

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Animal Abstract**

**Element Code:** ARACD01034

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Coleonyx variegatus variegatus* (Baird, 1859)

**COMMON NAME:** Desert Banded Gecko

**SYNONYMS:**

**FAMILY:** Eublepharidae: Eublepharinae

**AUTHOR, PLACE OF PUBLICATION:** *Coleonyx variegatus* (Baird, 1859 “1858”), Proc. Acad. Nat. Sci. Philadelphia, Vol. 10, p. 254.

**TYPE LOCALITY:** Collected from the “Rio Grande and Gila Valleys” (restricted to Winterhaven, Imperial County, California by Klauber, 1945).

**TYPE SPECIMEN:** Type: USNM 3217. A. Schott, collected in 1852 during the Mexican Boundary Survey.

**TAXONOMIC UNIQUENESS:** *Coleonyx variegatus* is 1 of 6 species in the genus *Coleonyx* that occurs in North America. Subspecies *variegatus* is 1 of 5(7) in the species *C. variegatus*, and 1 of 3 that occurs in Arizona. The other 2 subspecies in Arizona include *C. v. bogerti* (Tucson Banded Gecko), and *C. v. utahensis* (Utah Banded Gecko). Per NatureServe (2007), “Subspecies *utahensis* intergrades widely with subspecies *variegatus* (Tanner and Banta 1966) and hence is of questionable validity as a distinctive evolutionary lineage.” Genetic studies may help in solving this question. Currently, Arizona Game and Fish (Nongame Branch) is tracking the ssp. *variegatus* separately from ssp. *utahensis*, thus the HDMS follows suit here in this abstract and the one for the ssp. *utahensis*.

In 1987, in a cladistic analysis of the family Gekkonidae, Kluge placed the genus *Coleonyx* in the family Eublepharidae (subfamily Eublepharinae), recognized as distinct from the Gekkonidae. Bartlett and Bartlett (1999), Grismer (2002), and Stebbins (2003) likewise placed *Coleonyx* in the family Eublepharidae, whereas Dixon (2000) retained *Coleonyx* in Gekkonidae. (NatureServe 2007).

**DESCRIPTION:** A medium-sized lizard with lengths averaging between 5.0-6.0 in (12.7-15.2 cm) from snout to tail tip (females slightly larger than males), with as much as half of which may be the fleshy tail; hatchlings are 1.5-2.0 in (3.8-5.0 cm) long. Average lengths reported (unknown if STL or SVL) for the species varies widely from 4.5-6.0 inches in Behler and King (1979) to 2.0-3.0 inches in Stebbins (2003) and Brennan and Holycross (2006). The skin is soft, somewhat translucent, and covered in granular scales; tubercles are absent. The ventral surface of the body

is unpigmented, while the dorsal side has narrow (or same width), light centered dark bands (or replaced by spots) on a cream to tan background. In *Coleonyx v. variegatus*, the males have 7 or fewer preanal pores; and the light nuchal loop is irregular or missing. The top of the head is covered with red-brown spots, and a light-cream color line starts from under each eye passing just above the ear opening and ends in a loop on the back of the neck. All banded geckos have pointed snouts, protruding moveable eyelids, and large eyes with vertical pupils. The tail is usually plump and becomes constricted where it meets the body; if unregenerated, it is about as long as the body and crossbars are present. The legs are small and the toes are slender with no pads or villi. Young usually have distinct crossbars that break up into reticulations as the animal ages. Males develop large hemipenial bulges and possess a pair of spurs at the base of their tails. (Behler and King 1979; Degenhardt et al. 1996; Stebbins 2003; Brennan and Holycross 2006).

**AIDS TO IDENTIFICATION:** In *Coleonyx v. variegatus*, the dark body bands are the same width as, or narrower than the interspaces between them (the bands have light centers or are replaced by spots), and the males have 7 or fewer preanal pores. (Stebbins 2003); the light nuchal loop is irregular or missing; the top of the head is spotted. Their range impinges on three other subspecies, the Utah (*C. v. utahensis*), Tucson (*C. v. bogerti*), and San Diego (*C. v. abbottii*) Banded Geckos. The subspecies of banded geckos are very similar, thus when identifying them, pay close attention to location, and use the other accounts and a key to confirm identification. The range of Desert Banded Gecko overlaps with that of the Barefoot Gecko (*C. switaki*), which differs in having blackish tubercles on the neck and back. In urban areas, an introduced species, the Mediterranean Gecko (*Hemidactylus turcicus*), is common around homes and yards, and can be recognized by the presence of white tubercles (warts) on the dorsum.

