

## Catalogue of American Amphibians and Reptiles.

SCHWARTZ, ALBERT. 1973. *Sphaerodactylus*.*Sphaerodactylus* Wagler  
Dwarf geckos

*Sphaerodactylus* Wagler, 1830:143. Type-species *Lacerta sputator* Sparrman, 1784, by monotypy.  
*Sphaerodactylus* Gray, 1831:52. Substitute name for *Sphaerodactylus* Wagler, 1830.

• CONTENT. Wermuth (1965) considered 61 species as valid, but several species have since been named, and others in his list are either invalid or now recognized as subspecies. Sixty-seven species are listed here, of which 64 are extralimital.

• DEFINITION. Small, often sexually dichromatic gekkonid lizards with snout-vent lengths 40 mm. or less. Males have a patch of enlarged preanal scales (escutcheon), but preanal and femoral pores are absent. Dorsal scales are tiny and granular to large, tectiform and imbricate, with knob-like or "hair-bearing" sensory structures. Some large-scaled species also have a mid-dorsal area of granular scales. The ventral scales are rounded, and either smooth or keeled. Head and snout are covered with small smooth or keeled scales (except in *S. elasmorhynchus*). The dorsal caudal scales are keeled, and ventral caudal scales smooth, with the median ventral row enlarged in some species. The unguis sheath is disc-like and strongly asymmetrical, with a lateral slit for the claw. The inferolateral scales are well developed, and one of the superolateral scales is fused with the terminal. The digits are narrow, straight, and free. There is a horny spine in the superciliary fold, eyelids are absent, and the pupil is round to elliptical.

Vertebrae are procoelous and the clavicles are dilated and perforate. The premaxilla and frontal are single; nasals and parietals are paired. Supratemporal, angular, and splenial are absent, but squamosals are present. The hyoid cornu are relatively large, and an inner proximal ceratohyal projection is present. The second branchial arch is complete, but interrupted between basibranchial and epibranchial. The ceratobranchial and epibranchial approach each other closely. There are 13 to 15 scleral ossicles, and calcified endolymphatic sacs are present. There are no postcloacal sacs or bones.

The color pattern is variable and frequently sexually dimorphic. Males often have a salt-and-pepper pattern (dark dots, spots, or scales on a lighter background), and may lack the lineate head pattern characteristic of females. The general ground color is some shade of brown or gray, with a pattern of dark transverse bands between the limbs and on the head and neck. A dark scapular patch with paired pale ocelli is prominent in many species. The underside of the tail is often coral red to orange. Juveniles show the female pattern in intense form, and in some species (*S. cinereus*) a striking chromatic metamorphosis occurs at maturity. "Super adults," especially very large males, may exhibit additional pattern and color changes.

Both left and right ovaries and oviducts are present and functional, but ovulation is alternate and only one egg is laid at a time. Lizards of the genus *Sphaerodactylus* lack a voice.

• DESCRIPTIONS AND ILLUSTRATIONS. Barbour (1921) provided the only generic revision, with descriptions of all species then known. Barbour illustrated many species, with the animals attractively posed in life-like positions, and also gave numerous detailed drawings of scutellation. Briefer generic descriptions, usually accompanied by illustrations, are in Boulenger (1885), Cope (1900), Noble (1921), and Smith (1946). For references to descriptions and illustrations of individual species see Pertinent Literature and the species accounts in this catalogue.

• DISTRIBUTION. Mainland Florida from Broward County south to Dade and Monroe counties, and the Florida Keys to Key West and Dry Tortugas (Carr, 1940; Duellman and Schwartz, 1958); the Bahama Islands and both Greater and Lesser Antilles, and many small and isolated islands (unrecorded from most of the islands on the Caicos Bank and from Isla Beata off the southern coast of the República Dominicana, and apparently truly absent from Barbados, the Grenadines, and Grenada in the extreme southern Lesser Antilles); South America from Guyana through coastal Venezuela, including Trinidad and Tobago, to Colombia and northwestern Ecuador, and Isla Gorgona; northward throughout Central America to

