

*modus vivendi* between these two creatures; the name of symbiosis has been very justly given to this *modus vivendi* in those cases in which the two organisms draw a reciprocal profit from their association, and it seems to me desirable even to extend it to the extreme cases that we have been investigating.

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XLII.—*On new Batrachians from Malacca.*

By G. A. BOULENGER.

[Plate X.]

MR. D. F. A. HERVEY has presented to the Natural History Museum a collection of Reptiles and Batrachians obtained within a radius of fifty miles from the town of Malacca, which was exhibited in the Straits Settlements Court at the Colonial and Indian Exhibition. The lizards, of which two species were new, have been mentioned in the Appendix to the British Museum Catalogue of Lizards. Of the Batrachians two species are new to the Malay peninsula, viz. *Rana laticeps*, Blgr., and *Microhyla achatina*, Boie, and four are new to science and described below.

*Rana labialis.* (Pl. X. fig. 1.)

Allied to *R. chalconota*. Vomerine teeth in two oblique series between the posterior borders of the choanæ. Head considerably longer than broad, much depressed; snout long, acuminate, projecting beyond the lip; nostril twice as distant from the eye as from the end of the snout; loreal region deeply concave; the diameter of the eye equals its distance from the nostril; interorbital space a little broader than the upper eyelid; tympanum very distinct, usually about three-fourths the diameter of the eye, sometimes quite as large as the eye. Fingers rather slender, first not extending as far as second; toes moderate, three-fourths webbed; tips of fingers dilated into large disks, the diameter of which equals about half that of the tympanum; tips of toes dilated into small disks; subarticular tubercles moderately developed; two small metatarsal tubercles, outer rather indistinct. Hind limb slender; the tibio-tarsal articulation reaches the tip of the snout or a little beyond. Upper surfaces finely granulate; a glandular lateral fold, distinct only anteriorly; lower surfaces smooth. Brown or purple above, darker on the sides, with rather indistinct darker spots; tympanum chestnut-brown; a



white band on the upper lip; limbs with more or less distinct dark cross-bands; hinder side of thighs and lower surface of hind limbs with brown reticulation; throat and breast spotted or marbled with brown. Male with internal vocal sacs; without humeral glands.

From snout to vent: male 35 millim., female 50.

Several specimens.

*PHRYNELLA*, g. n. (Engystomatidarum.)

Pupil horizontal. Tongue elliptical, entire, free behind. Vomerine teeth none. No ridges across the palate. Tympanum hidden. Fingers free, toes extensively webbed; tips of fingers and toes dilated. Outer metatarsals united. No præcoracoids; sternum cartilaginous. Diapophyses of sacral vertebra moderately dilated. Terminal phalanges T-shaped.

*Phrynella pulchra*. (Pl. X. fig. 2.)

Physiognomy of a *Callula*. Head small, with short, truncate, projecting snout; eye moderate, its diameter a little less than the length of the snout; interorbital space nearly twice as broad as the upper eyelid. Fingers depressed, dilated into large subtriangular disks; first finger shorter than second; subarticular tubercles very large and flat. Toes nearly entirely webbed, feebly dilated at the end; a small, oval, flat, inner metatarsal tubercle. The tibio-tarsal articulation hardly reaches the posterior border of the eye. Skin smooth, or with small flat warts on the sides and hinder part of the back. Brown above with symmetrical darker spots, some of which are edged with a pink line; throat and lower surface of foot brown; belly, groin, and lower hinder side of thighs yellowish (in spirit); vent in a large dark brown spot, separated from the dark colour of the back and thighs by a zone of the yellowish colour of the lower surface. Male with an internal subgular vocal sac.

From snout to vent 39 millim.

Two specimens, male and female.

*Bufo parvus*. (Pl. X. fig. 3.)

