

A NEW GECKO FROM THE SIERRA DE NEIBA OF HISPANIOLA (SQUAMATA: GEKKONIDAE: *SPHAERODACTYLUS*)

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ABSTRACT: We describe a new species of *Sphaerodactylus* from the xeric southern slopes of the Sierra de Neiba, Dominican Republic, on the north side of the Valle de Neiba. It is a large-scaled, sexually dichromatic species found so far only in dead agaves. The new species differs in several scale characters and coloration from its closest relative, *S. ladae*, in the Sierra Martín García.

Key words: Caribbean; West Indies; Dominican Republic; Reptile; Systematics

DURING a recent visit to the Dominican Republic, the junior author collected along the xeric southern slopes of the Sierra de Neiba, on the north side of the Valle de Neiba. About 1 km southwest of La Descubierta, a road heads up the slope to the west and northwest, eventually passing through Los Pinos, Angel Felix, Cacique Enriqueillo, and then paralleling the Haitian border until it becomes impassable for motorized vehicles in the remnant cloud forest of the Sierra de Neiba. This "Haitian border road" goes from sea level (La Descubierta) to 1900 m (crest of Sierra de Neiba) and passes through xeric lowland to mesic cloud forest habitats. Most of the natural vegetation along the road is gone, but the lower elevations (0–300 m) support a degraded xerophytic limestone vegetation consisting, primarily, of cactus, aca-cia, and agaves. After two visits and 4 h of collecting at a xeric locality 5.1 km NW of La Descubierta, a series of five specimens of *Sphaerodactylus* were collected from within and beneath dead agave rosettes. While apparently related to *S. ladae* (Thomas and Hedges, 1988), these geckos have a number of unique features and clearly represent an undescribed species for which we propose the name

Sphaerodactylus schuberti sp. nov.

Holotype.—United States National Museum (USNM) 512215, adult male (Fig. 1A), collected 5.1 km NW of La Descubierta, 273 m, Independencia Prov., Dominican Republic (18°34'13" N, 71°45'05"

W), by S. Blair Hedges on 30 May 1996; original field tag number 194497.

Paratypes.—USNM 512216 (male), 512217 (juvenile), same locality and day as holotype; 512218–219, males, same locality as holotype, 1 June 1996.

Diagnosis.—*Sphaerodactylus schuberti* is closest morphologically to *S. ladae* and shares with that species several unique features not found in other species of *Sphaerodactylus*: the distinctive, large mucronate dorsal scales, the tridentate head pattern, and a distinctive dorsal pattern of linearly arranged bicolor (dark brown and white or cream) spots (Thomas and Hedges, 1988). In addition, we compare *S. schuberti* with three other species with which it might be confused because of a general resemblance or similarity in certain characters.

Sphaerodactylus schuberti ($n = 5$) differs from *S. ladae* ($n = 14$) in having a broad, more swollen snout, which is reflected in the greater number of scales across the snout between the sutures of supralabials one and two (14–16 in *schuberti*; 10–13 in *ladae*); the dorsal head scales are likewise smaller in *S. ladae* (16–19 between the supraocular folds versus 11–16 in *S. ladae*; 41–44 dorsal interterritals, versus 35–39 in *S. ladae*). In contrast with the head scales, the body scales are larger in *S. schuberti*, reflected in the non-overlapping axilla to groin dorsal scale counts (16–18, $\bar{x} = 17.4$, versus 19–23, $\bar{x} = 20.7$ in *S. ladae*; midbody scales, 34–40, $\bar{x} = 37.4$ versus 35–43, $\bar{x} = 39.3$ in *S. ladae*).

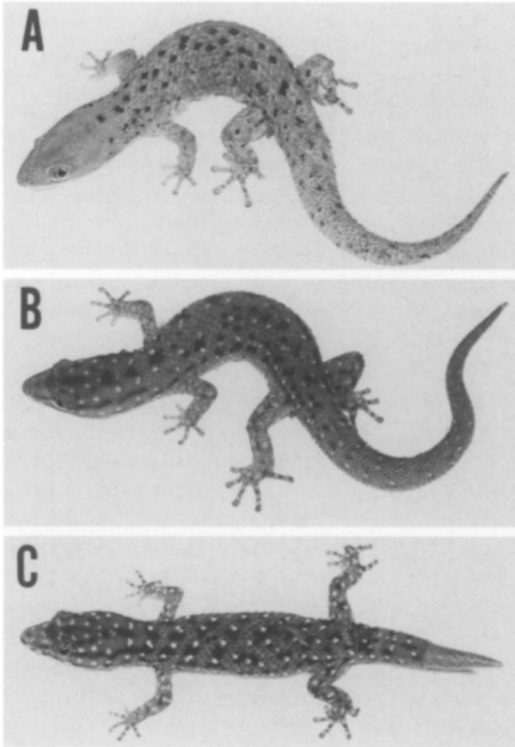


FIG. 1.—*Sphaerodactylus schuberti*, from 5.1 km N of La Descubierta, 273 m, Independencia Prov., Dominican Republic; (A) adult male, holotype (USNM 512215), (B) young adult male (USNM 512216), (C) juvenile (USNM 512217).

