

THREE NEW SPECIES OF LIZARDS FROM THE PHILIPPINE ISLANDS.

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The smaller species of the genus *Sphenomorphus* offer some of the most unsatisfactory objects for identification among the skinks, not on account of any great amount of individual variability, but chiefly because of the small size of the specimens, their shiny surface making the distinction of scutes and the counting of scales very difficult and tedious, the slight, but apparently important differences in proportions and size of body, legs, and ear-openings, and the great superficial resemblance of many of the species both as regards shape, coloration, and arrangement of head-shields. Add to this that even standard descriptions of the most recent authors fail to indicate such important structural characters as the temporal shields or scales, and it will be understood that the study of these forms is not a very easy one.

On the other hand, the large *Tropidophorus* offers no such difficulties, and the new species described below forms a conspicuous and easily identified addition to the Philippine reptile fauna.

SPHENOMORPHUS ATRIGULARIS, new species.

Diagnosis.—No supranasals; fronto-nasal broadly in contact with rostral; fronto-parietals distinct; four large supraoculars; no auricular lobules; distance between tip of snout and fore leg about once and a half in distance between axil and groin; fourth toe scarcely longer than third; head and body nearly equalling length of tail; temporal region covered by scales scarcely larger than dorsals.

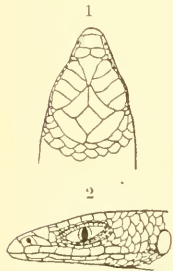
Habitat.—Mindanao, Philippine Islands.

Type.—Cat. No. 37386, U.S.N.M.; Catagan, Datu Anib's place, base of Malindang Mountains, 1,100 feet altitude, Misamis Province, N. W. Mindanao; May 24, 1906; Dr. E. A. Mearns, U. S. A., collector.

Description of type-specimens (figs. 1, 2).—Snout short, obtuse; no supranasals; fronto-nasal broader than long, broadly in contact with rostral, separated from frontal by prefrontals, which are broadly in contact; frontal almost triangular, pointed behind, not longer than fronto-parietals, much shorter than fronto-parietals and interparietal together; fronto-parietals separated by a suture; interparietal large, as wide as frontal, losenge-shaped, almost equilateral; parietals in contact behind interparietal; four supraoculars, subequal, the two anterior in contact with frontal; eight superciliaries; nostril pierced in nasal; a single frenal behind nasal; lower eyelid scaly; supralabials separated from eye by a row of small scales; fourth supralabial beneath center of eye; temporals not differentiated as shields, consisting only of ordinary cycloid scales but slightly larger than those on the back; no enlarged nuchals; ear-opening roundish, large, fully two-thirds the eye-opening; 30 smooth scales

around the middle of the body; a pair of enlarged preanals; legs weak and digits short; the distance between tip of snout and fore leg contained about once and one-half in distance between axilla and groin; hind leg slightly longer than distance from center of eye to fore leg; adpressed fore and hind legs fail to meet on the side of the body by more than the length of the foot; third toe almost as long as fourth; 10 smooth lamellæ under fourth toe; tail cylindric, slightly longer than head and body together, without enlarged scales underneath. Color (in alcohol) above chestnut brown, very indistinctly spotted with paler and darker brown; a well-defined blackish lateral band from eye to groin and continued behind thigh along the side of the tail, with

small whitish spots and bordered above on neck and anterior half of back by a narrow pale brown band; lips, chin, throat, neck underneath and on the sides bluish black, the sutures more or less regularly edged with whitish; rest of underside and flank whitish, densely sprinkled with minute dark brown dots on sides, lower abdomen, underside of legs and tail; legs above dark brown, with small, pale spots.



FIGS. 1, 2.—SPHENOMORPHUS ATRIGULARIS. $2\frac{1}{2} \times$ NATURAL SIZE. 1, TOP OF HEAD; 2, SIDE OF HEAD. No. 37386, U.S.N.M.

Dimensions.

