

Catalogue of American Amphibians and Reptiles.

Powell, R. and A.M. Bauer. 2012. *Sphaerodactylus sputator*.

***Sphaerodactylus sputator* (Sparrman)**
Leeward Banded Sphaero, Island Dwarf Gecko

Lacerta sputator Sparrman 1784:164, pl. IV, figs. 1–2.

Type locality, “S. Eustache” [= St. Eustatius]. Lectotype, Natur-Museum Riksmuseet, Stockholm (NHRS) 2669 (designated by King 1962), an adult female, collected by Dr. Acrelius in 1755 (not examined by authors).

Sphaerodactylus Sputator [part]: Gray 1831:52.

Sphaerodactylus sputator [part]: Gray 1845:168. First use of present combination.

Sphaerodactylus pictus Garman 1888:20. Type locality, “St. Christopher.” Syntypes, Museum of Comparative Zoology, MCZ-R-6071 and MCZ-R-166719, adults of undetermined sex, and MCZ-R-166720, a juvenile, collected by S. Garman, probably in 1879 (not examined by authors).

• **CONTENT.** No subspecies are recognized.

• **DEFINITION.** *Sphaerodactylus sputator* is a moderately sized dwarf gecko, with a maximum SVL of 35 mm in males and 39 mm in females (Schwartz and Henderson 1991). Keeled to moderately imbricate dorsal scales number 31–39 from axilla to groin. Round, smooth ventrals number 27–34 from axilla to groin. Midbody scale rows number 49–62. Round, imbricate subcaudals are enlarged midventrally. Snout scales are flat and smooth and consist of 2 postnasals, 1–2 (usually 2) internasals, and 3–4 (usually 3) upper labials. Gular scales are smooth. The escutcheon is 3–6 scales long and 26–30 scales wide.

Dorsal ground color ranges from pale tan to sandy buff in individuals on St.-Martin/Sint Maarten, purplish tan on St.-Barthélemy and St. Eustatius, and pale pink on Anguilla. Ventral ground color varies from pearly on St.-Martin/Sint Maarten, creamy white on Anguilla, and pinkish on St. Eustatius. A pattern of 5–8 crossbands usually is evident between the head and groin, with colors varying from brown-edged, buffy, cream, to dull white. Crossbands continue onto the tail, where they usually are more obscure. Tail coloration ranges from iris bronze or pale yellow to orangish on St.-Martin/Sint Maarten and St.-Barthélemy, golden on Anguilla, and golden orange on St. Eustatius. These lizards have yellow canthal lines, pale yellow throats, and occasionally may sport a slight greenish cast over the entire body.

• **DIAGNOSIS.** *Sphaerodactylus sputator* may be distinguished from other Lesser Antillean congeners by having a middorsal area composed of granules that lack knob-like scale organs and have only hair-bearing scale organs (King 1962) and in having smooth gular and ventral scales (Schwartz and Henderson 1985).



FIGURE 1. Adult *Sphaerodactylus sputator* from Gilboa Hill, Quill-Boven National Park, St. Eustatius (photograph by RP).

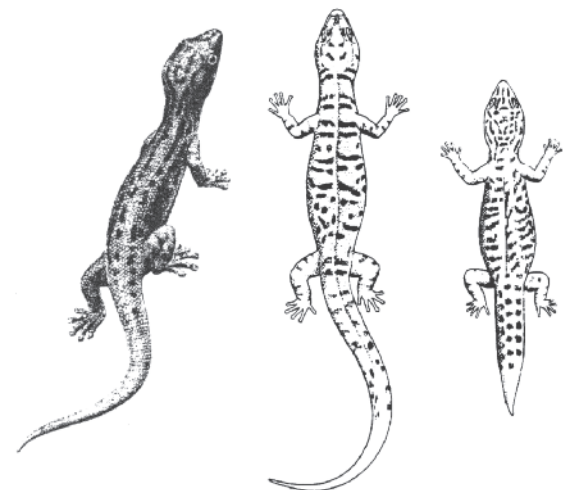
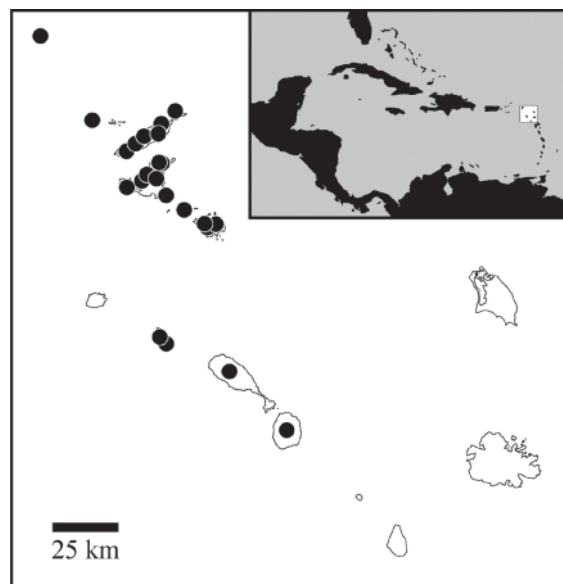


FIGURE 2. Holotype of *Sphaerodactylus pictus* and two syntypes of *S. sputator* (from Barbour 1921).



