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Central American banded gecko

Coleonyx mitratus

Coleonyx mitratus is a slender, nocturnal ground gecko from the forest floor of Central America, with movable eyelids, small claws and dark and light crossbands. It resembles a small version of *Eublepharis macularius*, reaches 10-18 cm and feeds on insects. It is calm and easy to keep, but dries out easily and needs a warm enclosure with a humid hide.

Family: Eublepharidae Former name: *Brachydactylus mitratus; Eublepharis dovii*

KEY FACTS

THE ANIMAL

Adult size	**10-18 cm** total length incl. tail
Lifespan	**8-12 years**
Active	**At dusk and at night**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Dry forest and rainforest**
Difficulty	**Beginner**

CARE

Min. enclosure	**60 × 30 × 30 cm** L × W × H for 1 adult
Temperature, day	**24-28 °C**
Basking spot	**30-32 °C**
Temperature, night	**18-22 °C**
Humidity	**40-60%**
UVB	**Optional**
Diet	**Insects**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Incubation	**70-80 days** at 27-29 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Coleonyx mitratus belongs to the eyelid geckos (Eublepharidae), the same family as *Eublepharis macularius*. It therefore has movable eyelids and no adhesive pads under the toes, and the skin is finely granular with scattered, larger tubercles. The species name is Latin and means with a headband, after the light crossband at the back of the head.

The young have broad, dark crossbands separated by narrow, light bands, and the pattern changes as the animal grows. In adults the dark bands become irregular, and the sides become spotted. The tail is about as long as the body. Males reach up to 91 mm from snout to vent and females up to 88 mm, so the total length reaches only about 18 cm at most. Most adults reach 10-13 cm. The male is recognised by a bulge at the base of the tail and distinct pores between the hind legs.

The species was described by Wilhelm Peters in 1863 from an animal from Costa Rica. For a time it also went by the name *Eublepharis dovii*, which has since been merged with *Coleonyx mitratus*. It has been regarded as the most primitive of the *Coleonyx* species that have tubercles between the small scales in the skin.

In the enclosure it is a calm and curious little hunter that hides during the day and comes out when it gets dark. It tolerates only little handling, and the tail comes off easily.

Distribution and habitat

The species lives in Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica. The type locality is Costa Rica without a more precise location. An occurrence in Panama is based on a single animal and is not counted.

There are records from several places in Honduras, including near San Pedro and Lake Ticamaya, from El Salvador, from Costa Rica's central highlands around San José and Turrialba and from the island of Chira in the Gulf of Nicoya. A more recent record comes from El Paraíso in south-eastern Honduras. The map shows the natural range, and the dots are recorded finds.

> **Native range:** Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica.

HABITAT

The gecko is a nocturnal ground-dweller found especially on the forest floor. In Honduras it lives in low, scrubby forest with cohune palms at 150-300 metres, in dry leaves under large trees and among fallen leaves in dry lowland up to about 490 metres. In Costa Rica it lives, among other places, in ant nests on the plateau near San José.

The species lives in both humid forest and semi-arid regions, but always in microclimates such as leaf litter, ant nests and burrows, which stay cooler and more humid than the surrounding air. Temperature and humidity at the sites where it lives have not been measured.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A single adult can be kept in an enclosure of at least 60 × 30 × 30 cm (length × width × height), and for a male with a couple of females or a small group, about 90 × 45 × 45 cm is a good size. The floor area matters more than the height, because the gecko walks on the ground. Pairs can be kept in smaller plastic boxes, but bigger is always better.

The substrate should be deep enough for the animal to dig, preferably 5 cm or more. Coconut fibre mixed with sand or fertiliser-free soil works well, and so does peat and vermiculite in the ratio 1:1. Provide many hides: cork tubes, cork bark, flat stones and upturned flowerpot saucers. Heavy stones must stand directly on the floor of the enclosure and not on the substrate, so that they cannot topple when the gecko digs.

Make at least one humid hide with damp coconut fibre. The lid must fit tightly, because the animals are fast. Avoid dried sphagnum as a substrate or in hides: other *Coleonyx* species can die from swallowing moss fibres during shedding, and coconut fibres are gentler.

TEMPERATURE

Keep 24-28 °C in the enclosure during the day with a warm area of 30-32 °C, and let the temperature fall to 18-22 °C at night. The species prefers a body temperature of about 25 °C in the morning and 28 °C in the evening.

Heat with a heat mat or heat tape under part of the floor rather than with a lamp, because lamps dry the enclosure out. Control the heat with a thermostat, and measure at both ends. If the gecko lies constantly by the heat, it is too cold, and if it seeks only the coolest corner, it is too hot.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity is the most important point in care. The species loses about five times as much water through the skin as *Coleonyx variegatus* and almost six times as much as *Eublepharis macularius*, and dehydration is one of the most common reasons why the animals die too early. The air in the room may well be dry, but the substrate must be damp at all times, preferably with a gradient from fairly damp at one end to barely damp at the other, so that the animal can choose for itself.

The humidity in the enclosure should be 40-60 %. Mist every day or every other day, so that part of the substrate and a little of the glass becomes damp, but avoid stagnant, wet air and mould. A humid hide with damp coconut fibre helps during shedding, and the female likes to use it for egg laying. Provide a shallow dish of fresh water, and change it daily. A small piece of cork in the dish gives feeder insects a way up if they fall in.