	<i>mm.</i>
Total length.....	64
Tip of snout to vent.....	31
Tip of snout to fore leg.....	11
Width of head.....	5
Axilla to groin.....	16
Vent to tip of tail.....	33
Fore leg.....	6
Hind leg.....	9

Remarks.—This species, represented by a single well-preserved specimen, needs no comparison with the other Philippine species. In many respects it seems to resemble *Sphenomorphus temminckii* (Duméril and Bibron) from Java, to which it may be related, a point which can not be decided here, as the descriptions published of this rare species fail to mention the character of the temporals. From this species it differs among other things by its smaller size and the relatively much shorter tail.

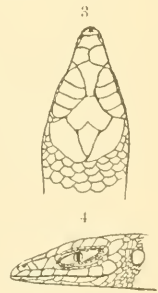
SPHENOMORPHUS STEEREI, new species.

Diagnosis.—No supranasals; fronto-nasal broadly in contact with rostral; fronto-parietals fused; four large supraoculars; no auricular lobules; fourth toe much longer than third; head and body equalling length of tail; well-differentiated temporal scutes; 30 scale rows around the middle of the body; ear-opening large, about two-thirds the eye-opening, nearer to the fore leg than to the tip of snout.

Habitat.—Guimaras Island, Philippines.

Type.—Cat. No. 32658, U.S.N.M.; Guimaras Island; Prof. J. B. Steere, collector.

Description of type-specimen (figs. 3, 4).—Snout somewhat elongate and pointed; no supranasals; fronto-nasal broader than long, in contact with rostral, separated from frontal by prefrontals, which are broadly in contact; frontal shorter than fronto-parietal, in contact with first and second supraoculars; fronto-parietals elongate, fused into a single shield; interparietal long and narrow, shaped like and but slightly shorter than frontal; parietals large, barely in contact behind interparietal; four supraoculars, first largest; seven superciliaries; nostril pierced in nasal; two vertical frenals behind nasal; lower eyelid scaly; supralabials separated from eye by a row of small scales; fifth supralabial under center of eye; two anterior temporals well differentiated, the upper being a large wedge-shaped shield; no enlarged nuchals; ear-opening circular, large, two-thirds the eye-opening, its center considerably nearer the insertion of the fore leg than the tip of the snout; 30 smooth scales around the middle of the body; a pair of enlarged preanals; legs moderately developed, digits slender; hind leg equals distance from center of eye to fore leg; fourth toe much longer than third, with 12 lamellæ on underside; tail as long as head and body, tapering from the base, without enlarged scales underneath. Color (in alcohol) above mummy brown, with a series of indistinct, elongate dusky spots on the median line of the back; a narrow, dark brown dorso-lateral



FIGS. 3, 4.—SPHENOMORPHUS STEEREI. $2\frac{1}{2} \times$ NATURAL SIZE. 3, TOP OF HEAD; 4, SIDE OF HEAD. No. 32658, U.S. N.M.

band from the temporal region above the insertions of the legs to the side of the tail, edged above by an indistinct pale line; hips and underside unspotted, pale; legs above reticulated with brown.

Dimensions.

	<i>mm.</i>
Total length -----	47
Tip of snout to vent -----	24
Tip of snout to fore leg -----	12
Width of head -----	4.5
Vent to tip of tail -----	23
Fore leg -----	6
Hind leg -----	10

Remarks.—In proportions, coloration, size of ear-opening, and general conformation of the upper head-shields, this new species, which I dedicate to its discoverer, Prof. J. B. Steere, in recognition of his contributions to Philippine zoology, agrees very well with *Sphenomorphus decipiens* (Boulenger), but the latter has 36 scale rows around the middle of the body. In many respects it also resembles *S. moellendorffi* (Boettger), but the more backward position of the ear-opening which seems to be such a characteristic feature of *S. steerei* is alone sufficient to vindicate specific distinction for it.

TROPIDOPHORUS MISAMINIUS, new species.

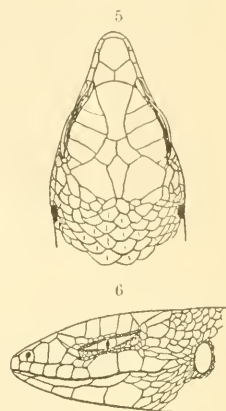
Diagnosis.—Dorsals strongly keeled; fronto-parietals distinct; a single large preanal; sixth and seventh supralabials largest and entering the orbit; parietals not in contact behind interparietal; ventrals smaller than dorsals.

