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A NEW COLUBRID SNAKE OF THE GENUS *GEOPHIS*
FROM MICHOACÁN

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Two specimens of the genus *Geophis* from Michoacán are representatives of an undescribed species which, in allusion to the Indian inhabitants of the area, may be known as

Geophis tarascae, new species
(Pl. I; Fig. 1)

HOLOTYPE.—University of Michigan, Museum of Zoology No. 99151; a male collected by Norman Hartweg, July 18, 1947, at 5500 feet above sea level in the Parque Nacional on the outskirts of Uruapan, Michoacán.

PARATYPE.—Academy of Natural Science of Philadelphia No. 15356; a female collected by S. N. and M. C. Rhoads, April 4, 1899, at Uruapan.

DIAGNOSIS.—A species with 15 dorsal scale rows and without an anterior temporal, differing from other described Mexican forms, with this combination (*aquilonaris*, *cancellatus*, *dugesii*, *petersii*, *sallaei*, *semidoliatus*), in coloration and scutellation (Table I).

DESCRIPTION OF HOLOTYPE.—Head shape normal; snout rounded, not produced. Dorsal scales smooth, in 15 rows. Ventrals, 165; subcaudals, 50 plus tip; anal entire. Upper labials, 6; third and fourth enter orbit; fifth in contact with parietal; size, in descending order: 5, 6, 4, 3, 2, 1. Nasal divided, nostril about equidistant from upper and lower borders, occupying about equal parts of anterior and posterior section. Loreal of medium length, enters orbit, does not depress second labial. Upper head scales discrete, none fused. Supraocular of medium size, not displaced posteriorly. Eye of normal size; its diameter greater than its distance from lower edge of upper labials, larger than loreal and supraocular. One postocular. No primary, one secondary temporal. Lower labials, 6; first pair in contact behind mental, first four in con-

fact with anterior chinshields; size, in descending order: 4, 5, 6, 3, 1, 2. Anterior chinshields longer than posterior, latter separated posteriorly by azygos scale; posterior chinshields in contact with fourth lower labial; one transverse row of scales between posterior chinshields and first ventral. Total length (240 mm. body + 62 mm. tail) 302 mm. In gross appearance, a brownish gray on pale straw ground color; latter most evident on head and anterior part of body, least on posterior part and tail. Head with numerous irregular dark spots interspersed with fine reticulations and punctations of same color; punctations of internasals most numerous; frontal and inner halves of parietals light brown; except along sutures, lower parts of upper labials clear or with few specks. Irregular dark markings, each involving

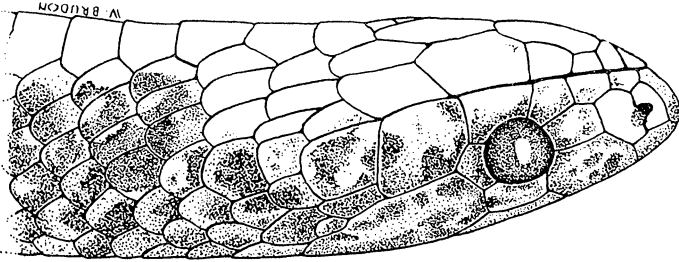


FIG. 1. *Geophis tarascae*, new species

several scales, from nape to about 30th transverse scale row, some of anterior ones tend to form short longitudinal and transverse bars; posterior five-sixths of body with small, dense concentrations of pigment; individual scales solidly dark or irregularly marked, or with longitudinal, medial streak. Caudodorsals very dark, with fine specks and squiggles of pale straw in central part of scales. Sides of body shading into brownish gray toward ventral surface. Lower labials and underparts of head grayish white except for few specks of brown on former; ventrals grayish white with lateral and median row of brown spots, latter faintest anteriorly and posteriorly. Subcaudals dark with light centers.

REMARKS.—The paratype differs from the holotype as follows: 179 ventrals; 45 subcaudals plus tip; 5 lower labials on left side; size of lower labials on left side, in descending order: 4, 3, 5, 2, 1; three lower labials in contact with anterior chinshields, and third labial in contact with posterior chinshields on left side; posterior chinshields in mutual contact throughout; two rows, three scales in each, between posterior

