herpy

GECKOS

Hainan cave gecko

Goniurosaurus hainanensis

A small, dark tiger gecko from southern Hainan with pale yellow bands across the neck, body and tail and orange to reddish-brown eyes. It is nocturnal, sleeps in hiding by day and wants it damp and cool. It tolerates neither heat nor much handling, but is not difficult to keep when the climate is right.

Family: Eublepharidae Former name: *Goniurosaurus lichtenfelderi hainanensis; Goniurosaurus sinensis; Goniurosaurus kwanghua*

KEY FACTS

THE ANIMAL

Adult size	**7-11 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	**75 × 30 × 30 cm** L × W × H for 2 adults
Temperature, day	**22-26 °C**
Temperature, night	**18-22 °C**
Humidity	**60-90%**
UVB	**Not required**
Diet	**Insects**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Clutches per year	**1-4**
Incubation	**60-75 days** at 24-26 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Near Threatened (NT)**

About the species

Goniurosaurus hainanensis is a small, slender tiger gecko. Like *Eublepharis macularius* it has movable eyelids and no adhesive lamellae under the toes. The ground colour is dark, from violet-brown to almost black, and across the body run four pale yellow bands with blackish-brown edges: an arc over the neck, two bands over the back and a band where the tail constricts. The eyes are orange to dark reddish-brown. Juveniles are uniformly dark between the bands, while adults may have small dark spots.

From snout to vent males measure 7-10 cm and females 8-11 cm, and with the tail an adult reaches about 20 cm. Males have 23-31 pores in a row in front of the vent and out onto the thighs and a distinct bulge at the base of the tail. The tail is the animal's fat store, and a plump tail is the best sign of good condition.

The species was described by Thomas Barbour in 1908 from a young male collected on Mount Wuzhi on Hainan in November 1906. For many years it was counted as part of *G. lichtenfelderi* from Vietnam and southern China, later as a subspecies of it, but today it is again recognised as a separate species.

In 2025 a major revision of the species group showed that what had hitherto been called *G. hainanensis* is in reality two different lineages on the island. The western lineage lives around the type locality and keeps the name. The later described *G. sinensis* and *G. kwanghua* belong to it and are now synonyms. The eastern lineage is more closely related to the mainland *G. lichtenfelderi* and is for now called *G.* cf. *lichtenfelderi*. For the keeper this means that animals sold as *hainanensis* may belong to either lineage, and that older guides and maps do not distinguish between them. Therefore keep track of the animals' origin, and do not cross animals of unknown provenance.

The gecko is shy, hides when disturbed and may jump if startled. It suits someone who wants to watch their animal, not someone who wants to hold it. Lifespan is not documented for the species, but tiger geckos often live for over ten years in captivity. It is one of the most common tiger geckos in the hobby and a good place to begin with the genus. The IUCN assesses it as Near Threatened (NT), and collection for the pet trade and loss of habitat are the greatest threats to the genus.

Distribution and habitat

The species is found only on Hainan, the large island in the South China Sea off the south coast of China. After the 2025 revision it is considered to live only in the southern and south-western parts of the island, at 30-800 metres elevation. To the north it reaches Wuzhishan City, to the south Sanya and to the west Jianfengling. The eastern limit is not known precisely, but probably lies at the northern slopes of the Wuzhishan mountains. East and north of them, from Haikou and Wenchang to Qixianling and Diaoluoshan, lives the eastern lineage, *G.* cf. *lichtenfelderi*. Whether the two meet anywhere is not known.

The type locality was never recorded precisely, but the north-western slope of Mount Wuzhi is the most likely. The records on the map were registered before the split, so records in the northern and eastern parts of the island probably belong to the eastern lineage. Others may be misidentified or come from captive animals.

> **Native range:** China.

HABITAT

The species lives from the lowlands up to mountain slopes at 30-800 metres above sea level, on an island where limestone makes up only about 3.5 % of the area. Most tiger geckos are tied to limestone mountains, but the genus's species on Hainan are less particular. The species lives on both limestone and granite, while the eastern lineage lives on granite and volcanic rock. How strongly the species prefers limestone is unresolved.

