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A DESCRIPTION OF A NEW *GYMNOPHTHALMUS*
FROM GUATEMALA, WITH NOTES ON OTHER
MEMBERS OF THE GENUS

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DURING a recent sojourn in Guatemala for the purpose of investigating the herpetofauna of Alta Verapaz, I visited the Salamá Desert basin in Baja Verapaz and spent a week collecting in the vicinity of the village of San Gerónimo in order to make comparative studies. In examining the collection, a detailed report of which will appear at a later date, I found four specimens of *Gymnophthalmus* which represent an undescribed species. In honor of my good friend Mr. William Bird of Cobán, Alta Verapaz, whose knowledge of the country, helpful suggestions, and many aids and courtesies facilitated my studies during my six months in Guatemala, I name this new form

Gymnophthalmus birdi, new species

HOLOTYPE.—An adult specimen, U.M.M.Z. No. 84057, collected from beneath a stump on the desert flats of the Salamá Basin, two kilometers south of San Gerónimo, Baja Verapaz, Guatemala, July 7, 1938. Collector, L. C. Stuart.

DIAGNOSIS.—A smooth-scaled *Gymnophthalmus* with the prefrontals separated from the loreals through a lateral contact

of the supraoculars and the single internasal scute (Pl. I, Figs. 1-2).

DESCRIPTION.—Rostral pentagonal, slightly broader than high. A single internasal forming a suture with the enlarged supraocular on either side of its posterior lateral apex. Two prefrontals, broadly in contact medially and bordered laterally by the supraocular which separates them from the loreals. A single very large supraocular on either side. A moderate-sized pentagonal frontal, flanked on either side by a very large frontoparietal. An extremely large, hexagonal interparietal which forms a suture anteriorly with the frontal, thus widely separating the frontoparietals. Laterally, on either side of the interparietals, there is a parietal of moderate size.

Nostril in a single nasal; a loreal; and a single preocular with a very small supraocular above it on the right side. Three postoculars and two very long, narrow suboculars, which, with the small supraocular on the right side, separate the preocular from the eye. Four supralabials to beneath the posterior border of the eye, and four infralabials to the same level. Symphyseal large and pentagonal, followed by a single large mental, behind which are two pairs of gulars. Ear-opening moderate.

Thirteen longitudinal rows of smooth scales around the middle of the body. Thirty-nine scutes from the nape to the base of the tail, counted along the middorsal row. The tail is slightly longer than the body, and its posterior one-fourth is covered with keeled scales. Axilla covered with small granular scales. Two lateral and one small median preanals. The adpressed limbs fail to meet by the length of the hind leg. Head-body length, 30 mm.; tail length, 32 mm.; head length to ear-opening, 5 mm.

The surface of the head and the three and one-half middorsal scale rows are brownish gray. A lateral band of darker color extends from the snout through the eye and, posteriorly, along the body to the insertion of the legs. This band fades gradually into the grayish white ventral color. The lower half of the supralabials and the entire infralabials

are dirty white stippled with brown. The ventrum is grayish white speckled with gray-blue caused by a narrow, dark, posterior border on most of the scales. The tail is pinkish orange; each dorsal scale has a narrow, brown posterior border and is heavily stippled with brown near its base.

PARATYPES.—U.M.M.Z. Nos. 84058–60, collected with the holotype.

VARIATION.—Remarkably little variation is noted in the four specimens at hand. The head scutellation is the same in all, with the exception of the small supraocular, which may or may not be present, and the occurrence of only three infralabials in one specimen. All have thirteen series of scales around the body, and the number of scales from nape to tail base varies between 37 and 40. All lack tails; the largest specimen measures 31 mm. from the tip of the snout to the vent; the smallest, 25 mm.

RANGE.—Known only from the type locality, but it is very probable that further collecting will reveal this species in the various mountain basins to the west of Salamá (San Miguel, Rabinal, Cubulco, etc.) as well as in the more arid portions of the Río Motagua Valley.

