ann. Nat. Hist. ii. p. 289.

Mabouia chinensis, Günther, Rept. Brit. Ind. p. 83.

There is a single specimen, without locality, which must, I think, be referred to this species, though it presents several peculiarities.

The colour of the back is uniformly brown, there being no trace of the longitudinal pale bands usually found in this form; the præ-frontal is wanting; the two postfrontals are slightly unequal and divided by a curved line; they are in contact with the supranasal: this is probably an individual peculiarity. There are also but 22 series of scales round the body instead of 24; about 34 occur in a longitudinal line between the axils of the fore and hind legs as in the type; and in other respects the specimen agrees with Chinese examples.

I am by no means sure that this form and its allies are really congeneric with *E. pavimentatus*, the type of the genus *Eumeces*. (See Peters, Monatsbericht Akad. Berl. 1864, p. 48; Stoliczka, J. A. S. B. 1870, xxxix. pt. 2, p. 174, and 1872, xli. pt. 2, p. 121; Anderson, P. A. S. B. 1871, xl. p. 181.) All these Scinks are very puzzling; and the generic distinctions accepted, such as the differences between smooth and keeled scales, transparent or scaly eyelid, presence or absence of supranasal shields, are scarcely of generic importance, and are merely convenient guides to identification.

CYLINDROPHIS LINEATUS, sp. nov. (Plate XX.)

Head depressed, broad, short, the width between the eyes being equal to the length from the eye to the tip of the snout. Each frontal is as broad as long. The vertical is longer than broad, sub-trapezoidal, the anterior margins meeting nearly at a right angle, the posterior termination slightly rounded. Supraorbitals longer than broad, each nearly equal in size to the vertical. Occipitals more than half as large as the vertical. Postocular very small, scarcely half the size of the first labial. Scales round the middle of the body in 21 rows. Ventrals, where widest, in the middle of the body, nearly twice the breadth of the scales on the sides; but the rows on each side of the ventrals are rather broader than the lateral and dorsal scales. Ventrals (from chin-shields to anal¹) 215, two anals, subcaudals 9 besides the terminal scale.

Back longitudinally banded. A blackish-brown stripe, three scales wide, runs down the middle of the back from head to tail, and is bordered on each side by a narrower white band; below this again is a second, broad, blackish band of irregular width, with the lower border waved. This longitudinal band is separated by a narrow wavy white stripe from the transverse dark bands of the belly; the latter are wider than the alternating white bands; and, as in other species of the genus, the bands on the opposite sides of the abdomen do not precisely coincide. Head and tail yellowish white, with a few blackish spots.

Only a single specimen is sent. This measures 25 inches, of which the tail is 0.75 in. The Snake is probably rare.

Cylindrophis lineatus is distinguished from the three previously known species of the genus by its coloration, no other form exhi-

¹ It is difficult to say precisely where the true ventrals commence, as there is a gradual passage from the small scales immediately behind the chin-shields into the broader ventral shields.

biting longitudinal bands. It may be remarked that the distribution of colour appears to be very characteristic of the different forms of *Cylindrophis*. But there are also structural peculiarities by which the present form is separated from all previously described.

In the common species, *C. rufus*, all the head-shields are proportionally shorter, the frontals are broader than long, and the distance between the eyes more than the length of the snout. The ventral shields also are considerably less developed.

In *C. melanonotus* the vertical is still longer than in *C. lineatus*, the sides of that shield behind the lateral angles converging much less rapidly, and the occipitals are much smaller, each being barely half the size of the vertical. The coloration, too, is quite different, the back being uniformly dark brown.

In *C. maculatus*, the only other species known, the vertical, as in *C. melanonotus*, is bell-shaped instead of subtrapezoidal, and the occipitals are proportionally larger, being equal to the vertical in size; the frontals are sometimes longer than the vertical. The dorsal coloration consists of two rows of large pale spots, one on each side of the median dorsal line, the intervening space being dark brown.

The different species of the genus may be thus differentiated:—

- A. The width between the eyes is more than the distance from the eye to the end of the snout.
 1. *Cylindrophis rufus*. Back dark, with imperfect pale rings.
 2. *C. melanonotus*. Back uniformly dark-coloured.
- B. The width between the eyes is equal to the distance from the eye to the end of the snout.
 3. *C. maculatus*. Back with large pale spots on a dark ground.
 4. *C. lineatus*. Back longitudinally banded.