Tiger geckos do not live only in caves. They typically stay on the forest floor, often near water, in rock crevices and at cave entrances, and they climb easily on rough rock. During the day they stay hidden, and at night they come out to hunt. The climate in southern Hainan is tropical, but the animals live in shady, humid places. Temperature and humidity at the species' sites are not known precisely.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A pair needs an enclosure of at least 75 × 30 × 30 cm (length × width × height), and a small group needs more floor area. A larger enclosure of 80-100 cm in length is an advantage. The floor area matters most, but the animals like to climb, and sloping cork boards or a cork background are used eagerly at night. The gecko cannot walk on glass, but the lid must still always fit securely.

The animals are shy and need many hides: cork tubes and cork bark, upturned clay bowls with an opening, coconut shells and dense planting. Also make a humid chamber, for example a plastic box with a hole in the side and moist sphagnum or soil inside, so that the animal can choose how humid it wants to sit. Plants such as pothos and philodendron do well. Stones may only be used if they lie completely firm, so that they cannot slip and crush an animal.

For substrate you can use coco fibre, orchid bark or a mix of two parts unfertilised topsoil, one part coco fibre and one part sand. Avoid pure sand, because the species is not a desert gecko, and ordinary fertilised potting soil and perlite. Keep the substrate moist at one end and drier at the other. Ventilation must be good, also in plastic boxes, which get many small holes in the lid and sides.

TEMPERATURE

Keep 22-26 °C during the day and 18-22 °C at night. Most living rooms manage this on their own, and then heat lamps and heat mats are unnecessary. Heat is the species' weak point. The temperature may only briefly reach 27 °C, and only if the animal can retreat to a cool, humid hide. Sustained heat above 27-28 °C can quickly become fatal. The species should therefore not have a hot spot.

Keep the enclosure away from sunny windows and heat sources, and measure with a digital thermometer. If the animals become lethargic or stop eating in warm weather, the temperature must come down immediately.

The animals can be given a cool period from October to January with shorter days, slightly less misting and a temperature about four degrees lower than the rest of the year, so that nights can fall to 14-16 °C. Below 21 °C, feeding can be stopped completely.

HUMIDITY AND WATER

Humidity should follow a rhythm with humid nights and slightly drier days. Mist the enclosure in the evening so that the humidity rises towards 80-90 %, and let it fall to 60-70 % during the day. It should not stay below 60 % for long at a time, because dry air causes problems with shedding.

The substrate should be moist, but never wet, and may dry out a little between mistings. The humid chamber provides a safe place to shed and lay eggs. Place a shallow dish of fresh water in the enclosure, and change the water regularly. A hygrometer shows whether the humidity stays in the right range.

LIGHTING AND UVB

The gecko is nocturnal and does not bask, so UVB is not necessary. The most important thing is a fixed daily rhythm with light for 11-12 hours in summer, 8-10 hours in winter and darkness at night. Daylight LED or T5 tubes work well and keep the plants alive in a planted enclosure. Do not use strong spotlights or heat lamps, and ensure shade and hides all day.

Without UVB the vitamin D3 must come through the food, so dust the insects with calcium with D3 as described under feeding. Plastic boxes without plants can manage without their own lighting when the room has a natural daily rhythm.

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

FEEDING

The species lives on insects. The staple diet can be crickets, dubia roaches and locusts, with mealworms for variety and an occasional waxworm. Waxworms are fatty and should be a treat, otherwise the animals become too fat. The insects must not be too large: half-grown crickets are easier to manage than large roaches, and adult dubia are too big for most animals. Roaches and larvae burrow down, so give them in a shallow dish.