HABITS.—Nothing is known of the habits of this little lizard beyond the fact that it was found in the loose, dry, sandy gravel beneath tree stumps which an Indian was pulling in order to clear a site for his house.

RELATIONSHIPS.—The relationships of this new form will be discussed under *G. sumichrastii* (Cope).

NOTES ON OTHER SPECIES

Though Burt and Burt (1931: 339–41) attempted to present a summation of the genus, they erred seriously in several instances. The concept of the genus has been altered through these errors and through the descriptions of new species. It seems worth while, therefore, to bring together at this time the available data. The following notes are based on literature descriptions and records in addition to an examination of material contained in the collections of the Museum of Zoology, University of Michigan.

Gymnophthalmus Merrem, 1820

Gymnophthalmus, Merrem, *Syst. Amph.*, 1820: 74 (type, *Lacerta quadrilineata* Linnaeus = *lineatus* Linnaeus).

Epaphelus, Cope, *Journ. Acad. Nat. Sci. Phila.*, 1875: 115 (type, *Epaphelus sumichrastii* Cope).

Blepharactisis, Hallowell, *Proc. Acad. Nat. Sci. Phila.*, 1860: 484 (type, *Blepharactisis speciosa* Hallowell).

In addition to *Gymnophthalmus birdi* the genus appears to contain the following species.

Gymnophthalmus lineatus (Linnaeus)

Lacerta lineata, Linnaeus, *Syst. Nat.*, ed. 10, 1758: 209 (type locality, Zeilona [Ceylon], undoubtedly an error).

Lacerta quadrilineata, Linnaeus, *Syst. Nat.*, ed. 12, 1766: 371 (type locality, North America?).

Gymnophthalmus merremii,¹ Boulenger, *Cat. Lizards*, 2, 1885: 427.

Gymnophthalmus nitidus, Reinhardt and Lütken, *Vidensk. Meddel.*, 1862: 226 (type locality, Danish West Indies).

RANGE.—Northeastern South America from western Venezuela to Brazil and the Dutch Leeward Islands.

Although Burt and Burt (1931: 339-41) have suggested that *lineatus* and *laevicaudus* (= *speciosus*) may be subspecific, recent material of the latter form from British Guiana recorded by Parker (1935: 518-19) indicates that either the two are specifically distinct or, as Parker suggests, dichromatism in a single species exists. As the *lineatus* type is confined to northeastern South America and the Dutch Leeward Islands whereas *speciosus* is of a wide-ranging type, the former suggestion seems more probable. It may be noted, however, that should the two eventually be proved distinct, they will be the only members of the genus which differ in pattern alone.

Gymnophthalmus speciosus (Hallowell)

Blepharactisis speciosa, Hallowell, *Proc. Acad. Nat. Sci.*, 1860: 484 (type locality, Nicaragua).

¹ This species, based on "Gymnophthalme de Merrem" of Cocteau (*Études Scinc.*, 1836: 1, and the fourth plate), is placed under the synonymy of *G. quadrilineatus* (= *lineatus*) by Boulenger. Cocteau recognized it as synonymous with *G. quadrilineatus* of Linnaeus.

Tretioscincus laevicaudus, Cope, *Proc. Amer. Phil. Soc.*, 1870: 557 (type locality, Occidental Department, Nicaragua. Three cotypes in the Museum of Comparative Zoology, Harvard University, are labeled "Polvon, Nicaragua").

RANGE.—Central America (probably from Guatemala southward) into northern South America eastward to British Guiana and south into Chile.

E. R. Dunn, of Haverford College, called to my attention the fact that *speciosus* has priority over *laevicaudus*. If *speciosus* eventually proves to be distinct from *lineatus*, and if the specimen recorded from Chile by Burt and Burt (1931: 339–41) is conspecific with it, then this form represents the most wide-ranging species of the genus.

Gymnophthalmus sumichrastii (Cope)

Epaphelus sumichrastii, Cope, *Journ. Acad. Nat. Sci. Phila.*, 1876: 115 (type locality, western Tehuantepec, Mexico).