OXYCALAMUS LONGICEPS.

Calamaria longiceps, Cantor, J. A. S. B. 1847, xvi. p. 910, pl. xl. fig. 1.

Oxycalamus longiceps, Günther, Rept. Brit. India, p. 199; Stoliczka, J. A. S. B. 1873, xlii. pt. 2, p. 120.

Two specimens of this Snake are sent; they measure $6\frac{1}{2}$ and 7 inches respectively. The nasal shield is single, as noted by Cantor and Stoliczka; but it is divided by a suture below the nostril. Ventrals 143 in one, 128 in the other, subcaudals 19 and 25 pairs.

Both specimens have an imperfect pale collar a little behind the head; and one has a light spot on the hinder part of the fifth labial, extending to the occipital shield. Similar coloration is noted by Stoliczka in a Penang specimen.

SIMOTES DENNYSI, sp. nov. (Plate XXI. fig. 1.)

Scales in 21 rows. General form stout and short, as in *S. cochinchinensis*¹ and *S. catenifer*²; the head broader than the neck.

¹ Günther, Rept. Brit. Ind. p. 219, pl. xx. fig. C.

² Stoliczka, J. A. S. B. 1873, xlii. pt. 2. p. 121, pl. xi. fig. 3.

Rostral well developed; præfrontals more than half as large as postfrontals, the suture between the former but little shorter than that between the latter. Vertical large, pentagonal, the anterior margin convex, lateral edges converging slightly behind, posterior margins meeting at a right angle. Each occipital is both longer and broader than the vertical, and is rounded behind.

Loreal well developed, about as high as broad. Two (or three) præoculars, the upper double the size of the lower; two postoculars; temporals 2 + 3, the upper anterior temporal shield in contact with both postoculars; two elongate temporals along the outer side of each occipital. Upper labials 8, the seventh excluded from the margin of the lip, the fourth and fifth (or on one side the fifth only) entering the orbit. Two pairs of chin-shields, the posterior but little shorter than the anterior.

Ventral shields 175; anal undivided; subcaudals in 50 pairs, with a long terminal scale.

Back grey, with eleven dark-brown cross bands or large transverse spots on the body, and four on the tail, all having very irregular zigzag margins, and being, where widest, about half the breadth of the interspaces; the latter are slightly spotted and mottled with brown. On the head there is a broad dark cross band between the anterior parts of the eye-orbits on the front part of the vertical and on both pairs of frontals, and continued below the eye on the fifth and sixth supralabials. Behind this is a pointed elongated arrowhead-shaped dark mark, joining the anterior band on the vertical shield, and bifurcating behind on the neck; there is also an oblique band just behind the angle of the mouth. Belly whitish, with small quadrangular dark spots on the sides of every second or third ventral.

A single specimen is sent; it is only 8 inches long, the tail measuring $1\frac{1}{4}$.

This is another species of the peculiar group of *Simotes* comprising *S. cochinchinensis*, *S. brevicauda*¹, *S. catenifer*, and *S. ancoralis*². It is distinguished from all by having the seventh supralabial shield shut out of the lip-margin, and from all but the first by having twenty-one rows of scales. The coloration, too, differs somewhat from that of *S. cochinchinensis*, in which the lower parts are white.

NYPHOPHIDIUM SUBANNULATUM.

Odontomus subannulatus, Dum. et Bibr. Erp. Gén. vii. p. 454; Jan & Sordelli, Icon. Oph. 36^e livr. pl. v. fig. 3.

I had already identified the single specimen in the collection with the snake described by Duméril and Bibron, and figured by Jan³,

¹ Steindachner, Novara Rept. p. 61, pl. iii. figs. 13-14.

² Jan, Icon. Gen. Oph. 11^e livr. pl. 6. fig. 2: see Stoliczka, J. A. S. B. 1873, xlii. p. 122.

