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SOME NEW SNAKES FROM GUATEMALA

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DURING a recent sojourn in Guatemala sponsored by the Horace H. Rackham School of Graduate Studies, University of Michigan, I devoted considerable time to herpetological investigations in the Alta Verapaz and in the Sierra de los Cuchumatanes of northern El Quiché. Included in my collection are three species of snakes which appear to be undescribed.

To Mr. James Baird, whose gifts to the University of Michigan have contributed to the support of my Guatemalan investigations, I dedicate

Tantilla bairdi, new species

HOLOTYPE.—An adult female, University of Michigan Museum of Zoology, No. 89223, collected May 17, 1940, by L. C. Stuart.

TYPE LOCALITY.—Two km. northeast of Finca Chichén (10 km. south of Cobán [straight line]) on Chamelco trail, Alta Verapaz, Guatemala. Altitude, about 1550 m.

DIAGNOSIS.—A *Tantilla* with 15 dorsal scale rows, 163 abdominals, and 34 subcaudals. Brown above and red beneath,

with a yellow nuchal collar and a postorbital light spot. Superficially close to *T. schistosa*, from which it differs in possessing more abdominals.

DESCRIPTION.—Head scutellation normal. Rostral broad, plainly visible from above. Two internasals followed by a larger pair of prefrontals. Frontal longer than its distance from the end of the snout and flanked by well-developed supraoculars. Parietals longer than frontal. Nostril between 2 nasals; no loreal; oculars 1-2; temporals 1+1. Seven supralabials; 7 infralabials, 4 in contact with the anterior chin shields, which are twice as long as the posterior ones. Dorsal scales smooth, in 15 rows throughout the length of the body. Abdominals, 163; subcaudals, 34; anal divided. Twelve subequal maxillary teeth followed by a diastema and 2 enlarged, grooved, posterior fangs. Total length, 342 mm.; body length, 290 mm.; tail length, 52 mm.

In spirits, the dorsal ground color is chocolate brown. Anteriorly, this color extends down to the first row of scales, posteriorly it infringes upon the outer ends of the ventral scutes. There is a white collar, a scale row wide, across the posterior part of the parietals and behind the last supralabial. The head is colored as the dorsum, with the exception of a white triangular spot on the labials posterior to the eye and a diffused light band around the snout. The chin and throat are cream, the infralabials dusted with brown along the edge of the mouth, and the fourth infralabials each have a brown spot next to the chin shields. The belly is pink, becoming darker posteriorly and turning to orange-red on the under-surface of the tail.

RANGE.—Known only from the type locality, but possibly distributed throughout the highlands of the Alta Verapaz.

RELATIONSHIPS.—Hobart Smith informs me that he is now undertaking a revision of the Mexican tantillas. Until his work is published it seems futile to attempt to allocate *bairdi*. Its apparent relationship to *schistosa* is probably not phyletic,

for the two occur side by side in the pine zone of western Alta Verapaz. Smith's revision will undoubtedly bring to light some lowland form to the north from which *bairdi* may well have developed.

Geophis carinosus, new species

HOLOTYPE.—An adult male, University of Michigan Museum of Zoology, No. 89082, collected on the evening of August 2, 1940, by L. C. Stuart.

TYPE LOCALITY.—Finca San Francisco, 27 km. northeast of Nebaj, El Quiché, Guatemala. Altitude, about 1175 m.

DIAGNOSIS.—A *Geophis* with 17 rows of heavily keeled dorsal scales on the body and tail, 6 supralabials, 120 abdominals, and 44 subcaudals. Slaty brown above; undersurfaces cream color, each abdominal scute with a dark brown anterior border. Distinguished from *G. nasalis* (Cope) as defined by Smith¹ by the presence of keels on all dorsal scales of the tail and from *G. sieboldii* (Jan) by this same character and by fewer abdominal scutes.

DESCRIPTION.—Head scutellation normal. A broad rostral plainly visible from above, 2 very small internasals followed by a much larger pair of prefrontals. The frontal is quadrangular, broader than long, shorter than its distance from the end of the snout, and the same length as the parietal suture. The parietals are large, and there is a very small supraocular on either side. Two nasals with the nostril between them, a long, narrow loreal, a single postocular, and a single temporal. Supralabials, 6, the third and fourth entering the orbit, the fifth in contact with the parietal. Infralabials, 6, the first pair in contact; 2 pairs of chin shields, the anterior pair larger than the posterior ones, which are separated posteriorly by an azygous scute. Dorsal scales in 17 rows throughout the length of the body, feebly keeled anteriorly, but very strongly keeled posteriorly on the body and on the tail. Abdominals, 120; subcaudals, 44; anal plate single. There are prominent tubercles

¹ Hobart M. Smith, "Notes on Mexican Species of the Genus *Geophis*," *Smithson. Misc. Coll.*, 99, 19, 3629 (1941): 4.

on the chin, and small tubercles on the dorsal scales of the anal region. Ten subequal maxillary teeth. Total length, 240 mm.; body length, 185 mm.; tail length, 55 mm.

Dorsally the body and head are slaty brown, and somewhat lighter laterally. The infralabials, chin, and throat are mottled with brown and white. The abdominal scutes are yellowish white, each with a distinct brown anterior border. The brown border increases in width posteriorly, occupies most of the scale on the anterior subcaudals, and completely obliterates all traces of light color on the posterior subcaudals.

