

3. On a Collection of Frogs from Yurimaguas, Huallaga River, Northern Peru. By G. A. BOULENGER, F.Z.S.

[Received December 6, 1883.]

(Plates LVII., LVIII.)

An interesting collection of Frogs, made at the above locality by Dr. Hahnel, adds considerably to our fragmentary knowledge of the Batrachian fauna of North-eastern Peru. It contains examples of 18 species, 8 of which are new. Examples of the new and of some of the rarer known forms have been secured for the British Museum. The specimens having been deposited in very weak spirit and protected from the light, the coloration is wonderfully well preserved.

1. *PROSTHERAPIS FEMORALIS*, sp. n. (Plate LVII. fig. 1.)

Snout depressed, projecting, truncate, with angular canthus rostralis and vertical loreal region; nostril nearer the tip of the snout than the eye; interorbital space broader than the upper eyelid; tympanum perfectly distinct, half the diameter of the eye. First finger longer than second; toes with a slight rudiment of web; disks of fingers and toes small; subarticular tubercles small; two very small metatarsal tubercles. The hind limb being carried forward along the body, the tibio-tarsal articulation reaches the posterior border of the eye. Skin tubercular above. Blackish brown above, limbs lighter and marbled with darker; a narrow white line on each side of the body, extending on the outer border of the upper eyelid and the canthus rostralis to the end of the snout, where it is continuous with its fellow; a second parallel white line on the flanks; a third on the upper lip, from below the nostril, extending to the arm; lower surface of arm and base of same, and an oblique band on inner half of upper surface of femur, bright yellow; throat and breast blackish brown; abdomen and lower surface of hind limbs brown- and white-marbled. From snout to vent 27 millim.

Two specimens, ♂ ♀.

Closely allied to *P. inguinalis*, Cope; distinguished by the distinct tympanum and the coloration.

2. *PHYLLODROMUS PULCHELLUS*, Espada.

3. *DENDROBATES RETICULATUS*, sp. n. (Plate LVII. fig. 2.)

Snout truncate, longer than the diameter of the eye; loreal region vertical; interorbital space broader than the upper eyelid; tympanum scarcely distinct, half the diameter of the eye. First finger not extending so far as second; disks of fingers large, truncate, of toes smaller; subarticular tubercles feebly developed; two scarcely distinct metatarsal tubercles. The hind limb being carried forward along the body, the tarso-metatarsal articulation reaches a little beyond the tip of the snout. Skin smooth. Upper surface of head, back to sacrum, and a spot on the chin, pink; the rest of the animal

black, elegantly reticulated with grey. From snout to vent 17 millim.

Closely allied to *D. tinctorius*.

Several specimens, probably young.

4. *DENDROBATES FANTASTICUS*, sp. n. (Plate LVII. fig. 3.)

Closely allied to *D. tinctorius* and *reticulatus*, but differing from the former by the longer limbs, the tarso-metatarsal articulation reaching beyond the tip of the snout, and from both by the belly being granulate. Head to fore limbs above and below yellow; humerus above, and the borders of the yellow colour white; the rest of the body and limbs black, with wide-meshed grey reticulation. Male with a subgular vocal sac. From snout to vent 20 millim.

Four specimens, ♂ ♀.

5. *DENDROBATES TRIVITTATUS*, Spix.

The lines and other markings on the upper surfaces bright yellow.

6. *DENDROBATES HAHNELI*, sp. n. (Plate LVII. fig. 4.)

Snout truncate, as long as the diameter of the eye; loreal region vertical; interorbital space broader than the upper eyelid; tympanum indistinct. Fingers and toes slender, the tips dilated into small disks; first and second fingers equal in length; subarticular tubercles feebly developed; two scarcely prominent metatarsal tubercles. The hind limb being carried forward along the body, the tarso-metatarsal articulation reaches beyond the tip of the snout. Back slightly tubercular. Black; limbs above blackish grey, black-barred; a narrow white line, turning to bright yellow near the loins, on each side of the body, extending on the outer border of the upper eyelid and the canthus rostralis to the end of the snout, where it unites with its fellow; a white line on the upper lip, from the vertical of the anterior border of the eye to the arm; a bright orange-yellow spot at axilla, another on upper surface of femur near the loin, and a third on inner surface of tibia near the femur; belly and lower surface of limbs marbled with grey. Male with a subgular vocal sac. From snout to vent 23 millim.

Allied to *D. trivittatus*.

Several specimens, ♂ ♀.

7. *PHYLLOBATES TRILINEATUS*, sp. n. (Plate LVIII. fig. 1.)