³ The specimen described by the first-named writers, the only one they had seen, was from the Leyden Museum; and as Jan's figure was taken from a snake belonging to the same collection, it is probable that the same individual was examined by both authors. The dimensions agree.

when Dr. Günther called my attention to the dentition, and suggested that the species might be a *Nymphophidium*. On comparing it with the type of *N. maculatum* in the British Museum, I found a close agreement in all essential characters; but some differences in the form of the head-shields and in the dentition show, I think, that the species are distinct.

The pupil in the snake now described is distinctly vertical; and this character is shown in Jan's figure of *Odontomus subannulatus*, although it is not mentioned in Duméril and Bibron's rather meagre description. From Günther's description of *Nymphophidium*, it might be inferred that the pupil is round, as it is in *Odontomus* as restricted by Günther; for the two genera are said to agree in every respect except dentition. On examining the type of *N. maculatum* in the British Museum, however, I find that the pupils are ill-preserved, and their form is not distinguishable; but in a second specimen, procured from Dr. Bleeker for the same collection, the pupil on one side is slightly elliptical. This very peculiar feature of a vertical pupil has consequently to be added to the generic characters. I find in the present specimen of *N. subannulatum* two peculiar small conical white tooth-like projections from the base of the skull, as in *N. maculatum*. They are easily seen at the back of the palate when the mouth is opened freely.

I add a description of the present snake, Duméril and Bibron's account being (as already noticed) imperfect.

Description.—Body and tail slender, compressed. Head much broader than neck, flat, depressed. Pupil elliptical, vertical. Scales of body but little longer than broad, smooth, in 15 rows. Ventrals 230, strongly angulate at the sides; anal undivided; subcaudals in 97 pairs. Maxillary teeth small and numerous, increasing slightly in size behind; the last is much larger and compressed, and projects horizontally backwards.

Head-shields.—Rostral broader than high, scarcely extending to the upper surface of the head. Anterior frontals as long as the posterior, rounded in front, scarcely broader than long. Posterior frontals much broader than long. Vertical elongate, the lateral margins converging and slightly concave, posterior angle acute; the length of the shield is but little less than that of an occipital; and the postfrontals and vertical together considerably exceed the occipitals in length. Nostril near the middle of a single rectangular shield, succeeded behind by another elongate rectangular shield (the loreal, or loreal and lower præocular united), which extends to the eye. A small præocular above the loreal, one postocular¹. Temporals 2 + 2. Supralabials 7, the third and fourth enter the orbit.

Colour (in spirit). The anterior portion of the back dark brown, with subdistant pale cross bands, which become closer together

¹ In this character the specimen appears to differ from the type, which is figured with two postoculars. But on one side of the present example there is a well-marked groove, if not an imperfect suture, separating the lower posterior portion of the superciliary shield; and the postocular precisely corresponds to the inferior postorbital of the figure.

behind, and then intersect the dark areas, until on the posterior part of the back and tail there is a double row of brown spots. The white bands expand at the side, and, except near the head, bifurcate around a dark spot. Lower parts whitish. Head with a rather broad central dark band throughout the vertical and occipitals, and joined behind to the large brown spot on the back of the neck; the sides of the vertical and occipitals, with the greater part of the sides of the head and neck, are pale; but there is a dark patch on each superciliary shield, another on the temporals on each side, and the greater part of the snout in front of the eyes is dark brown.

Length of the specimen 13 inches, of which the tail is 3.1, or nearly one fourth.

The principal characters by which this form may be distinguished from *N. maculatum* are:—(1) The greater length of the vertical shield: in *N. maculatum* the vertical is much shorter than an occipital, the latter being equal in length to the vertical and postfrontals together; in *N. subannulatum* the vertical and postfrontals together are much longer than an occipital. (2) Dentition, there being only one larger tooth at the back of the jaw. In *N. maculatum* the nasals are described as separated by an indistinct suture; but I cannot detect with certainty a suture in the type; and in the second specimen the nasal is certainly undivided¹.

I think it not impossible that the genus *Ulupe*, described by me² in 1878 from a Tenasserim specimen, is allied to *Nymphophidium*. *Ulupe* has but 13 rows of scales round the body, and there is no præocular above the elongate loreal; but in other respects the genus approaches *Nymphophidium* very closely. I am far from certain that I was right in assigning *Ulupe* to the *Lycodontidæ*, to which, it should be remembered, *Odontomus* was referred by Duméril and Bibron, although Günther afterwards showed that the dentition differed from the *Lycodont* type.