Habitat.—Mindanao, Philippine Islands.

Type.—Cat. No. 37383, U.S.N.M.; Catagan, Datu Anib's place, base of Malindang Mountains, 1,100 feet altitude, Misamis Province, N. W. Mindanao; May 25, 1906; Dr. E. A. Mearns, U. S. Army, collector.

Description of type-specimen.—*Adult male* (figs. 5, 6); upper head-shields smooth; fronto-nasal slightly longer than broad; prefrontals broadly in contact; frontal as long as fronto-parietals and interparietal together, in contact with three anterior supraoculars; five supraoculars, first longest, fifth smallest; two or three anterior superciliaries large, followed by six very small ones, none behind the suture between third and fourth supraocular; fronto-parietals separate, shorter than interparietal; parietals not in contact behind interparietal; nostril in a single nasal, which is followed by two loreals, one behind the other; anterior row of temporals differentiated from the scales behind, the upper three being shorter and broader, the lower two long and narrow; eight supralabials, the anterior five

low and subequal, the sixth suddenly much higher and twice as wide, seventh equalling sixth and with the latter entering the orbit, from which they are separated, however, by a single row of small scales as large as the smaller superciliaries; a large unpaired postmental followed by three pairs of large submandibulars, the two anterior pairs of which are in contact on the middle line; ear-opening oval, erect, smaller than eye-opening; 32 scales around the middle of the body; dorsals, ten in the shielded part of the head, and laterals strongly keeled, not mucronate, the keels forming eight straight lines on the back; ventrals smooth, perceptibly smaller than the dorsals, twelve in a head length; a single, very large preanal plate; third finger almost as long as fourth; subdigital lamellæ smooth, 25 under the fourth toe; extended hind leg barely reaches the elbow; tail strongly compressed, with four strong keels above at base, diminishing to two towards the middle, and with a medium series of wide smooth plates underneath; length of tail much less than twice the length of body. Color (in alcohol) above and on sides vandyke-brown, shiny on the head, dull on body and extremities; obscure traces of blackish cross-bars on the back and of vertical bars of pale spots on sides of body and tail; a blackish postocular streak below which on the temples a cluster of small whitish spots and a few scattered ones on the sides of neck; underside shiny, chin, throat, lower neck, palms, soles, and posterior two-thirds of tail blackish brown, each scale with a narrow pale edge; rest of underside whitish.



FIGS. 5, 6.—*TROPIDOPHORUS MISAMINIUS*. 2X NATURAL SIZE. 5, TOP OF HEAD; 6, SIDE OF HEAD. No. 37383, U.S.N.M.

Dimensions.

	<i>mm.</i>
Total length.....	219
Tip of snout to vent.....	89
Tip of snout to ear-opening.....	18
Width of head.....	12.5
Vent to tip of tail.....	130
Fore leg.....	26
Hind leg.....	41

Variation.—Two other specimens, from the same locality, one halfgrown (No. 37384) and one young (No. 37385) agree closely in all the structural characters as given in the above description of the type, except that in the young the head-shields are not smooth but feebly rugose. The halfgrown specimen also agrees very closely in

coloration, but the young is lighter brown, with better defined cross-bars; it has a whitish streak between eye and ear instead of the temporal spots, and the chin and middle of throat are whitish.

Remarks.—This species is apparently closely allied to *Tropidophorus brookei*, from which it differs in several essential points, especially in the number and size of the supralabials, the relative length of interparietal and parietals, the relative size of ventrals and dorsals, and apparently ^a in the length of the tail.

^a Boulenger (Cat. Liz. Brit. Mus., 111, 1887, p. 361) says of *T. brookei* that the tail is "nearly twice as long as the body," but in the dimensions given that of the body is said to be 68 mm., while that of tail is 155 mm., consequently much more than twice the body.