

NOTES ON REPTILES AND BATRACHIANS FROM SIAM
AND INDO-CHINA. (NO. 2.)

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WITH PLATE 5.

(continued from Vol. iv, p. 214).

Microhyla annamensis, sp. nov.

Gymnodactylus brevipalmatus, sp. nov.

Physignathus cocincinus (= *P. c. mentager* and *caudicinctus*.).

Typhlops diardi and *nigroalbus*.

***Microhyla annamensis*, sp. nov.**

PLATE V. fig. 2.

Type adult ♀, author's number 2412, collected at Sui Kat, 1000 metres altitude, Langbian plateau, S. Annam.

Description of type. Habit moderately slender; snout obtuse, a little longer than the eye; interorbital space broader than the upper eyelid. Fingers moderately long, with well developed discs, except the first which is extremely short¹ and has the tip blunt; second finger half the length of the third. Toes with discs larger than those of the fingers, $\frac{3}{4}$ webbed, two phalanges of the fourth toe free; upper surfaces of the discs of fingers and toes, with a well marked median cleft²; a feeble inner metatarsal tubercle, no outer; the tibiotarsal articulation reaches the tip of the snout; tibia more than half the length of the head and body. Upper parts with numerous small warts and tubercles; lower surfaces smooth except for a patch of granules below the vent.

Greyish above, with a large dark angular blotch in the middle of the back; a black spot above the fore-limb and another above the groin; dark cross-bars upon the limbs. Below whitish, thickly speckled with grey.

¹ In the illustration this is shewn too long.

² This cleft has not, so far as I am aware, been yet mentioned as a generic character. Of the species I have examined I find it more or less clearly defined in *M. achatina*, *M. butleri*, *M. annectens*, *M. berdmorei* - species with well developed digital discs; and absent in *M. ornata*, *M. inornata*, *M. pulchra*, *M. picta* - species in which the tips of the digits are pointed or merely swollen. It is best marked in the species now under discussion.

From snout to vent 20; fore-limb 11.5; hind-limb 34 mm.

Variation. The tibiotarsal articulation may reach beyond the tip of the snout, in some males to well beyond. The web of the toes may be slightly less than that mentioned. The warty condition of the skin is variable but is always present in some degree. The dark blotch upon the back may have a faint white edge.

The male has a subgular vocal sac, and in size is slightly smaller than the female.

35 specimens examined, all from Sui Kat or from Dran a few miles distant. The majority were caught in swampy ground among dense undergrowth. Many of the females are full of ripe pigmented eggs.

Microhyla annamensis is allied to *Microhyla berdmorei* Blyth, agreeing with it in the extensive webbing to the toes, a character which distinguishes these two species at once from all the other known members of the genus.

From its ally however, it differs in a number of points, namely, in the less complete web to the toes, the shorter leg and in the absence of an external metatarsal tubercle. The discs of the fingers also are larger, the skin more warty,* the size smaller, and the colouration different.

Type presented to the British Museum.

***Gymnodactylus brevipalmatus*, sp. nov.**

PLATE V. fig. 1.

Type male, author's number 6367, collected on Khao Luang, altitude 750 metres, Nakon Sritamarat mountains, Peninsular Siam by H. M. Pendlebury Esq., entomologist to the Federated Malay States Museums, in March 1922.

Description of type. Head moderate, depressed, snout a little longer than the orbit; ear opening small, oval, $\frac{1}{6}$ the diameter of the eye. Head above covered with small granules, which are larger over the snout and have small tubercles intermixed with them on the occiput. Rostral quadrangular, broader than high, bordering the nostril an-

*The skin of the upper parts of *M. berdmorei* is not always smooth as stated.

teriorly, and bearing a median **A**-shaped impression; two enlarged scales above it, also bordering the nostril; 12 or 13 upper labials, the first touching the nostril; 10 or 11 lower labia's; mental large, triangular; first pair of chin-shields large and in contact with each other, followed by two pairs of smaller scales; throat covered with small, flat, granular scales. Back with small granules, interspersed with enlarged, rounded, keeled tubercles; an indistinct lateral fold of enlarged scales; ventral scales small, cycloid, about 44 across the belly between the lateral folds.

A series of 9 very large praeanal pores in a wide angle, and 6 and 7 equally large femoral pores, separated by an interval from the praeanal; enlarged scales in front and behind the praeanal pores; no pubic groove.

Tail cylindrical, tapering, covered with small scales and regularly disposed rows of keeled tubercles above, with irregularly disposed, enlarged flat scales below.