PTYAS MUCOSA and PT. KORROS.

There are five specimens belonging to the genus *Ptyas*. One has 15 scales round the middle of the body, two have 16, and two 17; in the latter there are 3 loreals; all have the dorsal scales distinctly keeled on the posterior portion of the body. I refer the first three to *Pt. korros*, the latter two to *Pt. mucosa*; but I believe all to belong to one specific form and not to deserve to be distinguished, except as varieties. Since determining the specimens, I have ascertained that the individuals referred to *Pt. mucosa* are from Hong-Kong.

TROPIDONOTUS RHODOMELAS.

Tropidonotus rhodomelas, Boie, Isis, 1827, p. 535; Schlegel, Phys. Serp. i. p. 167, ii. p. 310, pl. xii. f. 10, 11.

¹ In Jan's figure of *Odontomus subannulatus* a suture is shown below the nostril, but not above. In the specimen examined by me there is on one side a slight groove below the nostril, but no suture.

² J. A. S. B. 1878, vol. xlvii. pt. 2, p. 128.

Amphiesma rhodomelas, Duméril & Bibron, Erp. Gén. vii. p. 737.

Xenodon rhodomelas, Günther, Cat. Snakes B. M. 1858, p. 58.

Three specimens from Macassar, one quite small, only 8 inches long, the other two 22 and $23\frac{1}{2}$ inches in length. In all there are two præoculars, the lower being very small; one (the young) specimen has three, the other two have each four postoculars¹. In one example there are eight supralabials on one side, the second being divided. The loreal is about as high as broad, but only the hinder part of the upper margin slopes downwards, and the form of the shield appears rather variable.

Ventrals 131, 133, and 134; anal divided; subcaudals 52 pairs in two specimens, 55 in the third. These numbers are a little higher than those given by Duméril and Bibron.

OPHITES SUBCINCTUS, var. (Plate XXI. fig. 2.)

Besides two normal specimens of this species, there is in the collection a young snake, $10\frac{3}{4}$ inches long (of which the tail measures 2), with smooth scales, and an undivided anal, but otherwise agreeing with *O. subcinctus*, and having the same peculiar arrangement of shields in the loreal region. In consequence of the scales being smooth, I at first took this for an undescribed species of the genus *Lycodon*, and had the accompanying figures of the head prepared, but subsequently amongst some snakes from province Wellesley in Malacca, collected by Mr. W. L. Distant, I found a much larger specimen of *Ophites subcinctus*, in which the keels of the dorsal scales were very faint in the hinder part of the body, and quite absent in the anterior portion. I therefore now consider the young Singapore snake an abnormal specimen of the same species.

PYTHON CURTUS.

Python curtus, Schlegel, apud Hubrecht, Notes from the Museum at Leyden, vol. i. p. 244².

This is a very remarkable species of *Python*; and it is curious that it should so long have escaped notice, Hubrecht's description having only been published last year. The specimen in the Leyden Museum was from Sumatra.

P. curtus is remarkably stout for its length, its girth being proportionally much greater than that of *P. reticulatus* and *P. molurus*. The number of scales round the body is less, the ventrals and sub-

¹ Duméril and Bibron say one præ- and two postoculars. Schlegel represents one præ- and four postoculars; but the figure does not look very exact in this respect.

² In the 'Zoological Record' for 1877 there is the following notice:—"*Python curtus*, Schleg. Description and figure; A. Hubrecht, Ann. Mus. Leyd. No. 1." I learn that the work quoted has not been published; but a titlepage and, I believe, the figure and description of the present species were printed and a copy sent to the Recorder. In the 'Notes from the Museum at Leyden,' published in 1879, it is stated that the 'Annals,' which will contain a full description and figure of this species, will be published shortly.

caudals are considerably less numerous, and the tail is much shorter. The coloration, too, is different.

The following is a description of the specimen from Singapore:— Three pairs of frontals; vertical divided; enlarged irregularly shaped plates covering the occipital region. Nostril on the upper surface of the head, between two plates, the hinder of which is very small; a row of small scales extends from the nostril to the eye. Rostral and the two anterior upper labials on each side with deep elongate pits; ten upper labials; the fifth and sixth enter the orbit. Three or four of the anterior lower labials pitted; a longitudinal groove along most of the posterior lower labial shields.