TABLE I

CHARACTERISTICS OF SEVEN SPECIES OF *Geophis* WITH 15 SCALE ROWS AND NO ANTERIOR TEMPORAL*

Species	Specimens		Ventrals		Subcaudals		Upper Labials	Inter-nasals	Snout profile	Dorsal Pattern
	Males	Females	Males	Females	Males	Females				
<i>aquilonaris</i>	3	4	174-85	173-83	60-64	54-63	6, 5	Present	Normal	Light crossbands (many)
<i>cancellatus</i>	..	2	171	21-23	6	Absent	Normal	Dark crossbands
<i>dugesii</i>	2	1	150	164	41-43	39	6, 5	Present	Normal	Light crossbands (few anteriorly)
<i>petersii</i>	5	3	141-44	145-48	27-39	29-39	6, 5	Present	Produced	Dark, uniform
<i>sallaei</i>	4	3	118-29	131-33	33-41	29-36	6, 5	Present	Produced	Dark, uniform
<i>semidoliatus</i>	52	63	135-60	114-79	22-30	20-28	5, 4	Present	Produced	Dark saddles
<i>tarascae</i>	1	1	165	179	50	45	6	Present	Normal	Dark irregular markings

* Data from the following sources—*G. aquilonaris* (UKMNH 44265-66; UMMZ 111501-02; 117770-71; 118925). *G. cancellatus* (Smith, 1941: 1-2). *G. dugesii* (Bocourt, 1883, 573-74, Pl. 37, Fig. 1; Duges, 1884: 359-61, Pl. 9, Fig. 2; Smith, 1939: 28-9; ETH-HMS 21454). *G. petersii* (Boulenger, 1894: 321, Pl. 16, Fig. 2; EHT-HMS 5553-54, 15871, 21455, 23551; UMMZ 114493). *G. sallaei* (Boulenger, 1894: 318, Pl. 16, Fig. 1; Smith, 1942: 259). *G. semidoliatus* (Boulenger, 1894: 316-17; Taylor and Smith, 1938: 244-45; UMMZ 85323-26, 88667-70 [20 specimens], 95068 [58], 98372, 105037 [7]). EHT-HMS = Taylor-Smith private collection; UMMZ = University of Michigan Museum of Zoology; UKMNH = University of Kansas Museum of Natural History.

chinshields and first ventral; small, ill-defined light-edged spots on anterior fourth of body, most definite on nape; midventral specks few, scattered, not linearly arranged; lower labials with more pigment. In other respects the paratype is similar to the type.

INCIDENTAL NOTES.—*Geophis cancellatus* was described as having 15 dorsal scale rows (Smith, 1941: 2), but, by error, the name appeared in a key in the same paper (p. 6) and in a later publication (Smith and Taylor, 1945:66) in the block containing the forms with 17 rows.

The sex of the type of *Geophis dugesii* has not been determined, but its ventral scale count (Smith, 1939: 29) falls within the range presented here (Table I).

The eight specimens of *Geophis petersii* (six examined personally, data for two taken from Boulenger's description) vary considerably in scutellation of the head region. The number of transverse scale rows between the posterior chinshields and the first ventral ranges from one to four. The posterior chinshields are in contact with each other in five, separated in two (condition not known in one of the syntypes). The upper labials are 6-6, with the third and fourth entering the orbit in seven specimens; in the other (UMMZ 114493) the condition is normal on the right side, but on the left there are five labials, with only the third bordering the eye. In EHT-HMS 5554 the primary and secondary temporals are absent on both sides and the fifth and sixth upper labials are in contact with the parietal. In EHT-HMS 5553 the internasals are partly fused to the prefrontals; the fifth labial is incompletely separated from the sixth on the left side (Taylor, 1941: 121, Fig. 2).

The recently described *Geophis aquilonaris* (Legler, 1959) also varies in the scutellation of the head region. There are two scale rows between the posterior chinshields and the first ventral in the four females, three in the three males. In five specimens the upper labial count is 6-6; in one, 6-5; and in another, 5-5. In the specimen with 5-5 (UMMZ 117771), and one with 6-6 (UMMZ 118925), a single labial, the fourth, enters the orbit; in the others, the third and fourth enter. The loreal enters the orbit in all specimens except the one (UKMNH 44265) with the upper labial count of 6-5. In it, on the left side, labials five and six are only partly separated from each other and the loreal is excluded from the eye by a minute scale. There is no primary temporal in six specimens; it is present on both sides in one (UMMZ 117770), separating the fifth labial from the parietal.

The forms of *Geophis* from Mexico are, for the most part, represented in the various collections by few specimens. Yet, even in these small samples there is enough variation in color pattern and scutella-

tion to prescribe great caution in postulating interspecific relationships. The pronounced diversity of some of the species with 15 scale rows and no anterior temporal (*aquilonaris*, *tarascae*, and *semidoliatus*, for example) indicates that this is an artificial grouping.

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PLATE I



Geophis tarascae, new species