Limbs moderate, digits long, the toes webbed at the base; strongly compressed distally, the basal part with 6 or 7 broad, imbricate, transverse plates below.

Brown above, with obscure darker mottlings, much paler below.

Variation. A female, No. 6366 caught at the same time varies from the type in the following particulars:—a very distinct lateral fold; 35 scales across the belly. Brown above with small, irregularly disposed black spots. Belly and throat also faintly spotted.

Remarks. *Gymnodactylus brevipalmatus* is nearest to *G. marmoratus* and *G. peguensis*, from both of which it differs in the web of the toes, in the disposition of the femoral and praeanal pores, the broader plates below the digits, the larger scales below the under surface of the tail, and in colouration.

No species of *Gymnodactylus* has yet been described with webbed digits; the small extent of membrane in this new form, however, does not, in the absence of other characters, warrant its separation from that genus.

The two specimens were caught on trees, hiding beneath dead bark.

Measurements in mm.

Number	..	9366	6367
Head and body	..	72	64
Tail	..	?	77
Arm	..	23	19
Leg	..	35	30

Type to the British Museum.

Physignathus cocincinus Cuvier.

Physignathus cocincinus, Cuvier, Regne. Animal, 1829, 2nd Ed. ii, p. 41.

Istiurus cochinchinensis, Guérin, Icon. R. A. Rept., pl. ix, fig. 2.

Lophura concinna, Gray, Griff. A. K. ix, Syn. p. 60.

Istiurus physignathus, Dum. & Bib., iv. p. 387.

Physignathus cochinchinensis, Gunther, Rept. Brit. Ind., 1864, p. 153.

Physignathus cochinchinensis, Bouleng., Cat. Liz. Brit. Mus., 1885, i. p. 399.

Dilophyrus mentager, Günth., P. Z. S., 1861, p. 188.

Physignathus mentager, Günth., Rept. Brit. Ind., 1864, p. 153, pl. xv.

Physignathus mentager, Bouleng., Cat. Liz. Brit. Mus., 1885, i. p. 400.

Physignathus cocincinus cocincinus, *mentager* and *caudicinctus*, Barbour, Proc. Bio. Soc. Washington, 1912, xxv, pp. 191-192.

Physignathus cocincinus was described by Cuvier in 1829.

It was said to have, as distinguishing characters, 6 or 7 enlarged shields on either side of the throat and 18 lateral teeth on each side in the jaw. Its exact type locality was unknown, but there was no doubt that it came from Cochin China.

Later, in 1861, on a specimen obtained by Mouhot at Chantabun, S. E. Siam, Günther described a second species, *P. mentager*, which differed from *cocincinus* in having 11 enlarged gular shields and 11 or 12 lateral teeth on either side.

More recently Barbour has proposed a third form, *P. caudicinctus*, and at the same time has reduced all three forms to subspecies.

I have long had doubts, however, as to the validity of these forms, as my collection of these lizards from Siam and Indo-China failed to shew any substantial differences between them. The

number of enlarged shields on either side of the throat and the number of lateral teeth in the jaws shewed individual variation, but not in accordance with geographical distribution. My last doubt has now been removed by Monsieur Angel, who has examined Cuvier's type of *cocincinus* in the Paris Museum for me and writes that it has 7 enlarged shields on the left side of the throat and 10 on the right. As will be seen from the appended table, the specimens examined by me from Indo-China have from 10 to 12 shields, and it is evident that 7 on one side only is an abnormality.

The number of teeth I find varies with age. It is greater in adults than in juveniles.

It would be more correct therefore to place all these forms under *cocincinus*, and to regard it as a variable species having from 9 to 14 enlarged shields on either side of the throat and (in the adult) from 12 to 18 lateral teeth on either side in the jaw.

Barbour's *caudicinctus* has 14 enlarged gular shields, but I have recently examined a specimen from Paklai, in French Laos, near the Tonkin border, with only 11 shields.

The following variations occur in the specimens I have examined. The numbers are those of my own register.

Measurements in mm.