Scales in 55 rows round the middle of the body, the series on each side of the ventrals being nearly half as broad as the latter. Ventrals 175; anal entire; subcaudals 32 pairs.

Colour (in spirit). The upper part of the head is uniformly earthy-grey, almost ash-grey, with a narrow pale median streak running back for some distance from the occiput; upper labials the same; a dark brown mark in front of the eye, continued behind the eye and expanding into a broad brown band, dark at the edges, and especially along the upper margin; this band runs down the side of the neck, and is succeeded by a row of large brown dark-edged spots along the anterior portion of the body. Back fawn-colour, with a row of rather irregular pale spots along the middle; below the fawn-coloured band and above the dark spots is a light belt with small dark brown spots on many of the scales. The coloration of the dorsal parts continues to the tail, which is dark brown above, light brown below, pale on the sides. Lower parts, except of the tail, white.

In the number of scales round the body, and of the ventrals and subcaudals, this form closely resembles the West-African *P. regius*; but that species, like the other African Pythons, has the nostrils laterally placed and the four anterior upper labials pitted, besides other differences.

The single specimen received, which is in magnificent condition, measures 55 inches in length, of which the tail is only 4; the girth round the middle of the body is 8·5 inches. A specimen of *P. reticulatus*, 67 inches long, has the tail 8·5 inches in length, and a girth of only 5·5 inches.

Dr. Dennys writes to me that he has seen but two specimens of this *Python*, one of which escaped from its cage and was lost.

NAJA TRIPUDIANS.

Both the specimens in the collection are black throughout, without any marks on the back of the hood, but with some pale spots on the side of the neck and beneath it.

HYDROPHIS STOKESI.

Günther (Rept. Brit. Ind. p. 363) speaks of the occurrence of this species in the Chinese seas and the East Indian archipelago as doubtful. I think, however, that two specimens sent must be re-

ferred to this form, although they differ somewhat from the Australian types. One is a fine example, 64 inches long; the other is young, and measures but $16\frac{1}{2}$ inches. Both have only 39 scales round the neck, instead of from 43 to 47; but I can find no other structural distinction, and a larger series would be necessary in order to show whether this difference is constant. The larger specimen has alternating black and yellow rings quite round the body; the younger has the black rings not quite perfect.

HYDROPHIS VIPERINA.

Hydrophis viperina, Günther, Rept. Brit. Ind. p. 378; Anderson, P. Z. S. 1872, p. 400.

The single specimen sent is 26 inches long. The colour differs but little from that of the much smaller type in the British Museum.

TRIMERESURUS WAGLERI.

There are two specimens of this Snake, 23 and $32\frac{1}{2}$ inches in length. Both have 25 scales round the middle of the body. The prevailing colour in both is gamboge-yellow; the smaller has narrow yellow rings alternating with much broader bands composed of pale greenish scales with black margins; in the larger specimen the transverse bands are very indistinct, black scales, yellow scales, and black-edged scales being intermingled.

There is also a smaller *Trimeresurus*, $17\frac{1}{2}$ inches long, with but 21 rows of scales round the middle of the body, grass-green above, with very minute subdistant spots, white in front, brown behind, about 5 or 6 scales apart from each other, arranged in a line down each side of the back. This agrees with *T. maculatus*, Gray, said by Günther, Rept. Brit. India, p. 388, to be the young of *T. wagleri*.

I find, however, in the British-Museum collection, specimens, chiefly from Borneo, that appear to show a gradation between these widely different forms. Two of the smaller specimens from Borneo, with the coloration of *T. maculatus*, have, the one 21, the other 22 scales round the middle of the body. It is evident the number in this species varies from 21 to 25, if *T. maculatus* is really the same as *T. wagleri*. In all adult or nearly adult specimens of the latter I find 25 rows of scales.

RHACOPHORUS DENNYSI, sp. nov. (Plate XXI. fig. 3.)