LIGHTING AND UVB

The species is nocturnal and does not need any special lighting. UVB is not necessary when the insects are dusted with calcium and vitamin D3, but a weak UVB light can be used. If you provide UVB, use a weak tube for shade-dwellers over part of the terrarium, switch to calcium without vitamin D3, and make sure the animal can always retreat into shade and hides.

Provide a fixed daily rhythm with 10-12 hours of light, preferably slightly shorter in winter. The light need not be strong, and it should be dark at night.

Read more: Lighting and UVB Read more: Calcium, vitamins and supplements

FEEDING

The gecko feeds exclusively on insects. Mealworms of a suitable size are a good staple, also for other *Coleonyx*, and crickets and dubia roaches provide variety. Wax moth larvae and butterworms are fatty and only an occasional treat. The insects must not be longer than the distance between the animal's eyes, i.e. about 3 mm for newly hatched juveniles and 6 mm for adults.

Juveniles are fed every day, adults every other day or 3-4 times a week. Give 6-10 small insects at a time and a few more if they are all eaten straight away. Remove uneaten crickets, so they do not gnaw at the gecko while it rests.

Feed the feeder insects a good diet a day or two before they are served. Dust all food with a complete calcium and vitamin supplement at every feeding, or use calcium at most feedings and a multivitamin once a week. Use calcium with vitamin D3, unless the animal receives UVB. Preferably put a small dish of calcium in the terrarium.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

The gecko is calm, but not an animal for daily handling. It tolerates a little handling and sheds the tail if grabbed, so never take hold of the tail. Let it walk from hand to hand close over a soft surface, wash hands before and after, and give new animals a couple of weeks in peace.

Two males must not be kept together, because they fight. One male can be kept with one or more females, and the animals rarely fight and readily share hides. Females can, however, stress each other, both with and without a male, so the safest option is to keep the species singly or in pairs of known sex. Watch for bites and missing tails, and separate the animals if there is unrest.

By day the gecko lies in its hide and only comes out when it gets dark. Then it creeps around on the ground and stalks its prey, and both its movements and behaviour recall a small monitor lizard.

Breeding

SEXUAL MATURITY AND SEXING

The male has a bulge at the base of the tail and distinct pores between the hind legs, so the sex is easy to see in adults. The female is often slightly larger than the male. When the species reaches sexual maturity has not been documented.

Breed a female only when she is fully grown and in good condition. Females should not lay eggs too early, because they first need to build up body mass and reserves. Egg laying draws on calcium, so give her plenty of calcium and insects throughout the season.

MATING

A winter break can induce the animals to breed. Switch off the heat for about eight weeks in winter, and let the animals rest at 17-19 °C without food; the advice is borrowed from the desert-dwelling *Coleonyx* species. Keep the substrate damp throughout.

Put the male with the female in her enclosure, and watch whether he is too rough with her. Take him out if she seems stressed or is bitten. The female can store sperm for a long time and lay fertilised eggs at least a year after mating, so do not let the animals go together at random.

EGG-LAYING AND CLUTCHES

The female lays two eggs at a time, more rarely one, and the eggs have a soft shell. How many clutches she lays per year has not been documented.

The female likes to lay in the humid hide or in damp substrate under cork. Fill the hide with damp coconut fibre, and look for eggs every morning. The eggs are moved carefully to a small incubation box. If the female loses weight, she should have a break from breeding.

Read more: Incubating eggs

INCUBATION

Lay the eggs half sunk into slightly damp vermiculite or perlite in a closed box with a few ventilation holes, and do not turn them. Keep a stable temperature of 27-29 °C. The eggs hatch after 70-80 days at 29 °C. The figure is uncertain, because eggs of the smaller *Coleonyx variegatus* hatch after about six weeks at the same temperature.

A stable temperature is important. In *Coleonyx variegatus*, many embryos die at fluctuating 24-32 °C, while a stable 27-29 °C gives low mortality and an even sex ratio. Whether temperature affects the sex in this species has not been investigated.

REARING THE YOUNG

The young are very small, and it can be difficult to find food small enough. Put them in a small box with paper towel as substrate, a hide, a humid corner and a shallow water dish. Watch that they do not dry out.

Give them the smallest crickets or fruit flies, dusted with calcium, and feed them every day. Separate the young if any are bitten or held down. Weigh them regularly so that you can follow their growth.

Health and common mistakes

The species is hardy when the humidity is right. These problems are seen in small ground-dwelling geckos and can also affect it:

- Dehydration, if the substrate is dry and there is no humid hide. This is one of the most common causes of death in the species. Wrinkled skin and sunken eyes are warning signs.
- Shed remains on the toes after shedding. Provide a humid hide, and loosen the remains carefully with lukewarm water, because the toes can be lost if the remains stay on.
- Constipation after swallowed substrate. Avoid coarse pieces and dried sphagnum, and feed with tweezers where possible.
- Too little calcium, especially in breeding females. Dust the food, and let the females rest.
- Wet, stagnant air and mould, which cause fungus and skin problems. A damp substrate must be combined with air exchange.
- Lost tails after handling or fighting.
- Parasites in wild-caught animals. Preferably buy captive-bred animals.

A single sick animal can infect an entire stock, so quarantine new animals for several weeks, and seek a veterinarian with experience in reptiles if the gecko loses weight, does not eat or seems limp.

Read more: Quarantine and hygiene Read more: Buying animals: captive-bred, wild-caught and transport

Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.