RANGE.—Known only from the type locality, but possibly distributed over the Sierra de los Cuchumatanes of El Quiché and Huehuetenango, Guatemala.

RELATIONSHIPS.—The status of the various forms of *Geophis* is at present too confused to allocate definitely this new species, but Smith's recent comments² suggest relationships to both *nasalis* and *sieboldii*. These three species form a compact group in possessing 17 rows of dorsal scutes which are keeled in part at least, relatively short tails, a single anal, and a low number of abdominal scutes (less than 160). The three are, moreover, geographically very close. This new form differs from both the preceding in possessing more heavily carinated dorsals and appears to be closest to *nasalis*.

HABITS.—I collected *carinosus* on a trail in a *cafetal* at night. Other than this I know nothing of its habits. Diligent search in rubbish in adjacent *cafetales* the following day failed to reveal further specimens.

I had hoped to dedicate the following species to His Excellency, General Jorge Ubico, President of the Republic of Guatemala, in appreciation of the many courtesies which his government has extended to me during my investigations in that country. With his characteristic modesty, however, General Ubico suggested that I might better associate this species with

² *Ibid.*

its geographic locale, and, in accordance with his wishes, I name it

Adelphicos veraepacis, new species

HOLOTYPE.—An adult male, University of Michigan Museum of Zoology, No. 89073, collected April 21, 1938, by L. C. Stuart.

TYPE LOCALITY.—Cloud forest above Finca Samac, 7 km. west of Cobán, Alta Verapaz, Guatemala. Altitude, about 1500 m.

DIAGNOSIS.—An *Adelphicos* very similar to other forms of the genus, from which it differs in its very dark ventral pigmentation, its relatively long, narrow frontal plate, and the possession of a full complement of well-formed infralabials.

DESCRIPTION.—Head scutellation normal. A high, narrow rostral, 2 short internasals, 2 prefrontals which are $2\frac{1}{2}$ times as long as the internasals, a single frontal which is longer than its distance from the end of the snout, more than $1\frac{1}{2}$ times as long as broad, and considerably shorter than the two parietals; it is bordered laterally on either side by a normal supraocular. There are 2 nasals; the anterior one is small and contains the nostril, the posterior one barely touches the nostril and contains a conspicuous pit. The loreal is twice as long as high and enters the eye. Preoculars absent; postoculars, 2; temporals, 1 + 1. There are 7 supralabials, the third and fourth entering the eye, and 7 infralabials, the first pair in contact behind the symphyseal scute. A pair of large anterior chin shields is followed by a small pair of slightly differentiated ones. Dorsal scales smooth, without apical pits, in 15 longitudinal rows throughout the length of the body. Abdominals, 124; subcaudals, 40; anal divided. Maxillary teeth, 9, increasing in size posteriorly up to the last, which is smaller than the preceding one. Total length, 355; body length, 286; tail length, 69 mm.

The dorsal ground color is dark brown. The upper half of scale row 1, all of 2, and the lower half of 3 are very dark brown, producing a broad ventrolateral stripe. This is bor-

dered below by a broken light stripe owing to light fleckings in the center of each scale in scale row 1. Scale rows 5 and 6 contain darker flecks, which produce a faint dark stripe in that region, and the middorsal scale row is also slightly darker. The upper surface and sides of the head are very dark brown, the lower half of the supralabials and rostral are cream color with brown sutures. The ground color of the ventrum is cream. The chin and throat are flecked with dark brown. The anterior border of each abdominal scute is dark brown, and this border broadens toward the center to produce a broken, dark, mid-ventral stripe. This dark marking increases posteriorly until the tail, near its tip, is solid brown.

PARATYPES.—Three specimens, University of Michigan Museum of Zoology, Nos. 89074–76, from the vicinity of Finca Chichén in the pine zone about 10 km. south of Cobán are designated as paratypes.

RANGE.—This species appears to be restricted to the higher altitudes of the main mountain mass of the Alta Verapaz, Guatemala.

VARIATION.—Aside from sexual dimorphism in the ventral scutellation there appear to be no significant variations in the type series. The following is the ventral scutellation in the paratypes:

Number	Sex	Abdominals	Subcaudals
89074	♂	125	40
89075	♀	132	30
89076	♀	139	28

RELATIONSHIPS.—Hobart Smith informs me that he contemplates a monograph of this genus in the near future, so that it seems best to await his conclusions in allocating the phyletic relationships of this new species.

HABITS.—I am not certain whether *veraepacis* should be looked upon as a cloud forest or as a pine zone inhabitant.

Inasmuch as I have found it in both habitats, yet always at the common borders of the two, it is difficult to say which is its preferred habitat. It must, nevertheless, be regarded as an upland species, since specimens from the pine-savanna country at La Primavera in the gorge of the Río Negro (altitude about 1110 m.) prove to be the same as the species which inhabits the Caribbean lowlands of the Petén, British Honduras, and Honduras.

A female, No. 89075, captured on May 19, 1940, contained 6 eggs ready for laying; the other female taken on May 24, 1940, had obviously deposited her eggs very shortly before capture.