Size of *R. maximus*. Colour above, in spirits, dark violet, almost slaty, below dirty white mottled with dusky, a brown spot behind the occiput. The tympanum is very little smaller than the eye. The nostril opens backward. The web between the toes without dark spots and deeply emarginate; it extends to the pads at the end of all the toes of the hind feet; but it is very narrow near the end of the fourth toe on each side. *The fingers are incompletely webbed*, the web not extending to the end of any digit; the terminal phalanx of the third or longest digit is quite free. The projection on the inside of the inner finger is flat as in *R. reinwardti*, and has not a tubercle beneath it as in *R. maximus*. Folds along the edges of

the limbs inconspicuous. The length of the manus from the wrist to the tip of the longest finger is nearly equal to the width of the head. Vomerine teeth in two straight ridges, nearly in the same right line; the distance of the two series apart is scarcely more than half the length of each series; the ridges commence from the anterior inner margins of the inner nostrils.

	inches.
Length of head and body	4.5
„ hind limb from anus to end of longest toe	6.75
„ foot	2
„ hand	1.45

This species much resembles the East-Himalayan and Assamese *R. maximus*, which it equals or excels in size; but the tympanum is proportionally twice as large, and the webs of the feet are less developed (they are shorter in the fore feet of *R. maximus* than in those of *R. reinwardti* or *R. malabaricus*). From *R. reinwardti* the new form is distinguished by size, coloration, and by the fingers being imperfectly webbed.

The single specimen sent, Dr. Dennys informs me, was of a beautiful emerald-green colour when alive, and belonged to a well-known Chinese merchant named Whampoa, who refused an offer of five hundred dollars for it. When the animal died, it was presented to the Raffles Museum. It is said to have originally come from China; but the precise locality is not known.

In the smaller forms of *Rhacophorus*, the development of the folds of skin along the sides of the limbs and above the anus is very remarkable. Mr. Wood-Mason called my attention to this in the case of *R. maculatus* (and I find the same in *R. reinwardti*), and noticed that this form shows a passage towards the curious Flying Frog of Borneo figured by Wallace in the 'Malay Archipelago,' vol. i. p. 60.

RANA MACRODON. (Plate XXI. fig. 4.)

I am indebted to M. Boulenger for the identification of this species. The specimens differ considerably from the descriptions given by Duméril and Bibron¹, and by Günther², both of whom describe the tympanum as small. This character, however, is, I learn from M. Boulenger, more variable than has hitherto been supposed; and as there is, in the British Museum, a specimen from Java, the original locality of the species, that agrees with those from Singapore, I accept M. Boulenger's opinion. The following is a description of the Singapore specimens.

Head very broad and flat—the breadth across the gape being greater than the distance from gape to muzzle, and equal to the length of the hind foot in females, exceeding it by one eighth to one tenth in males. Snout depressed, rounded at the end; no trace of *canthus rostralis*; the nostrils near the end of the snout and distant from the eye, their distance apart being about half of the in-

¹ Erp. Gén. viii. p. 382.

² Brit.-Mus. Cat. Batr. Sal. p. 8.

terval between nostril and eye. Eye of moderate size, the diameter about equal to the length of the fourth finger. Tympanum distinct, nearly as large as the eye. Lower jaw with two prominent apophyses in front, fitting into hollows inside the upper jaw; in a female sent these apophyses are inconspicuous. Vomerine teeth on two straight ridges running obliquely back from the interior angle of the inner nostrils, and converging behind so as to meet, if prolonged, nearly in a right angle, but rather widely separated; a strong osseous transverse ridge behind the choanæ. No vocal sac. A strong fold from behind the eye running horizontally to over the tympanum, then turned down at an obtuse angle and running to the shoulder. Posterior portion of upper eyelid tubercular. Skin of body and limbs smooth. Limbs stout, the tips of both toes and fingers slightly swollen; the distance from vent to knee is about half the length of the body from snout to vent or a little more; from vent to metatarsal tubercle is longer than the body. The metatarsal tubercle is elongate, not flattened. The toes are scarcely fully webbed; the terminal two phalanges of the fourth toe have only a narrow fringe along their sides, and the web is deeply emarginate; a narrow fold along the inside of the foot.

Colour (in spirits) light brown above, one specimen (a male) having a pale stripe down the back, very little paler below, the sides and lower portion of the limbs, the sides of the body, breast and chin marbled with rich brown.

