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GECKOS

Chinese leopard gecko

Goniurosaurus luii

A slender, nocturnal tiger gecko from the forested limestone mountains on the border between southern China and northern Vietnam, with orange eyes and narrow yellow bands on a light brown ground colour. It lives hidden in rock crevices and wants it cool and damp. In the wild it is Vulnerable, so only captive-bred animals belong in the terrarium.

Family: Eublepharidae Former name: *Goniurosaurus kadoorieorum*

KEY FACTS

THE ANIMAL

Adult size	**18-24 cm** total length incl. tail
Lifespan	**10-20 years**
Active	**At dusk and at night**
Lifestyle	**Rock-dwelling and terrestrial**
Habitat	**Rainforest and rocky terrain**
Difficulty	**Intermediate**

CARE

Min. enclosure	**60 × 45 × 60 cm** L × W × H for 1 adult
Temperature, day	**22-26 °C**
Temperature, night	**18-22 °C**
Humidity	**60-90%**
UVB	**Optional** Ferguson zone 1
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	**45-80 days** at 24-27 °C

PROTECTION AND PAPERWORK

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

About the species

Goniurosaurus luii belongs to the tiger geckos, a genus of eyelid geckos from southern China, Vietnam and Japan. It is slim and lightly built, with long, thin legs, a triangular head and large eyes with a vertical pupil and movable eyelids. The iris is bright orange, and above the eyes sits a row of clearly enlarged scale tubercles, which is one of the species' characteristic features.

Head, body and legs are light brown to grey-brown with small dark spots. Across the body lie narrow, unspotted bands in yellow or orange-brown, each with a thin dark edge: a V-shaped neck band, three bands between the front and hind legs and one at the base of the tail. The tail is almost black with three to six white bands. The young look different from the adults, and the colours change gradually as they grow.

Adult males measure on average 109 mm from snout to vent and females 112 mm, and the tail is about 72 mm. Including the tail, the species reaches 18-24 cm, and the sexes are almost the same size. Males are recognised by a row of pores in front of the vent and a clear thickening at the base of the tail. The tail can be shed if the animal is grabbed. It grows back, but looks different.

The species was described in 1999 from animals from Pingxiang in the Chinese province of Guangxi and is named after Wai Lui, who spent six years tracking down the populations. In 2006 it was also found in Vietnam. The closely related *Goniurosaurus kadoorieorum*, described in 2015, is now regarded as the same species, because it cannot be distinguished by reliable characters. The genus has been revised many times, and in the hobby tiger geckos are often confused, so experience with other species must be taken with caution.

Relatively little has been published about the care of this particular species. Several figures in the guide are therefore borrowed from the closely related *Goniurosaurus huuliensis*, which has been bred in captivity since 2019 and whose care is well described.

The gecko is shy and cautious and not an animal for daily handling. On the other hand, it is fascinating to watch in a well-furnished enclosure when it comes out after dark.

Distribution and habitat

The species lives in a small area of limestone mountains on both sides of the border between southern China and northern Vietnam. In China it is found in south-western Guangxi, where the type locality is at Pingxiang, and in Nonggang Reserve north-east of the Zuojiang river. In Vietnam it is known from the provinces of Cao Bang and Lang Son, including from Ha Lang district in Cao Bang. The first Vietnamese record was reported in 2006, and Lang Son was added in 2016.

The island of Hainan is sometimes also given as part of the range, but the more recent field surveys know the species only from the mainland, and Hainan is therefore not on the map. The populations are small and scattered. At the type locality the species has not been found again, probably because it has been collected for the pet trade.

> **Native range:** China and Vietnam.

HABITAT

The gecko lives in limestone mountains (karst) covered with evergreen broadleaf forest, about 100-700 metres above sea level. In Cao Bang it has been found at about 364 metres altitude. Most animals are seen on rock faces and large stones, only a few on the forest floor or in branches. During the day they hide in crevices and caves, and at night they come out to hunt insects and other small animals. In the Nonggang reserve the species prefers to sit on south-facing slopes.