RANGE.—Western Central America from Mexico southward probably to Honduras.

In synonymizing *laevicaudus* (= *speciosus*) and *sumichrastii* Burt and Burt (1931: 339–41) committed a rather serious error. An examination of specimens from Colombia and Panamá and a re-examination of three of the types of *laevicaudus*, now in the Museum of Comparative Zoology, Harvard University, show that, with the exception of one side of the head in one of these types, *speciosus* always has five supralabials to the posterior margin of the eye (Pl. I, Fig. 4). In a Mexican specimen, in Cope's description (Cope, 1875: 115), on which he undoubtedly counted labials to the same level as I have utilized, and in Bocourt's figure (Bocourt, 1870–1900: Pl. 22H, Fig. 2) of specimens from Guatemala and Mexico, there are but four supralabials to the posterior margin of the eye (Pl. I, Fig. 2). It is evident, therefore, that the two forms are distinct, though further study may show that they are subspecific.

Because of geographic position and of resemblance to *sumichrastii* in the number of supralabials, *birdi* may possibly

enter into the *speciosus-sumichrastii* complex. For the present, however, it seems best to retain specific rank for all three, for no material which might connect *speciosus* and *sumichrastii* is known from western El Salvador to central Nicaragua, and *birdi* is probably confined to the desert regions of central Guatemala and is isolated from *sumichrastii* by the *altos* of western Guatemala.

In going through the literature, I have noted that there is some disagreement as to the type locality of *sumichrastii*. Burt and Burt (1931: 339; and 1933: 65) give Costa Rica as the type locality, but Hartweg and Oliver (1937: 8) consider it to be Tehuantepec, Mexico. Cope (1875: 115) is certainly extremely ambiguous. After describing *sumichrastii* he notes that he has received yet another specimen from Tehuantepec from Sumichrast. The question arises as to whether the original description was based on a specimen previously received from Sumichrast or on one which originated in Costa Rica, which was the area considered in his paper. Evidence indicates that his description was based on a Mexican specimen, since he states that it was named in honor of its discoverer, Dr. Sumichrast, who never visited Costa Rica. Furthermore, Cope's Costa Rican paper is filled with descriptions of forms received from countries other than Costa Rica, and from Mexico in particular. My colleague, Norman Hartweg, has, moreover, pointed out that in a later paper Cope (1887: 46), despite synonymizing *sumichrastii* under *laevicaudus*, mentions only specimens from Nicaragua (the types of *laevicaudus*) and Sumichrast's material from Tehuantepec (presumably the types of *sumichrastii*); no reference is made to any specimens from Costa Rica. E. R. Dunn has informed me that the cotypes of *sumichrastii* (U. S. N. M. Nos. 30245-46) are in a single bottle and are labeled "near Ventose Bay, Sumichrast."

Gymnophthalmus pleii Bocourt

Gymnophthalmus pleii, Bocourt, *Miss. Sci. Mex.*, 1881: 473, Pl. XXII, H, Fig. 3 (type locality, Martinique).

Gymnophthalmus litkenii, Bocourt, *ibid.*: 474 (type locality, Santa Lucia).

RANGE.—Formerly Martinique and Santa Lucia. Now extinct on Martinique (*vide* Barbour, 1935: 128).

Though *pleii* and *lütkenii* are considered distinct by Burt and Burt (1931: 339), Parker (1933: 154) has since reported a specimen from Santa Lucia which has, over part of its body at least, only 15 rows of scales, the chief difference between the two. Ruthven (1922: 64) has already shown this particular character to be variable in *speciosus*, and this conclusion may well hold in the whole genus. Thus, although there is still some question as to their distinctness, the main weight of evidence seems to indicate that the two are synonymous. Barbour (1935: 128) has previously expressed this same opinion.

Gymnophthalmus rubricaudus Boulenger

Gymnophthalmus rubricaudus, Boulenger, *Ann. Mag. Nat. Hist.*, 1902: 337 (type locality, Curz del Eje, Argentina).

