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GECKOS

Lichtenfelder's gecko

Goniurosaurus lichtenfelderi

Goniurosaurus lichtenfelderi is a robustly built, nocturnal eyelid gecko from wooded slopes in northern Vietnam, with a purple ground colour and pale yellow cross-bands edged in black. It is kept at room temperature, feeds on insects and does not need UVB, but it is shy and needs many hides.

Family: Eublepharidae Former name: *Eublepharis lichtenfelderi; Goniurosaurus murphyi*

KEY FACTS

THE ANIMAL

Adult size	**8-11 cm** snout-vent length
Lifespan	**10-15 years**
Active	**At night**
Lifestyle	**Rock-dwelling and terrestrial**
Habitat	**Rainforest and rocky terrain**
Difficulty	**Intermediate**

CARE

Min. enclosure	**80 × 50 × 40 cm** L × W × H for 2 adults
Temperature, day	**20-24 °C**
Temperature, night	**16-20 °C**
Humidity	**60-80%**
Water	**Water dish**
UVB	**Not required**
Diet	**Insects**
Kept	**In pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**2 eggs**
Clutches per year	**2-4**
Incubation	**60-70 days** at 22-24 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Vulnerable (VU)**

About the species

Goniurosaurus lichtenfelderi is a compact, sturdily built eyelid gecko of the family Eublepharidae, with a triangular head, short, strong toes and a cone-shaped tail that is thickest at the base. The gecko has movable eyelids, and the iris is orange to dark reddish brown. Adults measure 8-11 cm from snout to vent, and the tail comes on top of that.

The ground colour is purple to dark purple-brown, sometimes with small, irregular dark brown spots. Across the body run light yellow bands with a blackish-brown edge in front and behind: one band on the neck, two on the body and one at the constriction of the tail. Young animals are almost black without spots, and the pattern is sharpest in them. Males have a clear row of pores in front of the vent and a bulge at the base of the tail, which makes the sex easy to see in adults.

The species was described in 1897 by Mocquard under the name *Eublepharis lichtenfelderi* and is probably named after the engineer Charles Lichtenfelder, who worked in Vietnam. Since 1981 it has been placed in the genus *Goniurosaurus*. Whether the populations on Hainan and in Guangxi in southern China belong to the species is unresolved. *Goniurosaurus murphyi* is a junior synonym.

In the enclosure *G. lichtenfelderi* is shyer than *Eublepharis macularius*. It is an animal to watch, not to handle, and it does best in a cool, humid enclosure with hides and climbing material.

Distribution and habitat

The species is known from northern Vietnam. It occurs on islands in the Norway archipelago in north-eastern Vietnam and on the mainland east of Hanoi along the coast towards the Chinese border. The type locality lies near the village of Dang Chau in Chi Linh in Hai Duong province at an altitude of 250 metres.

The range is small and fragmented, and the species is therefore vulnerable to forest loss and collecting. It is listed as vulnerable on the IUCN Red List and is protected by government decree in Vietnam. It is unresolved whether records from Hainan and Guangxi in China belong to the species, and they are not included on the map.

> **Native range:** Vietnam.

HABITAT

The gecko lives in evergreen forest with dense vegetation at 100-600 metres altitude, most often close to small or medium-sized streams. Here it sits in crevices between rocks and in hollows in granite formations. It also lives in ravines with karst rock, where a stream runs between slopes with shrubs, palms and tree ferns.

During the day the animals hide deep in small caves and under piles of stones covered with leaves. After dark they come out, but seldom move far from the hide and usually hunt from it. They change hides carefully and in short dashes.

The climate is cool and humid. In June the temperature is around 22-24 °C, and in January it can fall to 10-12 °C. The rainy season lasts from March to October, and humidity is high even in the dry part of the year from late October to early March.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A pair needs an enclosure of at least 80 × 50 × 40 cm (length × width × height), and a group needs more floor area. The floor area matters more than the height, because the species mostly stays near the ground, although it climbs on rough surfaces such as cork and stone. It cannot adhere to glass and plastic. A lid with mesh is necessary all the same, both for ventilation and to keep the animals in and other pets out.

Furnish with many hides: cork bark plates, cork tubes and low hides of ceramic or plastic with an opening. A humid box is a good idea, that is, a small box with a hole in the side and moist sphagnum or soil, so that the animals can choose how humid they want to lie. Sloping cork branches and calm plants such as philodendron and pothos provide climbing structures and hides. Stones and slate must be secure, so that they cannot slip and crush the animals.

As substrate, a mix of two parts unfertilised garden soil, one part coco fibre and one part sand works, which holds moisture and gives a humidity gradient from one end to the other. Ordinary potting soil should be avoided, because it often contains fertiliser and perlite, and pure sand is not suitable. Paper can be used temporarily, but requires a large humid box. The information applies to the genus *Goniurosaurus* in general and has not been tested separately for the species.

TEMPERATURE

Goniurosaurus lichtenfelderi does well at ordinary room temperature and needs no extra heating. By day 20-24 °C is suitable, and at night the temperature may fall a couple of degrees to about 16-20 °C. The figures are an estimate based on room temperature and the conditions in the habitat, where the temperature in June is about 22-24 °C and in January can fall to 10-12 °C.

