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GECKOS

Texas banded gecko

Coleonyx brevis

Coleonyx brevis is a small, fragile desert gecko from the Chihuahuan Desert in the south-western USA and northern Mexico. It is banded, has movable eyelids, lacks adhesive lamellae under the toes and is active at dusk and at night. Its care resembles a small version of *Eublepharis macularius*, but the species tolerates very little handling.

Family: Eublepharidae Former name: *Coleonyx variegatus brevis*

KEY FACTS

THE ANIMAL

Adult size	**10-12 cm** total length incl. tail
Weight	**1.9-3.3 g**
Lifespan	**15 years**
Active	**At dusk and at night**
Lifestyle	**Rock-dwelling and terrestrial**
Habitat	**Desert, semi-desert and rocky terrain**
Difficulty	**Intermediate**

CARE

Min. enclosure	**75 × 30 × 30 cm** L × W × H for 3 adults
Temperature, day	**22-29 °C**
Basking spot	**32-35 °C**
Temperature, night	**18-22 °C**
Humidity	**30-40%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects**
Kept	**Singly or in groups**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Clutches per year	**2-3**
Incubation	**60 days** at 26-29 °C

PROTECTION AND PAPERWORK

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

About the species

Coleonyx brevis is a small, slender gecko with a tapered head, large eyes with vertical pupils and thin limbs. Like the other species in the family Eublepharidae, it has movable eyelids, which most other geckos lack, and there are no adhesive lamellae under the toes. The skin is smooth and covered in fine, granular scales, and the tail is not segmented.

The base colour is pinkish to yellow with brown to black crossbands. Juveniles have distinct, regular bands, and with age spots and dark markings appear, so the adults look more mottled. Appearance varies from population to population. Females grow slightly larger than males.

The adult gecko measures 10-12 cm including the tail and weighs about 2-3 g. The tail is roughly as long as the body. It can be shed if the animal is attacked, and a new tail grows back in 4-5 weeks. When a predator approaches, the gecko turns its tail towards the attacker and waves it, so the predator goes for the tail instead of the body. With good care the species can live for 15 years or more.

The species was described in 1893 by Leonhard Stejneger. The scientific species name means "short" in Latin. For a time it was regarded as a subspecies of *Coleonyx variegatus*, but it is now a species in its own right.

It is a fragile and fast animal that does not bite, but it may give a small squeak when picked up. Handling stresses it, so it is best kept as an animal to watch.

Distribution and habitat

Coleonyx brevis lives in the Chihuahuan Desert and the adjoining arid regions of southern North America. In the USA it is found in western Texas, especially the Trans-Pecos region, and in south-eastern New Mexico. The type locality is Helotes in Bexar County, Texas.

In Mexico the species occurs in the states of Chihuahua, Coahuila, Nuevo León, Durango, Tamaulipas and Zacatecas. In Texas it is also found in the western parts of the scrubland in the southern part of the state.

> **Native range:** United States and Mexico.

HABITAT

The gecko lives in dry, rocky areas with sandy to stony ground and sparse vegetation of cacti, grasses and shrubs. During the day it lies hidden in burrows and crevices, often under flat stones. When active, it almost always stays on the ground and rarely climbs onto rocks or branches.

The species is nocturnal and hunts from sunset for 3-4 hours, while the air is still warm enough. Throughout the day it draws heat from the stones it lies under. It can maintain a body temperature above 30 °C, but also copes with a wide range of air temperatures. This is a prerequisite for living nocturnally in a desert, where the nights become cool.

Care

THE ENCLOSURE

One to three animals need an enclosure of at least 75 × 30 × 30 cm (length × width × height). Bigger is always better. Smaller enclosures cannot hold a heat source, hides and a humid hide all at once. Here it is the floor area that counts, because the animal lives on the ground. More than three animals require more floor space.

Sandy soil or a mixture of sand and clay at a depth of at least 8 cm works as a substrate, so that the gecko can dig. A solid floor such as slate tiles is also possible, but offers no chance to dig. A little clean, chemical-free leaf litter on top helps with humidity. Remove droppings daily, and replace the whole substrate every 3-4 months.

Furnish with at least two hides, so that the animal can choose between a warm and a cool one. Flat stones, cork tubes, cork bark and desert-style branches provide variety. Cover three sides of the enclosure, so that the animal feels secure. Ventilation should be good.

Read more: Humidity, misting and ventilation

TEMPERATURE

Provide a temperature gradient. On the warm side there should be a hide at 32-35 °C, and the rest of the enclosure is kept at 22-29 °C. At night the temperature may fall to 18-22 °C, but not lower. The heat sources are switched off at night.

Use a low-wattage heat bulb at one end above the warm hide. If the bulb does not heat the hide enough, supplement with a heat mat under the hide. The mat must always be controlled by a thermostat with the probe inside the hide, because an overheated mat can be fatal. Avoid ceramic heating elements and red and blue bulbs. Measure with digital thermometers with a probe, both in the warm hide and at the cool end.

Read more: Heat and temperature

HUMIDITY AND WATER

The species comes from a dry climate and thrives at an average humidity of 30-40 %, measured in the middle of the enclosure with a digital hygrometer. It must, however, have access to a humid hide at the cool end, filled with damp coconut fibre or sphagnum and with a humidity of at least 70 %. This is where the animal goes when it needs to shed.

Mist the cool side 2-3 times a week, so there are water droplets to drink and the humidity rises for a while. This works well when ventilation is good. In addition, provide a small, shallow dish of fresh water, which is changed daily and scrubbed with a reptile-safe disinfectant once a week.