Snout obtuse, as long as the diameter of the eye; loreal region vertical; nostril slightly nearer the tip of the snout than the eye; interorbital space broader than than the upper eyelid; tympanum concealed. Fingers slender, moderately elongate, first extending beyond second, fourth extremely short; toes slender, with rudiment of web; disks small; subarticular tubercles feebly developed; two slightly prominent metatarsal tubercles. The hind limb being carried forward along the body, the tibio-tarsal articulation reaches centre of eye. Skin perfectly smooth. Dark brown above, limbs

marbled with lighter; a greyish streak from eye to groin on each side and a narrow vertebral line of the same colour; a white spot on each side of the vent, on hinder side of thighs; lower surfaces dirty white, throat grey. Male with a large external subgular vocal sac. From snout to vent 17 millim.

A single ♂ specimen.

8. *LEPTODACTYLUS RUBIDUS*, Cope.

9. *LEPTODACTYLUS RHODOMYSTAX*, sp. n. (Plate LVIII. fig. 2.)

Tongue oval, slightly nicked behind. Vomerine teeth in two straight transverse series just behind the choanæ. Habit stout. Snout rounded, as long as the diameter of the orbit; nostril nearer the tip of the snout than the eye; interorbital space a little broader than the upper eyelid; tympanum two thirds the diameter of the eye. Fingers moderate, first longer than second; toes moderate, slightly fringed; tips of fingers and toes slightly swollen; sub-articular tubercles well developed; two small metatarsal tubercles. The hind limb being carried forward along the body, the tibio-tarsal articulation reaches the shoulder. Skin smooth; a glandular lateral fold. Vinaceous brown above; the canthus rostralis, the lateral fold, a cross band between the eyes and another on interscapular region blackish; a band round the upper lip pinkish white; legs with rather indistinct dark cross bands; hinder side of thighs black, white-spotted; lower surfaces white, throat and breast marbled with greyish. From snout to vent 25 millim.

Two young specimens.

10. *LEPTODACTYLUS DISCODACTYLUS*, sp. n. (Plate LVIII. fig. 3.)

Tongue oval, slightly nicked behind. Vomerine teeth in two straight transverse series behind the choanæ. Snout rounded, a little longer than the diameter of the orbit; nostril nearer the tip of the snout than the eye; interorbital space broader than the upper eyelid; tympanum two thirds the width of the eye. Fingers moderate, first not extending beyond second; toes slender, fringed; tips of fingers and toes dilated into small disks; subarticular tubercles well developed; two small metatarsal tubercles. The hind limb being carried forward along the body, the tibio-tarsal articulation reaches the anterior border of the eye. Skin perfectly smooth. Olive-brown above, with rather indistinct darker spots forming cross bands on the limbs; a dark cross band between the eyes; lower surfaces white, finely marbled with brown. From snout to vent 28 millim.

A single ♀ specimen.

11. *BUFO TYPHONIUS*, Laur.

12. *HYLA LANCIFORMIS*, Cope.

The single, full-grown, specimen is uniform dull olive above.

13. *HYLA TAURINA*, Fitz.

14. *HYLA AURANTIACA*, Daud.

15. *HYLA MARMORATA*, Laur.

The lighter parts of the sides of the belly, axilla, lower surface of thighs, and interdigital membranes orange.

16. *HYLA PARVICEPS*, Blgr.

17. *HYLA RUBRA*, Daud.

Loins, sides of thighs, and inner side of tibia and tarsus orange-yellow.

18. *PHYLLOMEDUSA PERLATA*, sp. n. (Plate LVIII. fig. 4.)

Tongue entire. Vomerine teeth none. Head very large; snout not longer than the diameter of the eye, vertically truncate; loreal region vertical; interorbital space much broader than the upper eyelid; tympanum rather indistinct, about half the diameter of the eye. Fingers free, first shorter than second, fourth shorter than third; toes free, first considerably longer than second; disks of fingers and toes small; metatarsal tubercles indistinct. The hind limb being carried forwards along the body, the tibio-tarsal articulation reaches hardly to the eye. Skin smooth above; parotoids large, flat; a series of small, pearl-like white tubercles from the eye to halfway down the body; belly and lower surface of thighs granulate. Purple above (green during life); a white, dark-edged line along outer border of forearm and tarsus; throat purple; lips white-bordered; the rest of the lower surfaces white. From snout to vent 23 millim.

A single young specimen.

4. On some Points in the Anatomy of *Phœnicopterus* and its Allies. By W. F. R. WELDON, B.A., Scholar of St. John's College, Cambridge, Assistant Demonstrator in the Morphological Laboratory of the University.

[Received December 6, 1883.]

(Plates LIX., LX.)

During the past summer I have had an opportunity of dissecting at the Society's Gardens a large number of Storks and a specimen of the European Flamingo (*Phœnicopterus antiquorum*), so that I have been able to make a detailed comparison between the soft parts of these creatures, the results of which I propose to describe in the following paper.

Respiratory System.

The *syrix* of Storks has, as a rule, no intrinsic muscles; in *Leptoptilus*, which I shall take as a type, it has the following structure:—

The last four bronchial rings (fig. 1, A β ,) are much enlarged,