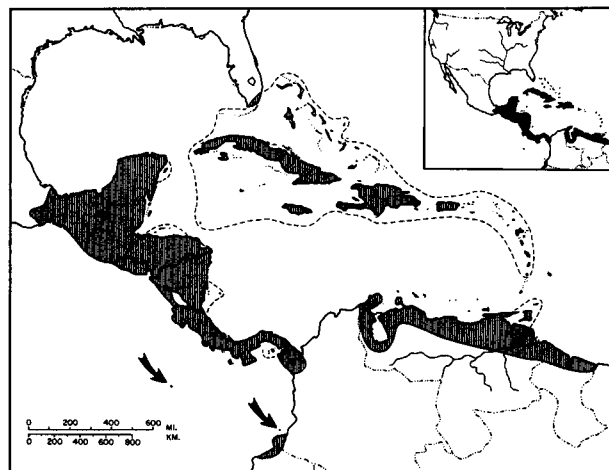
the Isthmus of Tehuantepec (Oaxaca and Veracruz, Mexico); Little Swan Island and Isla San Andrés in the western Caribbean; the Morant Cays south of Jamaica; Isla del Coco in the Pacific Ocean; the Islas de la Bahía, Isla Cozumel, and the Corn Islands off the Caribbean coast of Central America.

• FOSSIL RECORD. None (see Etheridge, 1966).

• PERTINENT LITERATURE. Five recent papers (Underwood, 1954, 1955; Kluge, 1967; Vanzolini, 1968a, 1968b) give various interpretations of interfamily relationships and summarize characteristics of the Sphaerodactylinae (considered by Underwood as a separate family, Sphaerodactylidae) and of the included genera (*Coleodactylus*, *Gonatodes*, *Lepidoblepharis*, *Pseudogonatodes*, and *Sphaerodactylus*). Kluge (1967) presented a thorough treatment of characteristics, and proposed both phylogenetic and zoogeographic schemata. Barbour's (1921) generic revision is out-dated due to changed concepts, new taxa proposed, and rearrangement of older taxa. For Antillean species the classical works of Stejneger (1904) and Schmidt (1928) on Puerto Rico, of Barbour and Ramsden (1919) on Cuba, of Grant (1941a) on Jamaica and on the Cayman Islands (Grant, 1941b), and of Cochran (1941) on Hispaniola have been superseded by more recent works treating either individual species or entire sphaerodactyl faunas. The Bahamian forms were treated by Schwartz (1966, 1967), Thomas and Schwartz (1966a), and Thomas (1968). Recent reviews of Greater Antillean sphaerodactyls include those of Thomas and Schwartz (1966b) on Puerto Rico and the Virgin Islands, Schwartz (1961) on the Cuban *scaber* complex, Thomas and Schwartz (1966a) on Cuban *S. decoratus*, and Shreve (1968) on Hispaniolan *S. "notatus"*. The Lesser Antillean species were monographed by King (1962), but additional species reviews have been published by Schwartz (1965, *S. vincenti*) and Thomas (1965, *S. fantasticus*). South American species were reviewed by Vanzolini (1968a, 1968b), with additional data on Colombian forms by Mechler (1968), and on the Ecuadorian species by Peters (1967). The Central American taxa are the least known, and there has been no review of the entire assemblage of species. Smith and Taylor (1950) reported two species from Mexico, and Smith and MacDougall (1954) added a third. Grant (1959) discussed *Sphaerodactylus* from Panama, and Taylor (1956) reviewed Costa Rican species. Peters and Donoso-Barros (1970) recognized 11 species in the Neotropics, excluding the Antilles, and provided a key. For other pertinent literature consult the individual species accounts in this catalogue.

• ETYMOLOGY. From the Greek *sphaira* (a ball) or *sphairion* (a little ball), and *dactylos* (finger), apparently in allusion to the more or less circular digital tips; the gender is masculine.

• KEY TO THE SPECIES. Construction of a key to all species of *Sphaerodactylus* is, at this time, impractical. The status and relationships of many nominal taxa are unclear, and the results



MAP. The range of the genus *Sphaerodactylus* is shaded on major land masses; broken lines include distributional ranges on small islands.

of research currently in progress would soon make the key obsolete. The following list includes all species currently regarded as valid, with their authors and dates of description, arranged alphabetically in nine geographic groupings. If a species occurs, in addition, outside its major geographic region this is noted in parentheses after the entry. A key to the three United States species follows the list.