No.	Length of head and body.	Lateral teeth.	Gular shields.	Locality.
5339	160	13—14	10—11	Muak Lek, E. Siam.
5342	75	8—9	9—10	" " " "
	180	12—12	11—11	Koh Chang, G. of Siam.
	115	11—11	11—11	" " " " "
3698	48	6—8	9—10	Pak Jong, E. Siam.
3699	50	7—8	9—10	" " " "
Brit. Mus.	180	16—18	10—10	Siam (Flower coll.).
" "	145	12—14	11—11	Pachebon(= ? Pechabun, Mouhot coll.)
" "	130	11—12	11—11	Cambodia (Mouhot coll.)
2490	70	10—11	10—10	Daban, S. Annam.
2489	95	12—14	12—12	" "
2486	155	14—16	10—10	" "
5569	215	16—18	11—11	Pak Lai, French Laos.

Typhlops diardi Schlegel.

After examining a large series of *T. diardi* from India, Burma and Siam, and of *T. nigroalbus* from Siam, Indo-China and the Malay Peninsula, I have come to the conclusion that they should be regarded, not as two species, but as racial forms of one species.

The difference quoted by authors in regard to the size of the head shields and the position of the eye, are I believe individual variations and not in conformance with geographical distribution. In bodily proportions the two agree entirely.

The colouration of typical *nigroalbus* when compared with that of typical *diardi* is very distinct, the former having a clear line of demarcation between the dark upper and the light under parts, the latter having the contrast less marked and the colours merging imperceptibly into one another.

Examples with the typical *nigroalbus* colouration may be found as far north as Lat. 13°, but specimens which in point of colour might be referred to either form are to be found a good deal further north.

T. diardi was described in 1839 and therefore has priority over *nigroalbus*. The two races may be defined thus:—

TYPHLOPS DIARDI DIARDI Schlegel.

24 to 26, rarely 28, scales round the middle of the body. Brown to blackish above, paler below, the colours not strongly contrasted.

Distribution. Bengal, Assam, Burma, northern Siam and Indo-China.

TYPHLOPS DIARDI NIGROALBUS Dum. & Bib.

24 to 26, rarely 22, scales round the body. Blackish olive to brown above, yellowish white beneath, the two colours with a clear line of demarcation.

Distribution. Malay Archipelago and Peninsula, Southern Siam, Cochin China, Southern Annam.

TYPHLOPS DIARDI DIARDI.

Typhlops diardi, Schlegel, Abbild, 1839, p. 39.

Typhlops diardi, Bouleng., Cat. Sn. B. M. 1893, p. 22; Wall. Journ. Bombay N. H. S. 1918, xxv, p. 381, pl. xxiv; id. op. cit 1908, xviii, p. 314; id. 1909, xix, p. 509.

Typhlops tephrosoma. Wall, Journ. Bombay N. H. S. 1908, xviii, p. 314; id. op cit 1911, xx p. 770.

The type locality of *T. diardi* is Cochin China. Wall's *T. tephrosoma* is separated from *diardi* in that it has 28 scales round the body and the rostral shield does not reach to the level of the eyes. I have examined 3 specimens of a *Typhlops* with 28 scales at mid-body, one in my own collection from N. Siam, and 2 more in the Museum of the Bombay Natural History Society from Assam and Burma. The rostral shield reaches to between the eyes in all three, and in all other respects they agree entirely with *diardi*. I do not think that *tephrosoma* should be considered distinct.

Specimens that are about to cast their skin usually become grey in colour, and to such examples I would refer Wall's var. *cinereus* (Journ. Bombay Nat. Hist. Soc. xxv. p. 381).

TYPHLOPS DIARDI NIGROALBUS.

Typhlops nigroalbus. Dum. and Bib., 1844, vi. p. 295 : Bouleng., Cat. Sn. B. M., 1893, i, p. 24 : De Rooij, Rept. Indo-Aust. Archipel. 1917, p. 12. fig.

Typhlops siamensis, Günth., Rept. Brit. Ind., 1864, p. 175, pl. xvi, fig. D; Bouleng. Cat. Sn. B. M. 1893. i. p. 24.

T. siamensis has only 22 scales round the body but in other respects agrees with *diardi* and *nigroalbus*. It was obtained by Mouhot in Siam. Its exact type locality is not given, but as we know from Mouhot's travels it must have been obtained somewhere in the eastern part of the country. I have 5 specimens from the Langbian plateau in Southern Annam whose scale counts at mid-body are 22, 22, 24, 26, 26. Except for this difference they resemble each other entirely and I have no hesitation in referring them all to the same species. Their colouration is that of typical *nigroalbus*.

The type locality of *T. nigroalbus* is Sumatra. Both Boulenger and De Rooij give the number of scales round the body of this form as 26 only. This may be true of southern examples but is not correct for those further north. I have two specimens from the northern portion of the Malay Peninsula (Patani) with 24.