RANGE.—From central Argentina to north central Bolivia, east of the Andes.

I have seen specimens of this species from Bolivia, and they check with the type description.

Gymnophthalmus multiscutatus Amaral

Gymnophthalmus multiscutatus, Amaral, *Mem. Inst. But.*, 1932: 73, Figs. 51-55 (type locality, Villa Nova, Bahia, Brazil).

RANGE.—Known only from the type locality, but probably widespread throughout the semiarid regions of northeastern Brazil.

No new data on this apparently very distinct species have been forthcoming.

As to the relationships of the various forms, it is indicated that they have undergone differentiation over a long period of isolation. As previously noted, *speciosus* and *lineatus* are the only members of the genus which are morphologically similar. *G. pleii* is the only species with keeled, dorsal body scales, *multiscutatus* is the only form with two enlarged supraoculars, *rubricaudus* is the only species in which the frontal and internasals are in contact, and *birdi* is distinct in the separation of

lorels and prefrontals. Thus, although relationships are obscured, identification becomes relatively simple. The following key will serve to separate the various species:

1. Some of dorsal body scales keeled *pleii*
Dorsal body scales all smooth 2
2. Prefrontals separated from loreals laterally *birdi*
Prefrontals in contact with loreals 3
3. Frontals in contact with internasal; prefrontals separated medially.
. *rubricaudus*
Frontal separated from internasal; prefrontals in contact medially. . . 4
4. Two enlarged supraoculars, followed by a third smaller one
. *multiscutatus*
A single enlarged supraocular, sometimes followed by a second smaller
one 5
5. Pattern of at least one lateral and one dorsolateral light line on each
side *lineatus*
Pattern lacking light stripes; generally a broad, dark lateral band
present 6
6. Five supralabials (on at least one side) to the posterior margin of the
eye *speciosus*
Only four supralabials to posterior margin of eye. *sumichrastii*

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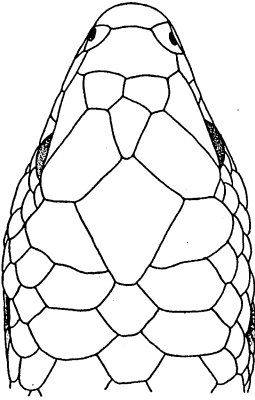
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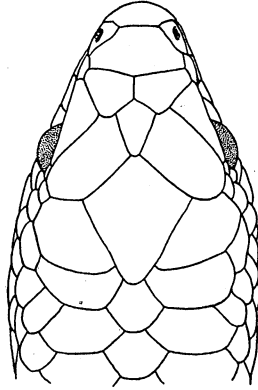
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PLATE I

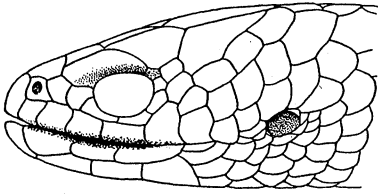
- FIG. 1. Top of head of *Gymnophthalmus birdi*. Note the junction of the internasal and supraocular scales which separate the prefrontals from the loreals.
- FIG. 2. Side of head of *Gymnophthalmus birdi*. The arrangement indicated in Figure 1 viewed laterally and the four supralabials to the posterior margin of the eye. This labial arrangement also occurs in *G. sumichrastii*.
- FIG. 3. Top of head of *Gymnophthalmus speciosus* (Hallowell). The contact between prefrontals and loreals is typical in this species and all others in the genus with the exception of *birdi*.
- FIG. 4. Side of head of *Gymnophthalmus speciosus*. Loreal and prefrontal in contact and the arrangement of supralabials when they number five to the posterior margin of the eye. The small supraocular separating the preocular from the eye may or may not be present in all species of the genus.



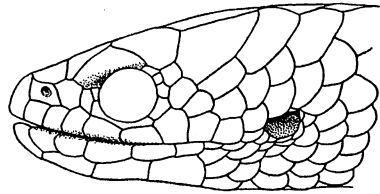
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