MAP. Distribution of *Sphaerodactylus sputator*; the circle represents the type locality, other localities are marked with dots (modified from Schwartz and Henderson 1991 and Breuil 2002). Note that the locality on Sombrero might not pertain to this species (see **Distribution**).

• **DESCRIPTIONS.** In addition to the original descriptions of Sparrman (1784) and Garman (1888),

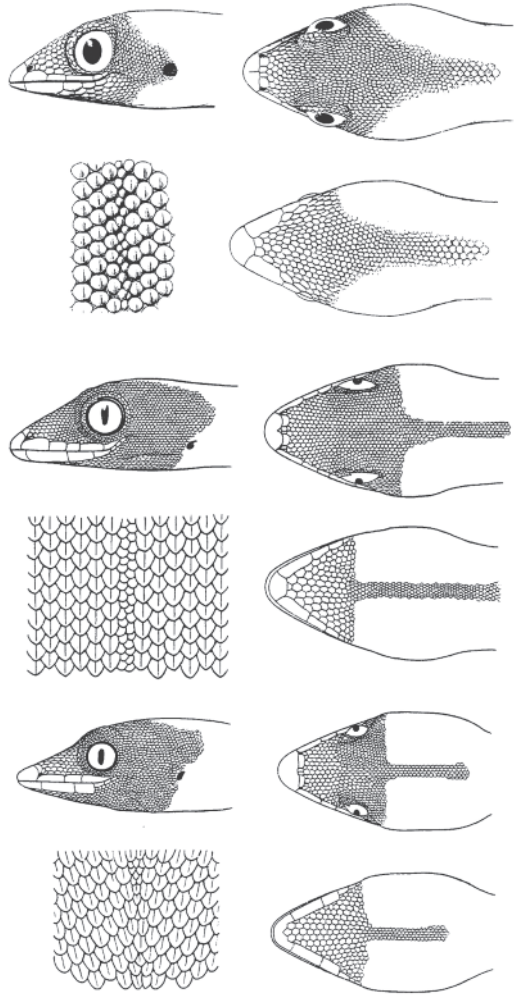


FIGURE 3. Heads and middorsal scales of the holotype of *Sphaerodactylus pictus* and two syntypes of *S. sputator* (from Barbour 1921).

detailed descriptions of the species are in Schneider (1792, 1797), Daudin (1802), Barbour (1921), King (1962), Schwartz and Henderson (1991), and Malhotra and Thorpe (1999).

• **ILLUSTRATIONS.** Sparrman (1784) provided line drawings of an adult, a juvenile, and an egg (reproduced in Wahlgren 1999). Most 19th-century illustrations purportedly of *S. sputator* are not actually referable to the species (see **Remarks**). Barbour (1921) included line drawings of dorsal views of the holotype of *S. pictus* and two syntypes of *S. sputator* along with illustrations of dorsal, lateral, and ventral views of the head and dorsal scales of the same specimens. King (1960) provided line drawings depicting various trunk markings of *S. sputator* from St. Eustatius, St.-Martin/Sint Maarten, and St. Christopher. King (1962) included line drawings of dorsal patterns (reproduced in Breuil 2002). Lazell (1967) supplied line drawings of the dorsal view of the body, under physiologically controlled color changes. Color photographs are in Malhotra and Thorpe (1999), Breuil (2002, 2004), Hodge et al. (2003, including an individual from Sombrero; see **Distribution**), Powell et al. (2005), Wissmann et al. (2005), Wright (2011, individuals from Sombrero), and Yokoyama (2010, adult and juvenile).

• **DISTRIBUTION.** *Sphaerodactylus sputator* is widely distributed in various habitats across the Sombrero, Anguilla, and St. Christopher (Kitts) banks. The species has been recorded from Sombrero, Anguilla, St.-Martin/Sint Maarten, St.-Barthélemy, Île Fourchue, St. Eustatius, St. Christopher, Nevis, and various satellites of the major islands.

Lazell (1964) suggested that the population on Sombrero might be distinct, and referred to it as *Sphaerodactylus* "near" *sputator*. Hodge et al. (2003,



FIGURE 4. Variation in dorsal patterns of *Sphaerodactylus sputator* (from King 1960), the fourth and fifth specimens are cotypes of *S. pictus* (Museum of Comparative Zoology, Harvard University).

