

DESCRIPTION OF A NEW FROG FROM THE PHILIPPINE ISLANDS

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Having received through the courtesy of Mr. Thomas Barbour a toptype of Duméril and Bibron's *Rana macrodon* from Java, a suspicion entertained by me for several years has received confirmation, namely, that the species occurring in the Philippine Islands, and commonly recorded as *Rana macrodon*, in reality is a well-differentiated form. I therefore propose to separate it under a distinctive name.

RANA MAGNA, new species

Diagnosis.—First finger longer than second; a distinct dermal flap along outer edge of fifth toe and metatarsal; no outer metatarsal tubercle; tympanum one-half diameter of eye, or less, its distance from eye larger than or equaling its own diameter; vomerine teeth in two oblique series between and behind the choanæ, their distance from the choanæ nearly equaling the diameter of the latter; upper surface smooth, with numerous small pointed tubercles on sacrum and upper surface of tibia.

Habitat.—Philippine Islands.

Type-specimen.—Cat. No. 35231, U. S. N. M.; Mount Apo, Mindanao, between Todaya and camp, 4,000 to 6,000 feet altitude; Dr. E. A. Mearns, collector.

Description of type-specimen.—Vomerine teeth in two oblique series between and behind the choanæ, their distance from the choanæ nearly equaling the diameter of the latter; two bony "teeth," 6 mm. long, near the anterior end of lower jaw fitting into deep holes in the upper; head large, broad, its width at tympanum greater than distance from tip of snout to posterior rim of tympanum; snout short, rounded; canthus rostralis well-defined, angular; nostril just below canthus; distance between nostrils but slightly less than their distance from eye, greater than their distance from lip and greater than width of upper eyelid; interorbital space somewhat wider than upper eyelid; lores concave; tympanum very distinct, its diameter slightly less than one-half the diameter of the eye, and distant from the latter by nearly twice its own diameter; first finger longer than

second; toes fully webbed; fifth metatarsal and toe externally margined with a dermal flap 2 mm. wide; digits terminated by well-developed knobs; subarticular tubercles well developed; inner metatarsal tubercle long and narrow, rather weak; no outer metatarsal tubercle; a distinct tarsal fold; heel of extended hind leg reaches between eye and nostril; heels not overlapping; skin loose, smooth, with numerous minute, pointed tubercles on sacrum and on the upper aspect of tibia, particularly towards the heel; a few blunt tubercles on the posterior part of upper eyelid; on the sides indications of blunt tubercles; a strong cutaneous fold from posterior corner of eye to above and behind tympanum; a distinct fold across the posterior part of the interorbital space. Color (in alcohol) above very dark chocolate brown, with faint indications of darker blotches which form obscure cross-bars on the hind legs; hind aspect of femur blackish with whitish marblings; underside pale, with dense brownish vermiculations on the legs and coarser and paler ones on abdomen, becoming very faint and indistinct on chest and throat; underside of hind feet and tarsus dark chocolate brown, with pale subarticular tubercles, tarsal fold and terminal digital knobs; a blackish band from nostril to eye and blackish blotches on upper and lower lips.

Dimensions.

	mm.
Total length from snout to vent.....	113.
Snout to eye	21.
Snout to posterior border of tympanum.....	44.
Nostril to eye	7.
Distance between nostrils	10.5
Interorbital width	10.5
Width of upper eyelid	8.5
Diameter of eye	12.
Diameter of tympanum	5.5
Width of head at tympanum.....	45.
Fore leg	56.
Tibia	56.

Remarks.—A large series of old, adolescent, and young specimens from Mindanao, Basilan, Mindoro, and Luzon bear out the characters assigned to this new form. The younger specimens have a narrower head, longer and more pointed snout, and narrower interorbital space. It is therefore necessary, when comparing them with related species, always to select specimens of exactly the corresponding age. It is well to remember that the same size does not necessarily indicate the same age.

Rana magna is most nearly related to *Rana macrodon*, which was originally described from Java, and has since been found in many of the other Malayan islands as well as on the mainland. It is a smaller species, however, and if we compare Philippine adult specimens with specimens of the same size from Java and Sumatra, the difference is indeed striking, because the latter, being so much younger, have a correspondingly longer snout and narrower inter-orbital space; but the differences are less striking if we compare the very largest western specimens with the oldest Philippine specimens—for instance, the type—though they are numerous enough and obvious enough to demonstrate the distinctness of the latter. The most important difference and the one which can be traced through all stages is that in the size and location of the vomerine teeth series. In *R. macrodon* these originate close to the inner anterior border of the choanæ and extend very obliquely backwards, while in *R. magna* they are separated from the choanæ by a space almost as wide as the latter; their position is less oblique, sometimes almost transverse, and the series are also appreciably shorter. In addition, the tympanum is considerably smaller, apparently never exceeding one-half the diameter of the eye. The nostrils are also located more apart than in *R. macrodon*, besides many minor and less easily appreciated differences.