Excessive heat is the greatest danger. Keep the enclosure away from south-facing windows and keep an eye on the temperature on hot summer days, because persistently high temperatures harm the animals. No heat lamps or hotspot should be used. If room temperature falls below about 21 °C in cold periods, withhold food until it gets warmer again. Measure with a digital thermometer at both ends of the enclosure. Whether the species should have a cool winter rest in captivity is not documented.

Read more: Heat and temperature

HUMIDITY AND WATER

The species needs humid microclimates. Humidity should be 60-80 % during the day. Mist heavily every evening so that the humidity briefly reaches 85-95 %. Keep part of the substrate constantly moist while the rest is allowed to dry, so that there is a gradient.

Air that is too dry causes shedding problems, so the humid box must always be moist, but not wet. Do not let it stand in water. Place a shallow dish of fresh water in the enclosure, and change the water every few days or more often if it gets dirty. Good ventilation with mesh in the lid prevents mould and stagnant air. Use a hygrometer so you can see whether the right level holds.

Read more: Common diseases and signs of illness

LIGHTING AND UVB

The species is nocturnal and does not bask, so UVB is not necessary. A weak daylight LED over the enclosure helps live plants and gives a natural day rhythm, and in a simple box without plants light can be dispensed with entirely. Keep day length natural, and make sure it is dark at night. Strong spotlights are unnecessary and give only heat, which the animals should not have.

The animals get calcium and D3 instead through the dusted insects.

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

FEEDING

The species lives on insects and takes most feeder insects. Offer half-grown crickets, young dubia roaches and at most a few large superworms at a time so that the animals do not become fat. Mealworms and small hornworms can be used for variety. Waxworms are fattening and should be only an occasional treat. Never offer only one type of food. Feeder insects must not be too large: adult dubia roaches are too much for most animals. Woodlice in the substrate keep it clean and are probably also eaten.

Dust the insects with calcium and D3 in the ratio 3:1 mixed with a multivitamin powder. Roaches and larvae can dig down into the substrate and should therefore be served in a shallow feeding dish with a little supplement powder. Adults are fed twice a week and three times a week in the breeding season. Young are fed daily, and the frequency is reduced as they grow. First foods are pinhead crickets, flightless fruit flies and mealworm beetles. The information on food applies to the genus in general.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Goniurosaurus lichtenfelderi is shy and darts away quickly if startled. Some animals tolerate short sessions and walk around on an arm, but handling should be kept to a minimum, because it stresses the animal. During the day the gecko sits in hiding, and only after dark does it come out and hunt.

Males do not tolerate each other in the same enclosure and fight. A male can be kept with several females, and females can go together. Watch for bites and injuries, and separate the animals if there is unrest. Keep the species in pairs or in a small group with 1 male and 2-3 females.

Breeding

SEXUAL MATURITY AND SEXING

The sex is easily seen in adults. Males have a clear bulge at the base of the tail and a stronger row of pores in front of the vent, and the pores contain a yellowish secretion. In females the pores are usually absent, but some females have indistinct pores. Females have stronger spots on the belly. Age and weight for first breeding are not documented for the species. Wait until the animals are fully grown and in good condition before putting them together.

MATING

In captivity breeding follows spring and summer, and in the wild the breeding season probably begins in spring. Put the male with the females in a group with several hides, and keep an eye on the first evenings. Whether the species needs a cool rest period to come into breeding condition is not documented.

EGG-LAYING AND CLUTCHES

A female lays 2-3 clutches in a season with 2 eggs at a time. In the genus up to four clutches occur in a season, and egg laying falls in spring and summer. Put a humid box or a laying box with moist sphagnum or soil in the enclosure so that the female has a place to dig and lay. Give her plenty of calcium and insects throughout the season, and stop breeding if she loses weight.

INCUBATION

Carefully move the eggs to a ventilated box with a moist hatching medium, without turning them. The medium must be moist, but not wet, and can be re-moistened with distilled water when it dries out. The eggs can lie at room temperature, about 22-24 °C, and hatch after about 60-70 days. These figures are taken from the genus and not measured for the species, so expect the time to vary, especially at lower temperatures. Eggs that collapse or become mouldy are usually dead.

REARING THE YOUNG

The young can be kept singly or two by two in low, flat plastic boxes. Use paper towels as substrate for the first weeks so that you can follow food intake and droppings, and provide a humid box. When all are eating well and look healthy, the paper is replaced with a thin layer of moist soil, where one end is kept moist. First foods are small insects such as pinhead crickets, flightless fruit flies and mealworm beetles, all dusted with supplements, and they are fed daily.

After about two years the young are young adults. Watch for fighting as they grow, and separate the males.

Health and common mistakes

The species is hardy when its requirements are met, and most problems are caused by husbandry. The typical errors are:

- Excessive heat, which is harmful to the animals. Keep the enclosure cool and avoid sun on the glass.
- Air that is too dry, which causes shedding problems. Keep a humid box constantly moist.
- Obesity, especially if many waxworms or large mealworms are given. Vary the food and hold back on fattening larvae.
- Lack of calcium and D3 if the insects are not dusted. Use supplements on all food.
- Injuries and stress from fights between males or from loose stones in the enclosure. Fix all stones and hides in place.

Longevity in captivity is not documented for the species; 10-15 years is an estimate based on related eyelid geckos.

A healthy animal has clear eyes, a plump tail and eats regularly. Seek a vet with reptile experience if the gecko loses weight, refuses to eat for several weeks or becomes 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.