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A New Subspecies of *Alsophis antiguae* (Serpentes: Colubridae) from Great Bird Island (Antigua), Lesser Antilles

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ABSTRACT. – A distinctive new subspecies of *Alsophis antiguae* is described from Great Bird Island, Antigua in the Lesser Antilles. It is characterized by reduced number of ventrals, ventrals + subcaudals, and a subtle, lineate pattern. *Alsophis a. antiguae* is extinct on Antigua; therefore Great Bird Island comprises the entire range of *A. antiguae* and it has an area of about 0.2 km^2.

Four species of the colubrid snake genus *Alsophis* occur in the Lesser Antilles; from north to south they are: *A. rijersmai* (Anguilla, St. Martin, St. Barthelemy), *A. rufiventris* (Saba, St. Eustatius, St. Christopher, Nevis), *A. antiguae* (Antigua, Great Bird Island), and *A. antillensis* (Montserrat, Guadeloupe and Marie-Galante, Terre-de-Haut and Terre-de-Bas in the Iles des Saintes, and Dominica). All are long-recognized taxa at the species level with the exception of *A. antiguae* which was originally described as a subspecies of *A. leucomelas (=A. antillensis)* by Parker (1933). When more material become available, Parker (1936), primarily on the basis of the narrow frontal and low number of subcaudal scales, elevated the taxon to species status. It remained so for 30 years when, without discussion, Schwartz (1966) again relegated *A. antiguae* to a subspecies of *A. antillensis.* Schwartz and Henderson (1990), on examination of long series of Lesser Antillean *Alsophis,* have again elevated the taxon *antiguae* to species level. (See Schwartz and Henderson [1988:202] for a brief discussion of the status of *Herpetodryas punctifer* from Antigua.)

Alsophis has not been collected on Antigua in over 90 years, and it is undoubtedly extirpated from that island, presumably due to the mongoose introduction. It was believed that *A. antiguae* was extinct, but in the mid-1960's three specimens were collected on Great Bird Island, an islet of 0.2 km^2 lying 2.5 km off the northeastern coast of Antigua. No additional individuals were collected despite efforts to do so in 1980 (Pregill et al., 1988). A visit to Great Bird Island on 17 November 1987 resulted in the collection of a single specimen of *Alsophis,* and the distinctive Great Bird population is here described as a new subspecies of *A. antiguae.*

Alsophis antiguae sajdaki subsp. nov.
(Figs. 1,2)

Holotype. — KU 211059; an adult female, collected on Great Bird Island, St. George Parish, Antigua, on 11 August 1965, by Richard Thomas; original field number ASFS V6789.

Paratypes. — Three specimens, all from Great Bird Island: MCZ 125498, a male, 1968, by J. Boos; MCZ 127620, a male, 21 February 1966, by J. D. Lazell, Jr.; MPM 23456, a female, collected 17 November 1987, by Richard A. Sajdak.

Definition. — Alsophis antiguae sajdaki is characterized by reduced number of ventrals ($\bar{x}$ in males = 186, $\bar{x}$ in females = 186), and ventrals + subcaudals (303 in one male); it has a subtle, lineate pattern (overall impression is of a taupe or gray-colored snake with little discernible pattern), without a sharply defined pattern of contrasting colors (Fig. 1).

Description of Holotype. —SVL 620 mm, total length 857 mm; dorsal scale rows at midbody 19; loreals 1/1; preoculars 2/2; postoculars 2/2 (parietal in contact with lower postocular); temporals 1 + 2/1 + 2; supralabials 8/9; infralabials 10/11; frontal length/breadth ratio 1.9; ventrals 187; subcaudals 102+; ventrals + subcaudals 289; dorsal ground color (description in part from field notes of Richard Thomas) taupe