	♂	♀
	inches.	inches.
Length from nose to vent	6	4.9
„ of head	2.6	1.7
Breadth of head	3.15	2.2
Length of hind leg	8.6	7.5
„ hind foot.	2.65	2.15

Three specimens are sent—two apparently males, the third a female. I believe all were obtained at Singapore; but I have not heard positively that this was the case.

This form is closely allied to *Rana fusca*¹, but has a much broader head; the eye is smaller, and the tympanum larger; the muzzle is flatter, the nostrils nearer together, and the web between the toes of the hind feet much less developed.

In the specimens of *R. fusca* from Penang, described by Stoliczka, there does not appear to be any passage towards the Singapore form; for the toes are said to be fully webbed. Mr. Boulenger informs me that he considers *R. fusca* also a variety of *R. macrodon*.

In the Journal of the Asiatic Society of Bengal for 1879, vol. xviii. pt. 2, p. 130, I described a supposed new species of *Hypsirhina* under the name of *H. maculata*. I overlooked the fact that this name had previously been given by Duméril and Bibron to the Chinese species *H. bennetti*. Under these circumstances I propose to change the name of the Burmese form to *Hypsirhina maculosa*.

¹ Blyth, J. A. S. B. xxiv. 1855, p. 719 (the volume is wrongly quoted by Anderson as xxxiv); Theobald, "Cat. Rept.," J. A. S. B. 1868, extra number, p. 79; Anderson, P. Z. S. 1871, p. 197; Stoliczka, J. A. S. B. 1873, xlii. pt. 2, p. 115.

EXPLANATION OF THE PLATES.

PLATE XX.

Cylindrophis lineatus, sp. nov., p. 217; with outlines of head-shields, from above.

PLATE XXI.

Fig. 1. *Simotes dennysi*, sp. nov., view of head, p. 218; from above.

1a. ———, outline of head-shields, side view.

2. *Ophites subcinctus*, var., p. 222; outline of head-shields, from above.

2a. ———, var., outline of head-shields, side view.

3. *Rhacophorus dennysi*, sp. nov., p. 224; side of head.

3a. ———, fore foot, from below.

4. *Rana macrodon*, p. 225; head.

4a. ———, hind foot, from below.

All the above figures are of the natural size, except 1, 1a, 2, and 2a, which are double the real dimensions.

4. An Account of the Collection of Lizards made by Mr. Buckley in Ecuador, and now in the British Museum, with Descriptions of the new Species. By the late A. W. E. O'SHAUGHNESSY, Esq., Assistant in the Natural-History Departments, British Museum.

[Received January 19, 1881.]

(Plates XXII.—XXV.)

Of the zoological collections made by Mr. Buckley in Ecuador, various sections of which have already formed the subjects of papers in these 'Proceedings,' not the least interesting is the collection of Lizards, both on account of the number of new species it reveals, and because of the fresh materials it affords for the study of those already known. I have given a partial notice of this collection (P. Z. S. 1880, p. 491), confined, however, to a preliminary list of the species of *Anolis* identified, and the description of a beautiful new one. I now offer the results of a study of the whole collection, and have thought it advisable not to restrict the present paper to the description of the new forms, but to enumerate all the species, for the purpose of recording additional remarks and revisions which have appeared necessary, and of thus making this contribution to the Herpetology of Ecuador as complete as possible. A much earlier collection, that of Mr. Fraser, afforded Dr. Günther the opportunity, in 1859, of describing and figuring a series of reptiles from the same region (P. Z. S. 1859, p. 89); and his paper has, of course, been frequently referred to.