The climate at the species' own sites has not been measured. In the closely related *Goniurosaurus catbaensis* on the Cat Ba islands in Vietnam, the summer humidity is 70-99 % and the ground 22-28 °C. The genus is thus used to high humidity and moderate warmth. Tiger geckos are active in the summer half of the year and take a cool break in winter, and that rhythm must be imitated in the enclosure if the animals are to breed.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

An adult needs an enclosure of at least 60 × 45 × 60 cm (length × width × height). A pair or a male with two females needs at least 90 × 50 × 60 cm. The species spends almost all its active time on the back wall and hunts from above, so it needs both height and something to climb on. Young grow up best in a faunarium or a small enclosure where they easily find food and water (see rearing).

Furnish the enclosure as a landscape of hides: cork tubes, cork bark, flat stones, roots and branches in front of a back wall of cork or a structured panel that looks like rock. The more crevices and caves, the more secure the animals feel, and the more often they show themselves. A humid hide with sphagnum helps them through the shed.

As substrate, a mix of unfertilised potting soil and sand or coco fibre suits, preferably with a layer of leaves on top. A drainage layer at the bottom prevents water from standing and causing mould and bacteria. Plants such as pothos, ficus and ferns provide humidity and hides. The geckos often use a fixed toilet spot, which is easy to keep clean. Provide good ventilation so that the air does not stand still.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

The species likes it cool and rarely needs extra heat in an ordinary living room. From spring to autumn the day temperature should be 22-26 °C, and at night it may fall to 18-22 °C.

Heat is the greatest danger. Tiger geckos do not tolerate more than a short time above 28 °C, and sustained heat can kill them. There should therefore not be a hot spot; locally up to 28 °C is tolerated, but it is not necessary. Keep the enclosure away from sunny windows, and measure with a digital thermometer both at the top and at the bottom.

If the animals are to breed, they are given a cool winter break of two to three months at 18-22 °C during the day and preferably down to 14-16 °C at night. Afterwards the temperature is raised slowly again (see breeding).

HUMIDITY AND WATER

Humidity should be high, 60-90 %, but the air must not stand still. Mist the enclosure every evening so that droplets form on the back wall, plants and leaves, and let it dry out a little during the day. The geckos lick the water off the substrate, and the mist water is often their most important drinking water. Still provide a shallow dish of fresh water, changed daily.

The species tolerates being dry for long periods poorly: the animals are weakened, have problems with shedding and can die. The substrate must conversely not stand constantly wet, so use drainage and good ventilation. In winter, mist a little less. A hygrometer shows whether the rhythm holds.

LIGHTING AND UVB

The geckos are active at dusk and at night and only need weak light from LED strips or T5 tubes, which give a fixed daily rhythm. Give 11.5 hours of light in summer and 10.5 hours in winter. Use a timer, and let the night be completely dark.

UVB is not necessary when the food is dusted with calcium and vitamin D3. A weak UVB light can nevertheless be an advantage for tiger geckos, because it may strengthen calcium metabolism. If you choose it, use a tube for shade-dwelling animals (Ferguson zone 1), for example a T5 tube of 5-7 %, over part of the enclosure, so that the UV index is at most around 1-2 on the uppermost surfaces, and there is always shade and hides.

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

FEEDING

Tiger geckos are pure insectivores. Offer crickets, dubia roaches and locusts as a staple and now and then mealworms, waxworms or silkworm pupae. Prey must be smaller than the distance between the animal's eyes, and everything is dusted with calcium and a vitamin-mineral supplement. Adults are fed two to three times a week.

The young get small crickets from about three days after hatching and then every other day or three times a week for the first months. A small dish of calcium that the animals can lick is a good idea. It must be changed often, because the calcium absorbs moisture and goes mouldy. Waxworms and other fatty larvae should only be a treat, because adults easily become too fat.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Tiger geckos are secretive animals that spend the day hidden and come out only when it is dark. They dash for cover if startled and are best observed. Some animals tolerate being picked up, but you should not count on it. Keep handling short, never grab the tail, and give new animals a couple of weeks of peace.