Bahama Islands (including Turks and Caicos islands): *caicosensis* Cochran, 1934; *corticola* Garman, 1888; *decoratus* Garman, 1888 (Cuba); *inaguae* Noble and Klingel, 1932; *mariguanae* Cochran, 1934; *notatus* Baird, 1858 (North America, Cuba, Isla de Pinos, Little Swan Island; Great Inagua and Morant Cays introduced).

Cuba (including Isla de Pinos): *alayoii* Grant, 1959; *cinereus* Wagler, 1830 (Hispaniola; North America introduced); *intermedius* Barbour and Ramsden, 1919; *oliveri* Grant, 1944; *ramsdeni* Ruibal, 1959; *ruibali* Grant, 1959; *scaber* Barbour and Ramsden, 1919; *torrei* Barbour, 1914.

Hispaniola (including Hispaniolan satellite islands and Navassa Island): *altavelensis* Noble and Hassler, 1933; *armstrongi* Noble and Hassler, 1933; *becki* Schmidt, 1919; *brevirostratus* Shreve, 1968; *clenchi* Shreve, 1968; *cochranae* Ruibal, 1946; *copei* Steindachner, 1869 (Bahamas introduced); *darlingtoni* Shreve, 1968; *difficilis* Barbour, 1914; *elasmorhynchus* Thomas, 1966; *lazelli* Shreve, 1968; *noblei* Shreve, 1968; *rhabdotus* Schwartz, 1970; *samanensis* Cochran, 1932; *savagei* Shreve, 1968; *shrevei* Lazell, 1961; *stejnegeri* Cochran, 1931.

Jamaica: *argus* Gosse, 1850 (Isla San Andrés, Corn Islands; Bahamas and North America introduced); *goniorhynchus* Cope, 1895; *oxyrhinus* Gosse, 1850; *parkeri* Grant, 1939; *richardsoni* Gray, 1845.

Cayman Islands: *argivus* Garman, 1888; *bartschi* Cochran, 1934; *lewisi* Grant, 1941.

Puerto Rico (including Isla Mona, Isla Desecheo, and the Virgin Islands): *beattyi* Grant, 1937; *gaigeae* Grant, 1932; *klauberi* Grant, 1931; *levinsi* Heatwole, 1968; *macrolepis* Günther, 1859 (northern Lesser Antilles); *monensis* Meerwarth, 1901; *nicholsi* Grant, 1931; *parthenopion* Thomas, 1965; *roosevelti* Grant, 1931.

Lesser Antilles: *elegantulus* Barbour, 1917; *fantasticus* Duméril and Bibron, 1836; *microlepis* Reinhardt and Lütken, 1862; *sabanus* Cochran, 1938; *sputator* Sparrman, 1784; *vincentii* Boulenger, 1891.

Central America (including Isla del Coco, Isla Cozumel, and Islas de la Bahía): *continentalis* Werner, 1896; *dunni* Schmidt, 1936; *glaucus* Cope, 1865; *homolepis* Cope, 1886; *lineolatus* Lichtenstein, 1856 (Colombia); *mertensi* Wermuth, 1965; *millepunctatus* Hallowell, 1861; *pacificus* Stejneger, 1903; *rosaurae* Parker, 1940; *torquatus* Strauch, 1887.

South America (including Isla Gorgona): *molei* Boettger, 1894 (Trinidad and Tobago); *scapularis* Boulenger, 1902.

#### • KEY TO UNITED STATES SPECIES.

1. Dorsal scales large, less than 30 between axilla and groin; midbody scales less than 50 ..... *notatus* (90)  
—Dorsal scales small, more than 30 between axilla and groin; midbody scales more than 50 ..... 2
2. Dorsal scales 60–72; midbody scales more than 73 .....  
..... *cinereus*  
—Dorsal scales 38–50; midbody scales less than 73 ..... *argus*

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