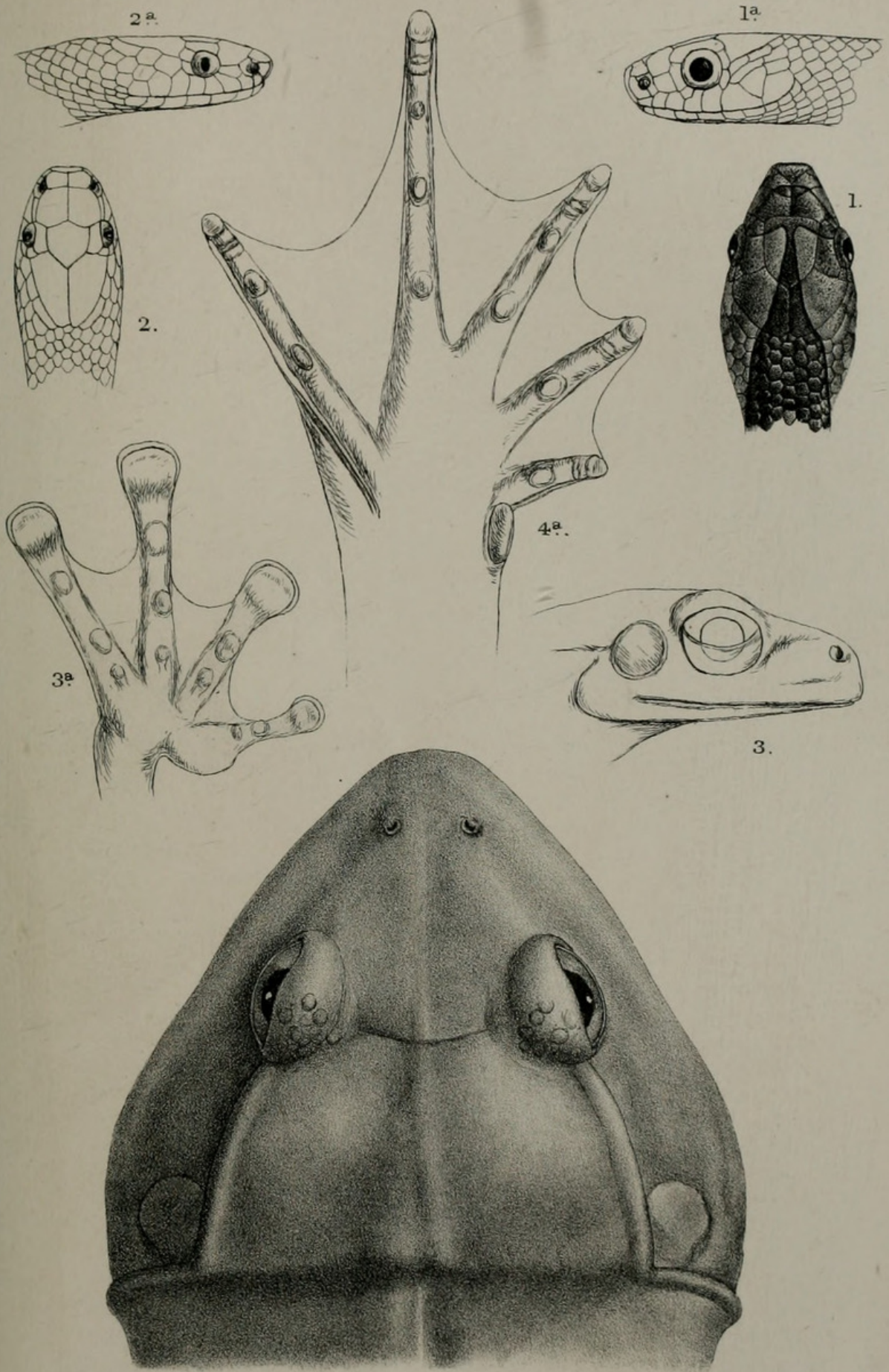
I may point out that the family Cercosauridæ, our knowledge of which, so imperfect before Prof. Peters's admirable memoir in 1863, had scarcely been increased since that date, has received some remarkable accessions in the present collection; also that the genus *Enyalius* has been further worked out, whilst a new form of the curious genus *Hoplocercus* has been brought to light.



Mintern Bros imp.

CYLLINDROPHIS LINEATUS.

R. Mintern del. et lith.



R. Mintern del et lith.

Mintern Bros. imp.

1. SIMOTES DENNYSI. 3. RHACOPHORUS DENNYSI.
2. OPHITES SUBCINCTUS. 4. RANA MACRODON.



Blanford, W. T. 1881. "On a Collection of Reptiles and Frogs chiefly from Singapore." *Proceedings of the Zoological Society of London* 1881, 215–227.
<https://doi.org/10.1111/j.1096-3642.1881.tb01281.x>.

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