Read more: Quarantine and hygiene

LIGHTING AND UVB

Coleonyx brevis is nocturnal and can in principle survive without UVB if it receives vitamin D3 with its food. The animals are, however, healthier with a weak UVB light, which also gives a clear day and night. Use a low-output UVB tube or compact UVB bulb, fitted in a reflector over the warm side, so there is always shade in the rest of the enclosure. The length of the tube should be about half the length of the enclosure.

The Ferguson zone has not been established for the species. Zone 2 is a reasonable starting point when there are plenty of hides, so the animal can control how much light it gets. Glass and plastic block UVB, so a window gives no UV, but can instead make the enclosure dangerously hot. Replace the UVB light every six months.

The light is on for 14 hours in summer and 8 hours in winter. Change it gradually to imitate the seasons, which also regulates the animal's hormonal rhythm.

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

FEEDING

Coleonyx brevis eats insects and other small arthropods. In the wild it is not specialised and takes most things it comes across. This means it accepts many kinds of feeder insects in the enclosure: dubia roaches, discoid roaches, crickets, black soldier fly larvae, hornworms, silkworms and mealworms. Feeder insects must not be larger than the animal's head.

Juveniles are fed every day and adults every other day. Give as many feeder insects as the animal eats in 15 minutes. The feeder insects must have been given good food and moisture for at least a day beforehand. Dust them lightly with a calcium and vitamin supplement with a little D3. It does no harm to skip the dusting now and then.

The fast hunt is best seen if the insects are released after the lights go out, and the animal can also be fed from soft tweezers. Always keep a small dish of fresh water available.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

The species is gentle and does not bite, but it is small, fast and fragile, and handling stresses it. Keep it to a minimum. Feeding with soft tweezers is a good way to get close without picking the animal up. Never grab the tail. The animal may in some cases squeak faintly when disturbed.

In the wild, males and females are often found under the same stone without much aggression, and in the enclosure several animals can be kept together. Never keep two males together, because they fight. Males and females are only kept together if you want offspring. If in doubt, keep the animals singly, and keep females together in a small group. The animal is most active in the first hours after lights-out and lies hidden for most of the day.

Breeding

SEXUAL MATURITY AND SEXING

Females are slightly larger than males. The species seldom has more than four pores in front of the vent, and they are divided into two groups by scales without pores. How the sexes can most reliably be told apart is not documented for the species, so examine a fully grown animal with a magnifying glass. The age at first mating in captivity is also not documented, so wait until the animals are fully grown and in good condition.

MATING

In the wild the season falls in early spring, from March to April. In the enclosure it is wisest to give the animals a shorter day and slightly cooler conditions in winter, and then increase both day length and warmth gradually in spring. It is, however, not documented how cold a rest period the species requires in captivity.

Place the male with the female and watch, so that no fights or too many bites occur. Remove the male if the female is clearly stressed. Give the female plenty of insects and calcium throughout the season.

EGG-LAYING AND CLUTCHES

The female lays 1-2 eggs per clutch, usually two. She can lay two to three clutches per season. From the start of yolk formation until the eggs are laid, about 42 days pass: the yolk is deposited over 30-32 days, and the eggs are laid about ten days later. The eggs are relatively large in relation to the size of the female.

In the wild the eggs are buried in a burrow or a hole in the ground. Therefore place a laying box with a damp mixture of sand and soil or vermiculite in the enclosure, with a hole in the lid. The female draws on her fat reserves in the tail and body, so after laying she needs extra food and calcium. Stop breeding if she loses weight.

INCUBATION

Move the eggs carefully to a small box with damp vermiculite or perlite, without turning them. Mark the top side, and lay them half sunk into the substrate. The box should have a couple of small ventilation holes. Leave it in an incubator.

The eggs hatch after about two months. Incubate at 26-29 °C; the incubation temperature is not documented for the species and is borrowed from related species in the family Eublepharidae. In some of these species the sex depends on temperature, but this has not been investigated for *C. brevis*. Eggs that turn yellow or mouldy are usually dead, but leave them until you are sure.

Read more: Incubating eggs

REARING THE YOUNG

The hatchlings look like small adults when they hatch. Place them individually or in small groups of the same size in a small plastic box with kitchen paper or sand, two hides, a humid hide and a small water dish. Keep the temperature the same as for the adults.

Juveniles are fed daily with small insects dusted with calcium and vitamins, for example small crickets, newly hatched dubia roaches and springtails. The feeder insects must be smaller than the hatchling's head. Remove live food if it is not eaten, so it does not bother the hatchling. Weigh and measure them regularly. There is little experience of captive rearing, so keep notes and share them.

Health and common mistakes

Coleonyx brevis is hardy when temperature and humidity are right, but there is little experience of the species in captivity. The typical mistakes are:

- Too little calcium and vitamin D3, which causes soft bones and tremors. Dust the feeder insects lightly, and provide a weak UVB light.
- Overheating of the warm hide. Always use a thermostat on the heat mat and a probe in the hide.
- Air that is too dry without a humid hide, which causes stuck shed on the toes and tail tip. Provide a humid hide and rinse off remnants with lukewarm water.
- Stress from too much handling or too few hides. This can cause loss of appetite and loss of tails.
- Fights between males, which cause bites and lost tails.
- Incorrect feeding, for example feeder insects that are too large or only one kind of feeder insect.

A healthy animal has clear eyes and a plump tail, and moves briskly. See a vet with reptile experience if the gecko loses weight, does not eat for several weeks or looks limp.

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.