

Catalogue of American Amphibians and Reptiles.

Grismer, L. Lee. 1990. *Coleonyx switaki*.

***Coleonyx switaki* (Murphy)
Barefoot Banded Gecko**

Anarbylus switaki Murphy, 1974:87. Type-locality, "5.5 miles west of San Ignacio (27°27'N, 112°51'W) along Mexican Highway 1, Baja California Sur, Mexico, 500 feet elevation." Holotype, California Academy of Science (CAS) 139472, adult male, collected by Karl H. Switak on 20 June 1974 (examined by author).

Coleonyx switaki: Grismer, 1983:398.

Coleonyx switaki: Stebbins, 1985:112. Invalid emendation.

Anzrbylus switaki: Cornett, 1987:75. Invalid emendation.

Coleonyx (Anarbylus) switaki: Schiedt, 1988:27.

• **Content.** Two subspecies are recognized: *switaki* and *gypsicolus*.

• **Diagnosis.** *Coleonyx switaki* differs from other *Coleonyx* in these characters: deep rostral depression; reduced transverse subdigital lamellae; 48-70 scales around the non-regenerated tail; tip of ventral portion of tail tuberculate; diploid complement of 24 chromosomes consisting of a graded series of 22 metacentric and 2 acrocentric chromosomes with each 2 pairs conspicuously larger than those following when ranked by size; bright yellow breeding color in males; dorsal pattern a series of transverse spots arranged in bands, sometimes modified; 6-11 bands between nape of neck and caudal constriction; nuchal loop absent; derived adult color pattern present in juveniles; S-shaped isthmus of the thyroid gland.

• **Descriptions.** The original description (Murphy, 1974) is brief and incomplete. Thorough descriptions are in Fritts et al. (1982) and Grismer and Ottley (1988).

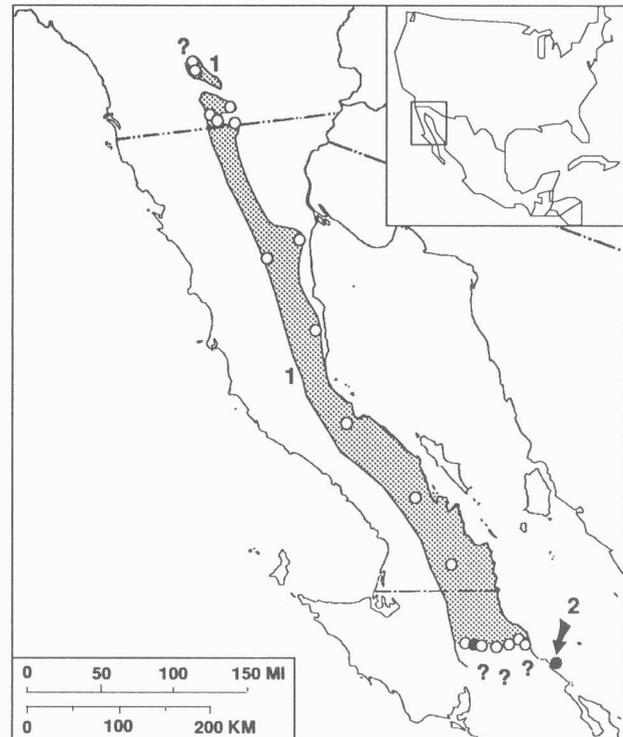
• **Illustrations.** Black and white photographs of the holotype and karyotype are in Murphy (1974). Other photographs are in Kluge (1975), Fritts et al. (1982) and Grismer and Edwards (1988). Grismer and Ottley (1988) and Grismer (1988) presented color photographs, and Stebbins (1985) color drawings. Fritts et al. (1982) presented a black and white photograph of habitat and compared line drawings of subdigital lamellae with 3 other species of *Coleonyx*. Grismer (1988) presented a scanning electron micrograph of the occlusal margin of a mandibular tooth.

• **Distribution.** *Coleonyx switaki* is found along the eastern fringe of the Peninsular Ranges from at least Borrego Springs, San Diego County, California south to Santa Rosalía, Baja California Sur, México, and on Isla San Marcos off the coast from Santa Rosalía. This species is known from scattered specimen records ranging from sea level at Santa Rosalía to nearly 700 m near Borrego Springs.

• **Fossil Record.** None.

• **Pertinent Literature.** Fritts et al. (1982), Murphy and Ottley (1984), Grismer and Edwards (1988), and Grismer and Ottley (1988) discussed ecology, distribution, and geographic variation. Putnam and Murphy (1982) presented physiological data. Sumida and Murphy (1987) studied dental anatomy. Murphy (1983) discussed historical biogeography. Kluge (1983) and Grismer (1983, 1988) discussed phylogenetic relationships (see Remarks). Benes and Muth (1983) reported on a specimen from Imperial County, California.

• **Remarks.** Kluge (1983) placed *Anarbylus* Murphy in the synonymy of *Coleonyx* Gray because of their joint possession of a complete second branchial arch, a derived character state shared by all *Coleonyx*. This character alone, however, only demonstrates that these may be sister genera, and a synonymy based on this evidence is subjective, as retention of both names would not create paraphyletic (non-natural) groups. Grismer (1983, 1988) hypothesized that *C. [Anarbylus] switaki* was derived from within *Coleonyx* such that retention of both names would make *Coleonyx* paraphyletic unless a new generic name was proposed for *C. elegans* and *C.*



Map. Solid circles mark type-localities, open circles other localities. Question marks indicate uncertain range boundaries.

mitratus.