Adults are fed twice a week, and three times a week in the breeding season. Dust the insects with calcium with D3 and a multivitamin powder just before feeding, or sprinkle a little powder in the feeding dish. Feel free to alternate between different mineral and vitamin supplements. A plump tail shows that the animal is getting enough.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

The gecko is shy and more nervous than *Eublepharis macularius*. Some animals tolerate being picked up for a moment, but they may jump from the hand if startled, and handling stresses them. Therefore pick it up only when you change the substrate, weigh it or need to move it. When it feels secure, it can on the other hand be curious and chase food while you watch.

Males do not tolerate each other and must be kept separately. One male can be kept with one or more females, and females can be kept together if there is space and many hides. Watch for fights and lost tails. Juveniles can be raised together, but then individuals may lose their tails. The species also does fine alone.

During the day the animals often sit together in the best hides, and they come out when the light goes off. The species probably uses a fixed toilet spot like the related *G. huuliensis*, which makes cleaning easy.

Breeding

SEXUAL MATURITY AND SEXING

Males are recognised by the bulge at the base of the tail and the 23-31 pores in front of the cloaca, which females lack. The sex can usually be seen from the age of 5-6 months. The age at sexual maturity is not known; about two years, as in the related *G. huuliensis*, is a good guideline. Only breed females when they are fully grown and in good condition, so the eggs do not drain their calcium reserves.

MATING

The breeding season begins in spring, when temperature and humidity rise. The season typically runs from February to September after a cool pause from October to January, as described under temperature. It is enough to put a male and a female together, and the male can be taken out again to give the female peace. The female can store sperm and lay fertilised eggs long after she has been with a male.

EGG-LAYING AND CLUTCHES

The female almost always lays two soft-shelled eggs at a time, more rarely only one, and buries them in the substrate. Therefore place a laying box or humid chamber with moist sphagnum or soil in the enclosure. A clutch typically appears every 30-45 days through the season, one to four clutches a year in all.

The eggs demand a lot of calcium. Give the female plenty of calcium with D3 and insects throughout the season, and separate her from the male for a while if she loses weight. Calcium deficiency causes soft bones and lost eggs.

INCUBATION

Move the eggs carefully to a closed plastic box with slightly moist vermiculite and a few small air holes, and place them about a third of the way into the substrate. Mark the top side, and do not turn them. The substrate should be moist but not wet, and can be dampened with a little distilled water if it dries out.

The eggs can be incubated without an incubator at 24-26 °C, which is ordinary room temperature, and hatch after 60-75 days, longer if it is cooler. In an incubator the temperature must be at most 27 °C. Whether temperature determines the sex is not known. The young can spend several hours getting out of the egg and shed shortly afterwards. Leave it in the box for a day before moving it.

Read more: Incubating eggs

REARING THE YOUNG

Newly hatched young measure about 7-8 cm in total and have bolder bands than the adults. Keep them singly or in pairs in shallow plastic boxes with a hide, a shallow water dish, a humid chamber and moist kitchen roll as substrate for the first two weeks. On kitchen roll it is easy to see whether the young are eating and passing droppings. When all are eating well, you can switch to moist coco fibre at one end and add cork bark.

The first meal is small crickets dusted with calcium, about three days after hatching, and then three times a week. After a few weeks the young can be moved to enclosures of 40 × 40 × 35 cm. Separate the males before they become sexually mature, as they will otherwise fight.

Health and common mistakes

The species is hardy when the climate is right, and most problems are caused by heat, dry air or wrong food. The typical mistakes are:

- Heat above 27-28 °C, which causes stress and can be fatal. This is the most important mistake to avoid.
- Air that is too dry, which causes problems with shedding. Provide a humid chamber, and mist daily.
- Too little calcium and vitamin D3, especially in breeding females. It causes soft bones and egg-laying problems.
- Obesity, if the animals get too many waxworms or too large meals.
- Lost tails after fights or handling. The tail grows back, but the fat store is lost, so keep a closer eye on feeding afterwards.
- Stress from too much handling or too few hides.

A healthy animal has a plump tail and clear eyes and is lively at night. Have a faecal sample examined for parasites regularly, and see a vet experienced with reptiles if the animal loses weight, does not eat for several weeks or seems 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.