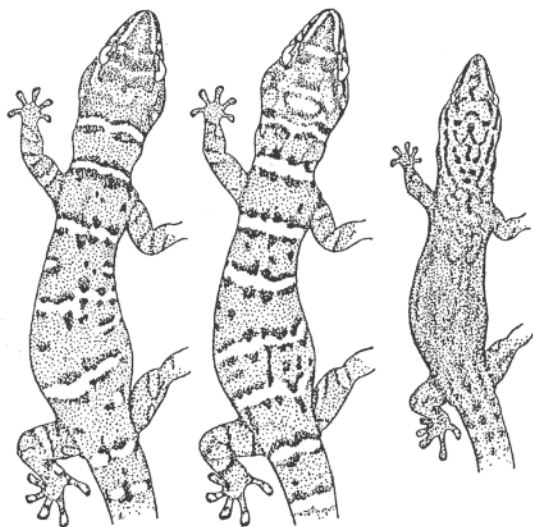


FIGURE 5. Syntypes of *Sphaerodactylus sputator* (from King 1962), the middle specimen was designated the lectotype by King (1962). Used with permission of the Florida Museum of Natural History.

2011) also indicated that the Sombrero animals might be a taxon distinct from those on the Anguilla and St. Christopher banks.

The range was previously illustrated in Schwartz and Henderson (1991) and Breuil (2002).

A record of *S. sputator* from Mexico (Cope 1865) was based on a misidentification or erroneous geographic data (Harris and Kluge 1984).

- **FOSSIL RECORD.** None are confirmed; however, Pregill et al. (1994) reported *Sphaerodactylus* sp. fossils from Center Cave, Anguilla, but were unable to assign these to species.

- **PERTINENT LITERATURE.** Barbour (1914) dis-

cussed the confusion of localities for *S. sputator*, and the need for comparison with a topotype before identification can be reasonably ascertained. Barbour (1921) provided a discussion about the uncertain distribution of *S. sputator*, and the apparent controversy surrounding the placement of the name. King (1960) discussed the differentiation of *S. sputator* from *S. pictus*, and King (1962) provided a diagnosis. Lazell (1967) described color changes when an animal is caught and/or preserved. Brygoo (1990) discussed the confusing taxonomic history of *S. sputator*. Hass (1991) placed *S. sputator* in a series of its own based on starch gel electrophoresis and microcomplement fixation and discussed its biogeographic history. Hass (1996) discussed sequencing of the mitochondrial 16s ribosomal RNA gene, which was used to examine phylogenetic relationships. Censky and Kaiser (1999) described the mistaken dichromatism of *S. sputator* to be that of two separate species, *S. sputator* and *S. sabanus*. Howard et al. (2001) compared numbers and activity with those of other edificarian geckos on Anguilla. Nava et al. (2001b) described microhabitat and activity and compared these to those of *S. parvus* on Anguilla. Hensley et al. (2004) compared habitats preferences and abundance with those of *S. sabanus* on St. Eustatius. Social behavior was compared to that of *S. sabanus* by Wissmann et al. (2005). Savit et al. (2005) noted that these geckos are prey of *Alsophis rufiventris*. Hensley and Powell (2006) distinguished *S. sputator* from *S. sabanus*.

The species is included in checklists, distributional notes, general works (topic indicated in parentheses), guides, and keys by Andersson (1900), Barbour (1914, 1917, 1923, 1930, 1935, 1937), Barbour and Loveridge (1929), Biknevičius et al. (1993), Boulenger (1885), Breuil (2002, 2004), Collier and Brown (2002), Cox et al. (2003, sexual size dimorphism), Currat (1980), Duméril and Bibron (1836), Dunn (1934), Fitzinger (1843), Gmelin (1789), Gray (1831, 1845), Henderson and Breuil (2012), Henderson and