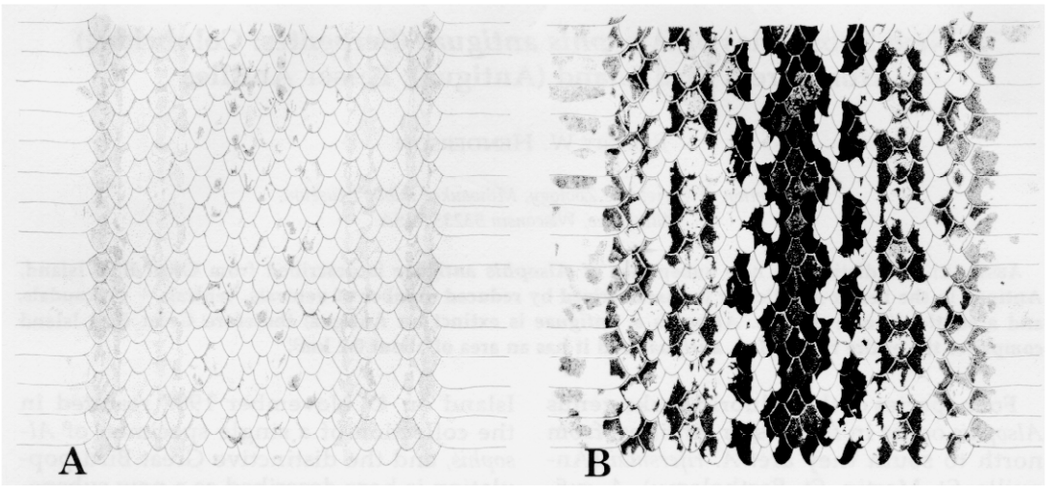

FIG. 1. Middorsal patterns for *Alsophis antiguae.* A. *Alsophis a. sajdaki,* holotype, KU 211059, from Great Bird Island, Antigua; B. *Alsophis a. antiguae,* AMNH 2832, male, from Antigua.

with middorsal orange suffusion; middorsal area with irregular dark flecks, giving impression of small, irregular, suffused blotches; darker (but not strong) lateral stripe on scale rows 1-2, barely encompassing lateral edges of ventrals; top of head cocoa-brown with dark brown flecks; supralabials yellow-brown, heavily flecked with red-brown; venter pale yellow, becoming more orange posteriorly (dirty white preserved), lightly flecked and mottled with pale brown.

Variation.— In the type series (4 specimens 2 males, 2 females) SVL range is 524-620 mm; middorsal scale rows 19; loreals 1 /1; preoculars 2/2; postoculars 2/2 (parietal always in contact with lower postocular.); temporals 1 + 2/1 + 2; supralabials 8/8-9; infralabials 9-10/10-11; frontal length/breadth ratio 1.8-2.1; ventrals 186 in both males, 185-187 in females; subcaudals 116-117 in males, 102+ in one female; ventrals + subcaudals 303 in one male, 289 in one female; the holotype and MPM 23456 (female paratype) (Fig. 2) agree closely in details of color and pattern; the two males are darker than the females: overall impression of MCZ 127620 in preservative is of much darker snake flecked with dark brown and white-yellow, it has small brown middorsal blotches formed by localized flecking, separated by areas of chocolate-brown and pale yellow-white, the pale lateral stripe is flecked with brown; in life, Lazell (1967) decribed it as a brown snake, venter pale gray-brown with matte-orange admixed, vague but clearly delimited lateral dark gray-brown stripes, middorsal stripe chestnut-brown (broken anteriorly by dark, then dark and light, somewhat transversely oriented spots), anterior and sides of body stippled chocolate-brown, iris dark brown below, red above (see Lazell, 1967:Fig. 2); MCZ 125498 is very dark, anterior middorsal area of poorly defined pinkish white blotches, laterally dark gray, top of head mottled in dark shades of brown, venter dirty white to pale pink-orange and heavily flecked and stippled with dark brown.