**ILLUSTRATIONS:**

Color photo of species (J.L. Behler & F.W. King 1979: Plate 392)

Line Drawing (R.C. Stebbins 2003: Plate 24)

Color photos (Tom Brennan *in*

<http://www.reptilesfaz.com/Lizards-Subpages/h-c-variegatus.html>)

Color photo (Arizona Wildlife Views Special Edition, p. 109)

Color photo (Brennan and Holycross, 2006: p. 90)

Color photo (Suzanne L. Collins, 2004, *in* CNAH at <http://www.cnah.org/detail.asp?id=483>)

Color photo (Erik F. Enderson, Tucson Herp. Soc. <http://www.arts.arizona.edu/herp/COVA/html>)

Color photo (Cecil Schwalbe, Tucson Herp. Soc. <http://www.arts.arizona.edu/herp/COVA/html>)

Color photo (Geckoweb, <http://www.geckoweb.org/profile/coleonyx-variegatus-variegatus>)

Color photos of subspecies & habitat

(<http://www.californiaherps.com/lizards/pages/c.v.variegatus.html>)

Color photos (several photographers and dates, *in* CalPhotos, <http://calphotos.berkeley.edu/>)

Color photos (Geckos Unlimited 2003, <http://www.geckosunlimited.com/variegatus.htm>)

**TOTAL RANGE:** Found in southeastern California, southern Nevada, and western Arizona, south into Sonora, Mexico.

**RANGE WITHIN ARIZONA:** Western part of state including La Paz, Maricopa, Mohave, Pima, Yavapai, and Yuma counties.

### **SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** *Coleonyx v. variegatus* are a nocturnal ground dweller active between April and October. Adults are normally active just after dark and remain so throughout the night. They hibernate during the winter months between November and March when temperatures drop too low, and live off the fat stored in their tail. During warmer months, they avoid the heat of the day by hiding in rock crevices or under logs, fallen limbs, or rubbish. Unlike climbing geckos with clinging toe pads, *C. v. variegatus* lifts its body off the ground when moving. It also carries its tail in the air, sometimes waving it from side to side when threatened or stalking prey. Defensive tactics observed by *Coleonyx variegatus* include squeaking, ejecting viscous liquids, and limb extension (SDNHM, 2007). They are preyed upon by a variety of snakes as well as large scorpions and tarantulas. Geckos are able to detect and identify potential snake predators by chemical means (Dial et al., 1989 in Degenhardt et al. 1996). If caught by the tail, they will readily lose it. However, the tail is easily regenerated but can be costly for the geckos physically during the winter, since the tail holds their main fat reserve. Banded geckos are known to mark out discrete locations some distance away from their daytime retreats for defecation. The scent of chemicals in the feces may serve as a social “signpost” to other geckos, notifying them of the resident’s occupancy. Lifespan in captivity for *C. v. bogerti*, another closely related subspecies of *C. variegatus*, has been reported between 7 to 10 years (Geckos Unlimited 2001) and 15+ years (Geckoweb 2007). (Brennan and Holycross, 2006; Geckoweb.org, 2007)

**REPRODUCTION:** Breeding occurs in April and May, a few weeks after adventuring out from their winter hibernation. The female lays 1 to 3 clutches (average 2) of 2 eggs, from May to September with hatchlings emerging in 45 days (about 6 week incubation); females may store sperm from early mating to produce clutches later in the year. Hatchlings are 25-30 mm SVL and reach adult size by the following spring. (Degenhardt et al., 1996; Stebbins, 2003).

**FOOD HABITS:** The species is an insectivore, consuming insects and spiders.

**HABITAT:** Rocky canyons, sand dunes, and washes in desert and semi-arid areas. In California, they are found in the Mohave and Colorado deserts. “The Desert Banded Gecko is found from desert sinks at below sea level to 5,000 feet and from desert habitats to pinyon-juniper or mixed chaparral.” (Geckoweb, Accessed 2007).

**ELEVATION:** Throughout its range, it can be found from sea level to 5,000 feet (1524 m).

**PLANT COMMUNITY:** They mainly occupy Sonoran and Mohave Desertscrub, but to a lesser extent can be found up into chaparral and juniper woodland. May be found associated with black brush, mesquite, creosote bush, sagebrush, catclaw acacia, and desert grasses.

**POPULATION TRENDS:** Unknown. According to Geckoweb.org (accessed 2007), “The Desert Banded Gecko is relatively common throughout its range, and has received no special status or protection.” NatureServe (2007), reports the global trend for the species *C. variegatus* as stable. They go on to say, the “Extent of occurrence, area of occupancy, and abundance probably are relatively stable from a range-wide perspective. Abundance and perhaps area of occupancy may be declining somewhat in the more populated portions of the range (e.g., California, parts of Arizona).”

### **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None  
**STATE STATUS:** None  
**OTHER STATUS:** None

**MANAGEMENT FACTORS:** This relatively common subspecies is threatened locally by urbanization (NatureServe 2007), habitat degradation by overgrazing and recreation, and perhaps illegal collection activities (Geckoweb.org, 2007).

**PROTECTIVE MEASURES TAKEN:** None

**SUGGESTED PROJECTS:** Genetic studies to determine if subspecies *variegatus* is distinct from ssp. *utahensis*.

**LAND MANAGEMENT/OWNERSHIP:**

### **SOURCES OF FURTHER INFORMATION**

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**MAJOR KNOWLEDGEABLE INDIVIDUALS:****ADDITIONAL INFORMATION:**

Scientific name description: *Coleonyx* comes from the Greek *koleos*, meaning a sheath and *onych*, meaning nail or claw, while *variegatus* comes from the Latin *vario*, meaning variegated ([www.sdnhm.org](http://www.sdnhm.org)).

Banded geckos are most often encountered on the roads at night. They utilize the heat of the roads to warm themselves before searching for food.

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