Near *B. biporcatus*, with which it agrees in the disposition of the cranial ridges. Snout very short, truncate, projecting considerably beyond the mouth, the nostrils anterior to the vertical of the lower jaw; the interorbital space as broad as, or a little broader than, the upper eyelid; tympanum very distinct, vertically oval, close to the eye and two thirds to



three fourths the diameter of the latter. First finger extending considerably beyond second; toes hardly half-webbed, with simple subarticular tubercles; two rather strong metatarsal tubercles; no tarsal fold. The tarso-metatarsal articulation reaches between the eye and the end of the snout, the end of the snout, or even a little beyond. Upper surfaces rough with very prominent, conical, often spiny tubercles; parotoids prominent, round or subtriangular, scarcely larger than the tympanum; lower surfaces with round tubercles of unequal size. Brown above, with a few darker spots, and often with a few scattered irregular spots of a beautiful pink; limbs with dark cross-bands; lower surfaces spotted with brown; throat brown in the males, which are provided with a subgular vocal sac and black asperities on the inner side of the two inner fingers.

Numerous specimens, caught during the breeding-season. The largest male measures 41 millim. from snout to vent, the unique female 50.

*Bufo quadriporcatus.* (Pl. X. fig. 4.)

Intermediate between *B. biporcatus* and *B. galeatus*. A straight, prominent, supraorbital ridge, continued into a short parietal; a strong and broad orbito-tympanic ridge continuous with the parotoid, which is prominent and compressed, ridge-like. Snout short, truncate, projecting far beyond the mouth; canthus rostralis well-marked, loreal region nearly vertical; interorbital space much broader than the upper eyelid; tympanum very distinct, vertically oval, close to and nearly as large as the eye. First finger extending considerably beyond second; toes short, hardly half-webbed; two moderate metatarsal tubercles; no tarsal fold. The tarso-metatarsal articulation reaches the eye. Crown smooth, back with small warts. Parotoids much elongate; the distance between their posterior extremity and the orbit equals the distance between the end of the snout and the extremity of the parietal crests. Pale brown above, whitish inferiorly; a narrow dark line along the canthus rostralis and the parotoid; limbs with dark cross-bands.

A single specimen, apparently half-grown.

Whilst describing the preceding *Bufones*, I have reexamined a specimen of an allied species from Puerta Princesa, Philippine Islands, collected by Mr. Everett, which has been for some time in the Museum, but which I had put aside as a probably new species without being able to make up my mind to describe it. I now think the specimen may safely be made the type of a new species, to be named



*Bufo philippinicus*. (Pl. X. fig 5.)

Cranial ridges rather similar to those of *B. biporcatus* (cf. Boul. Cat. Batr. Ecaud. p. 311, fig.); but the supraorbital ridge ending in a very short branch, directed inwards and distinct from the parietal, which is more thickened. Snout short, truncate; canthus rostralis prominent; interorbital space broader than the upper eyelid; tympanum very distinct, vertically oval, smaller than the eye—the vertical diameter of the right side is  $4\frac{1}{2}$  millim., of the left side 4 millim., and the horizontal diameter of the eye  $6\frac{1}{2}$  millim. First finger extending much beyond second; toes half-webbed, with simple subarticular tubercles; no tarsal fold. The tarso-metatarsal articulation reaches the eye. Upper parts with small, conical, spiny tubercles; parotoids oval, as long as their distance from the anterior border of the orbit. Olive above, with darker insuliform spots; cranial ridges reddish brown.

The unique female specimen measures 75 millim. from snout to vent.

XLIII.—On new *Siluroid Fishes* from the Andes of Columbia.

By G. A. BOULENGER.

A SMALL collection of Fishes made by Mr. F. A. Simons in Columbia (locality not mentioned), and purchased a few years ago by the Trustees of the British Museum, consists of five species, viz. :—*Trichomycterus dispar*, Tsch. (*maculatus*, C. & V.), *T. tania*, Kner, and the three novelties of which descriptions follow.

*Stygogenes Guentheri*.

D.  $1/6$ . A. 6. P. 1/9–10. V.  $1/4$ .

Head as broad as long, two sevenths of the total length (without caudal). Eyes very small, about one fourth the width of the interorbital space, midway between the anterior nostril and the posterior border of the head. Barbel not quite half the length of the head. Dentition and labial folds as in *S. Humboldtii*. A small rough spine to the adipose fin; sometimes another at the base of the caudal. Outer ray of each paired fin thickened, flexible, slightly prolonged, covered with small spines directed backwards; outer pectoral ray



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