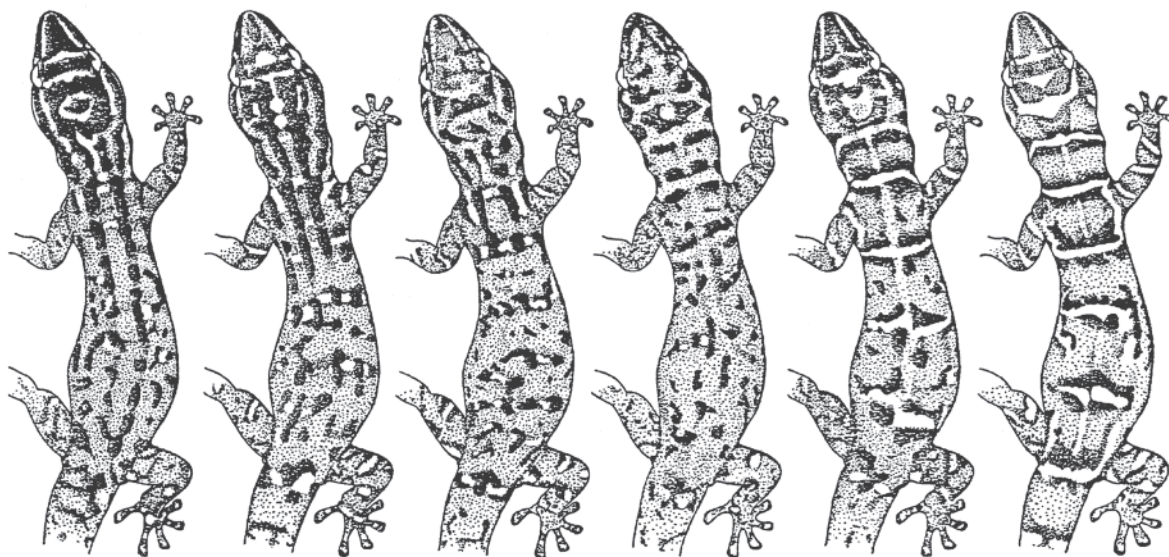


FIGURE 6. Variation in markings of adult *Sphaerodactylus sputator* (from King 1962). Used with permission of the Florida Museum of Natural History.

Powell (2009, natural history), Henkel and Schmidt (2003), Hodge et al. (2003, 2011), Kluge (1991, 1993; 1995, cladistic relationships; 2001), Lacépède (1789), MacLean et al. (1977), Merrem (1820), Meyer (1795), Nava (2006, nocturnal activity), Nava et al. (2001a), Ogden et al. (1985), Oken (1836), Perry et al. (2008, night light niche), Powell (2006, 2011), Powell et al. (1996, 2005), Pregill et al. (1994), Procter and Fleming (1999), Rojer (1997a–b), Rösler (1995, 2000), Schneider (1812), Schwartz (1978, multi-island distribution), Schwartz and Henderson (1985; 1988; 1991, natural history), Schwartz and Thomas (1975), Shaw (1802), Smith and David (1999), Sonnini and Latreille (1802), Thorpe et al. (2008, outgroup in systematic study of *S. fantasticus*), Tilesius von Tilenau (1821), Underwood (1962), Vanzolini (1969), Wagler (1830), and Wiegmann (1834).

• **REMARKS.** Fitzinger (1843) designated “*Sphaer. sputator* Cuv.” as the type of the genus *Sphaerodactylus*. Wagler 1830, although Cuvier did not describe the species and Wagler (1830) did not include an available version of the name among the nominal species in the genus when it was erected. Smith and Taylor (1950) likewise considered *S. sputator* Cuvier as the genotype. On this basis, Wermuth (1965) and Peters and Donoso-Barros (1970) also considered *S. sputator* as the type species, although these authors correctly credited Sparrman (1784) with authorship of the epithet.

King (1962) noted that “poor descriptions, resulting in the misapplication of names, ... has confused the taxonomy of the lizard genus *Sphaerodactylus* in the Lesser Antilles.” Barbour (1914) noted a number of examples in which the name *S. sputator* was applied erroneously by Duméril and Bibron (1836), Reinhardt and Lütken (1862), and Boulenger (1885) to specimens that either belonged to other species or the origin of which was incorrect.

Lacépède (1788) described and figured specimens of *Sphaerodactylus* from Santo Domingo, Dominican Republic in his account of “Le Sputateur.” As his account was more accessible and widely circulated than Sparrman’s (1784) original description, many subsequent workers were influenced by it and many pre-20th-century works use the name *S. sputator* or “le sputateur” solely in reference to one or more species of Greater Antillean *Sphaerodactylus* (e.g., Cuvier 1817 [1816], 1829, 1836; Griffith and Pidgeon 1831; Schinz 1833; Lichtenstein and von Martens 1856). Consequently, most 19th-century illustrations are not actually referable to *S. sputator*.

Wiegmann (1834) incorrectly credited the name to Daudin (1802), whereas Duméril and Bibron (1836), although listing Sparrman’s usage in their synonymy, credited the name to Cuvier (1829). Cope (1861) likewise incorrectly attributed the name to Cuvier and used it to refer to Cuban *Sphaerodactylus*. Although most 19th-century references to *S. sputator* apply to geckos from Cuba or Hispaniola, those citing Sparrman’s original description must be considered to refer, in part, to true *S. sputator*.

• **ETYMOLOGY.** The specific name, *sputator*, is from the Latin *sputum* (= spit) and *ater* (= black), presumably in the mistaken belief that these lizards spit a black saliva as a defense against predators (Hodge et al. 2003).

• **ACKNOWLEDGEMENTS.** John S. Parmerlee, Jr. prepared the map. José Rosado of the Museum of Comparative Zoology at Harvard University examined the syntypes of *Sphaerodactylus pictus*.

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