Comparisons.—Alsophis a. sajdaki needs only to be compared with the nominate subspecies. Ventral and subcaudal counts for *A. a. antiguae* combine counts taken by me with counts published by Parker (1936); combined I have data on 13 males and six females, The new subspecies has the lowest number of ventrals of any *Alsophis* in the Lesser Antilles, including *A. a. antiguae:* mean for male *sajdaki* is 186 vs. 198.3 (195-201) in *antiguae,* 186 vs. 198.2 (195-201) in females; ventrals + subcaudals 303 in male *sajdaki vs. 321.1 (312-327)* in male *antiguue,* Unlike the new subspecies (Fig. la), the nominate subspecies has a sharply defined pattern of contrasting colors (Fig. lb) dor-

Fig 2. *Alsophis a. sajdaki,* female paratype, MPM 23456 (photograph by R. W. Henderson)

sal ground color beige to taupe; middorsal pattern may be of discrete, amorphous, black-outlined brown blotches, or they may be connected, creating a zig-zag pattern; posterior to midbody, the blotches or zig-zags fuse to form a broad middorsal stripe; a lineate pattern of dark brown, narrowly elongate blotches lies lateral to the middorsal pattern; in some specimens, contact between lateral stripe and middorsal blotches creates a "ladder" pattern; a chocolate brown postocular stripe extends onto body as a lateral strip, eventually deteriorating into a series of small oblong blotches.

As suggested by others (Parker, 1936; Pregill et al., 1988), on the basis of scale and osteological characters, Antigua Bank *Alsophis* appear to be more closely affiliated with *A. rijersmai* (Anguilla Bank) and *A. rufiventris* (St. Christopher Bank) than to *A. antillensis.* Color and pattern (and possibly sexual dichromatism) as well can be added as factors suggesting affinities among the more northern taxa.

Etymology.— Named for Richard A. Sajdak, in fond remembrance of adventures shared in the pursuit of *Alsophis* on many West Indian islands.

Habitat and Distribution,—Alsophis antiguae sajdaki is known only from Great Bird Island off of the northeastern coast of Antigua, Lesser Antilles. The island is almost T-shaped; the north-south extent is about 0.6 km, east-west about 0.5 km, and it has an area of about 0.2 km^2; the highest point on the island (near the north end) is about 25 m above sea level. According to Lazell (1967), Great Bird Island is mostly composed of dry, random, oceanic honeycomb limestone. The island has a central grassy area several feet above sea level, with two areas of greater elevation on either side of the grassy central area. One elevated area

is covered with low thorny vegetation and has a rocky substrate; the other side is covered with dense bushes, *Agave,* and small trees (tallest vegetation about 6 m). Cacti *(Opuntia)* grow over the entire island. MPM 23456 was collected at about 1400 h as it crawled through the grass of the central area near bushes and a rock-strewn hillside.

Discussion. — The West Indian colubrid snake fauna in general, and that occurring in the Lesser Antilles in particular, has suffered extinction and extirpation, severe range reductions, and/or a decline in population densities correlated with the introduction of the mongoose. According to Barbour (1916), quoting Dr. D. W. Griswold of Antigua, 1000 mongooses *(Herpestes auropunctatus)* were imported and released on Antigua around 1895 to control rats that were causing damage to the sugar cane crop. By 1916, the local government was paying a bounty of "tu'pence" for males and four pence for females because "The mongoose has driven the rats from the cane fields, exterminated the 'guanas' and snakes, and is now doing its best to do the same with the chickens." Unlike some Lesser Antillean snake species which seem to co-exist with the mongoose (Henderson et al., 1988), the small to medium size (<1 m snout–vent length) species of *Alsophis* and *Liophis* seem especially susceptible to this adaptable predator. Lesser Antillean members of these genera are diurnal, generally found on the ground, are primarily frog and lizard predators, and are oviparous (Henderson and Crother, 1989). *Alsophis a. antiguae* is extinct, and the total range of *A. a. sajdaki* (and therefore for *A. antiguae)* is 0.2 km^2. Although Great Bird Island is supposed to be protected as a nature reserve, it is routinely used by humans for recreational purposes.

Specimens Examined. — ANTIGUA: AMNH 1968, AMNH 2832, BMNH 55.12.26, MCZ 42361-62, MCZ 42181.

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