The species can be kept alone, in pairs or as a male with two females if there is space and many hides. Two males must never be kept together, because they fight. Juveniles can for a time live in small groups of the same size, but must be separated before they become sexually mature. It is entirely normal for the gecko to lick its eyes and mouth clean with its tongue, and like other eyelid geckos it eats its shed skin.

Breeding

SEXUAL MATURITY AND SEXING

Males are recognised by a row of pores in front of the vent and the clear thickening at the base of the tail, where the hemipenal pouches sit. The sex can be seen from about six months of age. When *Goniurosaurus luii* reaches sexual maturity is not known for certain; it may happen as early as 6-10 months, but that is far too early to put a female into breeding.

Wait until the female is fully grown and in good condition, preferably until she is about two years old. The eggs drain her calcium reserves, and breeding too early can cause calcium deficiency and lost eggs. Use only animals of known origin, and never cross different species or localities of tiger geckos.

MATING

The breeding season begins in spring, when temperature and humidity rise. Beforehand the animals must have a cool winter: two to three months at 18-22 °C with shorter days and food at most once a week. The temperature is then slowly raised to 25-26 °C, and feeding is increased. Without the winter pause many tiger geckos do not come into breeding condition.

Put the male in with the female, and let them stay together as long as there is peace. The species can also be kept permanently as a pair or trio. Remove the male if the female seems stressed or loses weight, and give her breaks during the season.

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. A female lays one to four clutches a year, most often one to three, and most eggs are laid between June and September.

Place a laying box with at least 5 cm of moist sphagnum, coco fibre or vermiculite in the enclosure. Give the female plenty of calcium and insects throughout the season, and remove the male and give her a rest if she loses weight.

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. Incubate the eggs at 24-27 °C.

The time depends on the temperature: at 27 °C the eggs hatch after 45-50 days and at 25-26 °C after 60-80 days. At hatching, fluid seeps out of the shell, and the young can spend several hours getting out. Whether temperature determines the sex in the species is not known.

REARING THE YOUNG

The hatchlings shed shortly after hatching. Once that is over, they are moved to a small plastic box of about 30 × 20 × 20 cm with coco fibre, a damp corner with sphagnum, a piece of cork and a small water bowl. Kitchen paper as substrate for the first weeks makes it easy to see whether the hatchling is eating and passing normal droppings. Two to three hatchlings can be kept together for the first weeks and later moved to enclosures of 40 × 40 × 35 cm up to 60 × 50 × 40 cm. Mist daily.

The first meal is small crickets after about three days, then every other day or three times a week, always dusted with calcium and vitamins. The juveniles change colour as they grow, and juveniles of different tiger geckos are almost impossible to tell apart, so keep track of the origin. Separate the animals before they become sexually mature, especially the males.

Health and common mistakes

Tiger geckos are hardy when the climate is right, and most problems are caused by wrong temperature, humidity or calcium. The typical mistakes are:

- Too much heat. Above 28 °C the animals become stressed, and a longer time at high heat can kill them.
- Dry periods. If the air is dry for a long time, the animals are weakened and may die. Mist daily, and provide a damp hide.
- Retained shed stuck on the toes and tail tip when the air is too dry. A damp hide helps.
- Calcium deficiency, especially in juveniles and females in the breeding season. It causes soft bones and lost eggs and can lead to egg-laying difficulties. Dust all food with calcium and vitamins.
- Mould and bacteria in a constantly wet substrate without drainage and ventilation.
- Parasites. Regular faecal samples are recommended, and new animals should be quarantined.

Warning signs are loss of appetite for several weeks, weight loss, a thin tail and a limp posture. Contact a vet experienced with reptiles if the animal does not eat or seems ill.

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.