The spots of the dorsal body pattern of *S. schuberti* are more numerous and more regular (more uniformly distributed and more aligned) than is the spotting of *S. ladae*, in which the dark brown spots are larger and more like interrupted lines (Fig. 1B,C; Thomas and Hedges, 1988: their fig. 1). In *S. schuberti*, each pale spot is adjacent to a dark brown area. In adult males of *S. schuberti*, the pattern is not as well developed (elaborated) as in *S. ladae*, with the dorsal spotting being sparser and the head becoming unicolor pale yellow with maturity. The dark brown reticulum on the throats of juveniles and females of *S. ladae* is both fainter and finer than in *S. schuberti*.

Superficially, the large, spotted males of *S. schuberti* resemble *S. difficilis* (Schwartz, 1983; $n = 909$), but that species has more dorsal scales axilla–groin (22–40

versus 16–18 in *S. schuberti*), more ventral scales axilla–groin (23–37 versus 18–24), a trilineate (versus tridentate) head pattern, and usually a scapular patch and ocelli. *Sphaerodactylus rhabdotus* (Schwartz and Graham, 1980; $n = 27$) also has a higher number (20–28) of dorsal scales axilla–groin, more ventral scales axilla–groin (23–37), strongly elliptical pupils (versus round or nearly round), and a Y-shaped neck figure (versus tridentate central head figure in *S. schuberti*). *Sphaerodactylus plummeri* (Thomas and Hedges, 1992; $n = 8$) has a similarly low dorsal scale count (17–21) but is a smaller species (maximum SVL 22 mm versus 33 mm in *S. schuberti*) with fewer interlabial snout scales (7–10 versus 14–16 in *S. schuberti*), fewer toe pad bracket scales (two versus three), and a different pattern (sacral dark brown patch with ocelli).

Description.—A moderate-sized sphaerodactyl, reaching 33 mm snout–vent length (SVL). Rostral scale broad, rounded, with slight to moderately depressed plate, not sharply set off by rim, cleft proceeding to declivity of rostral; one internasal; two postnasals; labials 3/3 to mid-eye; snout scales keeled, subhexagonal, weakly imbricate, 14–16 scales across snout between the sutures of supralabials one and two, becoming narrower, more imbricate on head, 16–19 scales across frontal region between edges of supraocular folds, 41–44 scales between rictal folds counted dorsally across head; scales on occiput and neck becoming shorter and subhexagonal, enlarging abruptly at midneck and becoming essentially isomorphic with dorsal body scales; dorsal body scales large, flattened, strongly keeled, acutely angled and mucronate, 16–18 axilla–groin ($\bar{x} = 17.4$), with about six hair-bearing scale organs along distal edges; dorsal scales of tail narrow, acute, raised, strongly keeled, and imbricate. A large pair of postmentals, followed by about four rows of large, hexagonal, juxtaposed scales, grading into small, swollen, non-imbricate to imbricate, weakly to strongly keeled gular scales, enlarging abruptly at mid-neck and becoming essentially isomorphic with ventral scales; ventral scales flat, smooth,

rounded to acute, imbricate, axilla-groin 18–24 (\bar{x} = 21.4); scales around midbody 34–40 (\bar{x} = 37.4); ventral caudal scales larger than dorsal caudals, but acute, smooth, flat, and imbricate; ventral caudals slightly enlarged but with no distinctly enlarged median row. Escutcheons large, 7–8 scales long with short extensions onto thighs (11–17 scales wide; total escutcheon scales 53–76). Three unguis sheath scales bordering digital pads.

Coloration (in preservative).—In females and juveniles, there are dispersed pale spots on dorsum of head, body, and limbs, on a gray-brown ground color; head with dark brown dorsolateral postocular lines fading out on neck; trident central head figure present but faint, fading on neck; pale spots on neck and body (pink in life) roughly associated with larger dark brown spots or blotches (pale spots on body 1–2 scales in size; dark brown spots mostly 3–4 scales in size); lineate pattern on body evident in dark brown supra-axillary flank stripe (continuation of weak lower postocular stripe) extending along flank, and roughly linear arrangement of dark brown pigment on lower sides and venter; throat with prominent irregular, coarse reticulum, parts of reticulum faintly stippled with pigment and parts stippled with dark brown; no sacral pattern; tails of some individuals reddish in life. Adult males have less detail, with sparse, dark brown spotting on gray-brown ground color; males with less spotting than females, spotting on body reduced to about 20–30 single dark brown scales, more concentrated near midline and no pale spots; adult males essentially without head pattern (pale yellow dorsal surface of head in life).