Schiedt (1988), for no apparent reason and without comment or data, placed *C. switaki* in the subgenus *Anarbylus*. By doing so he placed the remaining species in a subgenus *Coleonyx* and thus created a group, which based on the relationships of Grismer (1988), does not include all of its descendants (paraphyly) and is a misrepresentation of history. Therefore, subgeneric categories as presented by Schiedt (1988) are herein discouraged and abandoned.

• **Etymology.** The specific name *switaki* is a patronym honoring Karl H. Switak, who collected the type specimen. The combination *gypsicolus* is derived from the Latin *gypsum* (rocks of the type locality) and *colonia* (meaning dwelling) and refers to habitat on Isla San Marcos.

• **Comment.** Various populations of *Coleonyx switaki* are very distinct from one another. Each is definable by characteristics of scale meristics, scale morphology, and/or color pattern. Some characteristics suggest that geographic variation is clinal whereas others suggest that these populations are disjunct. A final determination of the nature of geographic variation must await the procurement of additional material.

**1. *Coleonyx switaki switaki* (Murphy)
Peninsular Barefoot Banded Gecko**

Anarbylus switaki Murphy, 1974:87. See species synonymy.

Coleonyx switaki: Grismer, 1983:398.

Coleonyx switaki switaki: Grismer and Ottley, 1988:150. By implication.

• **Diagnosis.** Differs from *Coleonyx switaki gypsicolus* in its significantly lower mean number of postnasals ($\bar{x}=1.3$, 1-3); eyelid fringe scales ($\bar{x}=35.7$, 32-40); scales across top of head ($\bar{x}=55.4$, 43-65); scales around forearm ($\bar{x}=37.2$, 33-47), body ($\bar{x}=156.0$, 133-179), foreleg ($\bar{x}=42.1$, 40-50), and tail ($\bar{x}=55.1$, 42-70); no ontogenetic break-up of anterior 2 to 3 black caudal rings; and the lack of a prominent vertebral stripe.

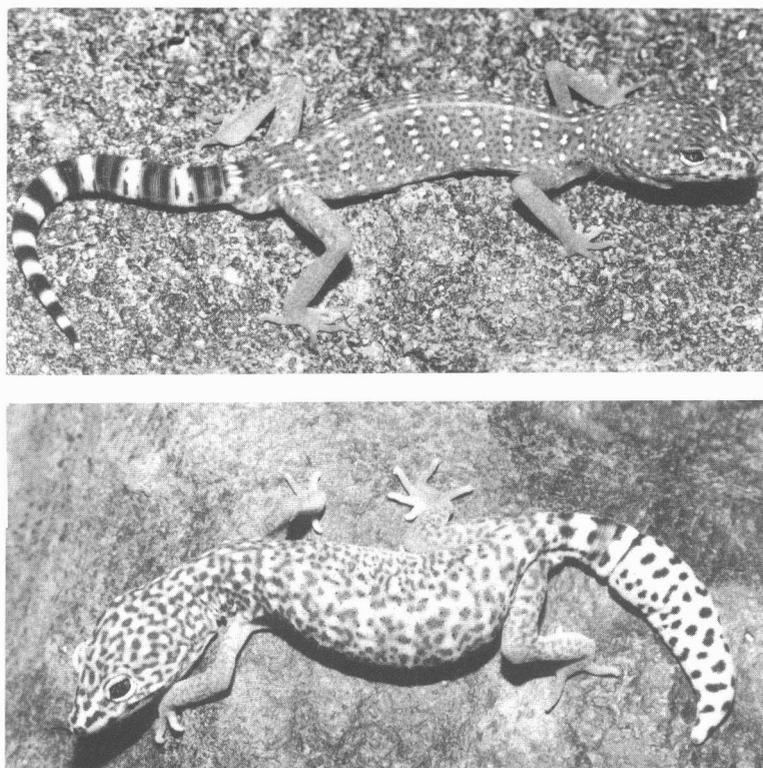


Figure. Variation in *Coleonyx switaki switaki* from northern Baja California; upper: Sierra Pinta, 70km N San Felipe; lower: 25km S San Felipe.

2. *Coleonyx switaki gypsicolus* Grismer and Ottley Isla San Marcos Barefoot Banded Gecko

Coleonyx switaki gypsicolus Grismer and Ottley, 1988:150. Type-locality, "Arroyo de la Taneria, Isla San Marcos, Baja California Sur, México." Holotype, BYU 37643, adult male, collected by John R. Ottley on 16 July 1979 (examined by author).

• **Diagnosis.** Differs from other *Coleonyx switaki* in its significantly higher mean number of postnasals ($\bar{x}=2.3$, 2-3); eyelid fringe scales ($\bar{x}=43.7$, 42-48); scales across top of head ($\bar{x}=63.4$, 57-72); scales around forearm ($\bar{x}=43.9$, 40-47), body ($\bar{x}=178.6$, 163-196), foreleg ($\bar{x}=48.1$, 43-52), and tail ($\bar{x}=73.0$, 70-75); bright yellow ground color; ontogenetic break-up of anterior 2 to 3 black caudal rings to form spots; and presence of prominent vertebral stripe.

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