Data on holotype (Fig. 1A).—An adult male, 33 mm SVL; tail regenerated, 28 mm; dorsal scales axilla-groin, 16; ventral scales axilla-groin, 21; scales around midbody, 34; internasals, 1/1; postnasals, 2/2; supralabials, 3/3; snout scales between supralabial sutures, 16; dorsal interribral scales, 43; escutcheon eight scales long by 17 wide (total escutcheon scales, 76).

Distribution.—Known only from the type-locality, although it presumably oc-

curs in adjacent areas along the xeric southern slopes of the Sierra de Neiba.

Etymology.—*Sphaerodactylus schuberti* is named for Andreas Schubert in honor of his efforts towards the conservation of biodiversity in the Dominican Republic.

Remarks.—Other species of reptiles collected at the type-locality were the lizards *Celestus stenurus*, *C. curtissi*, *Phyllodactylus wirshingi*, and the snake *Hypsirhynchus ferox*. All are characteristic of xeric habitats (Schwartz and Henderson, 1991). The habitat is similar to those in which *S. ladae* has been taken, which are xeric regions on the lower slopes of the Sierra Martín García. The latter is an isolated mountain range about 80 km to the southeast of the La Descubierta locality (Thomas and Hedges, 1988, and additional specimens reported in Appendix I). It is remarkable that *S. schuberti* was the only member of the genus found at the type-locality. It is usual to find at least two species of *Sphaerodactylus* in xeric habitats in southern Hispaniola, with one being a small species, such as *S. altavelensis* or *S. cryphius* (Schwartz and Henderson, 1991). *Sphaerodactylus altavelensis* is widespread in the Valle de Neiba and has been recorded from just east of La Descubierta. The range of *S. rhabdotus*, a moderate to large-sized xerophile, also extends into the area of the type-locality of *S. schuberti* (2.0 km E of La Descubierta: Schwartz and Graham, 1980).

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APPENDIX I

Specimens Examined

Sphaerodactylus ladae.—USNM 258723–728, paratypes (Dominican Republic: Barahona Prov.; 3.0 km by road east of Canoa, measured from junction with the Santo Domingo-Barahona highway); USNM 512248 (Dominican Republic: Azua Prov., 7.0 km N Manantiales, 152 m, central north slope of Sierra Martín García); USNM 512249–254 (Dominican Republic: Azua Prov., 2.2 km N Manantiales, 300 m, central north slope of Sierra Martín García).

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A NEW SPECIES OF *MABUYA* FITZINGER (REPTILIA: SQUAMATA: SCINCIDAE) FROM THE HIGH PLATEAU (ISALO NATIONAL PARK) OF SOUTH-CENTRAL MADAGASCAR

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ABSTRACT: We describe a new species of *Mabuya* from Isalo Reserve on the high plateau of south-central Madagascar. This new species, *M. nancykoutuae*, is the sixth named species of the *aureopunctata*-group of Madagascan mabuyas. It is most similar in appearance and habitat to *M. vato* with which it is narrowly allopatric. Both are rock-dwelling species of xeric habitats. *Mabuya nancykoutuae* differs from *M. vato* in having seven longitudinal rows of thin, broken, white lines dorsolaterally on the head and anterior body, rather than nine rows of white spots. The rows of white spots of *M. vato* extend further posteriorly than do the white lines of *M. nancykoutuae*. Additionally, the forelimbs of *M. vato* have white spots, whereas those of *M. nancykoutuae* lack white spots. *Mabuya nancykoutuae* is probably smaller than *M. vato*. Including the three species of the *elegans*-group of Madagascan mabuyas, there are now nine named species of *Mabuya* in Madagascar, and an additional five species remain to be described. Since last reviewed in 1983, the number of Madagascan species of *Mabuya* has grown from 6 to 14.

Key words: Reptilia; Squamata; Scincidae; Lygosominae; *Mabuya nancykoutuae*, new species; Taxonomy; Madagascar

BRYGOO (1981, 1983) concluded that the Madagascan herpetofauna includes six species of *Mabuya*, all of which are endemic. Nussbaum and Raxworthy (1994, 1995) described two new species of *Mabuya* and suggested that the Madagascan mabuyas can be divided into two informal

species groups which may not be monophyletic. The first of these, the *elegans*-group, includes three species (*M. elegans*, *M. gravenhorstii*, and *M. madagascariensis*) recognized by their trapezoidal subocular scale. The second, the *aureopunctata*-group, includes five species (*M. aureopunctata*, *M. betsileana*, *M. boettgeri*, *M. dumasi*, and *M. vato*), all with rectangular subocular scales. No new species of the *elegans*-group has been identified

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