herpy

GECKOS

Yellow-headed day gecko

Phelsuma klemmeri

A small, luminous day gecko with a turquoise back and yellow head that lives in bamboo forest on a tiny patch of north-western Madagascar. It is threatened in the wild, but well established in captivity and relatively easy to breed, and it is a splendid animal to observe rather than handle.

Family: Gekkonidae

KEY FACTS

THE ANIMAL

Adult size	**8-10 cm** total length incl. tail
Lifespan	**8-15 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Rainforest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**30 × 30 × 45 cm** L × W × H for 2 adults
Temperature, day	**25-28 °C**
Basking spot	**30-32 °C**
Temperature, night	**20-23 °C**
Humidity	**60-80%**
UVB	**Recommended** Ferguson zone 3
Diet	**Insects, fruit, nectar and complete diet**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**6-8 months**
Clutch size	**1-2 eggs**
Incubation	**40-60 days** at 27-29 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Endangered (EN)**

About the species

Phelsuma klemmeri is one of the smallest day geckos. It reaches 8-10 cm including the tail, and roughly half of that is tail. The head is yellow, the back and tail turquoise to blue, and a black stripe runs from the eye along the sides of the body. Males have yellow to orange scales around the pores on the thighs. Like other day geckos it has round pupils and no movable eyelids.

The species was described by Robert Seipp in 1991, and the species name *klemmeri* honours the German herpetologist Konrad Klemmer. It belongs to a small group of day geckos that live in bamboo.

The species has been kept and bred in captivity for many years, and the animals in the trade are overwhelmingly captive-bred. It is less robust than the large day geckos, because it is small and quickly suffers from desiccation and cold, but it thrives when humidity, warmth and calcium are right.

The gecko is shy and lightning fast and moves in short dashes up and down bamboo tubes and leaves. It is an animal to look at, not to pick up.

Read more: Humidity, misting and ventilation Read more: Calcium, vitamins and supplements Read more: Buying animals: captive-bred, wild-caught and transport

Distribution and habitat

The species is found only on Madagascar and has a very small range in the north-western part of the island. It is known from the Ampasindava Peninsula, including the type locality Antsatsaka in the Sambirano region. It has since also been found at Lake Mandrozo in western Madagascar, but far less is known about the population there.

The habitats are small and scattered, and the IUCN assesses the species as Endangered (EN), among other reasons because the forest around the bamboo thickets is being felled and burned. The map is centred on the Ampasindava Peninsula, and the frame also includes the records at Mandrozo. Records elsewhere in the world come from captive animals.

> **Native range:** Madagascar.

HABITAT

The gecko lives in humid, near-coastal forest in the warm and humid Sambirano climate up to an altitude of about 400 metres. It is tied to bamboo and is most often seen on yellow bamboo canes, where it hides in cracks and cavities when disturbed. It also uses the cavities to lay eggs.

The climate is warm and humid with a distinct rainy season from about November to March, which is also the species' breeding season. The days are warm and bright and the nights slightly cooler and very humid. The gecko hunts small insects and other small animals and also licks nectar, pollen and sap from soft fruit. There are no measurements of temperature and humidity from the species' habitats, so the enclosure values are based on experience in captivity.

Care

THE ENCLOSURE

A pair can live in a tall enclosure of at least 30 × 30 × 45 cm (length × width × height), and one male with two or three females needs at least 45 × 45 × 60 cm. Bigger is better, because it leaves room for more temperature zones, and a female that the male becomes too eager with can get away. Height is more important than floor area, because the gecko lives on vertical surfaces.

Furnish with diagonal and vertical hollow bamboo canes of different thicknesses. They serve as hides and laying sites and resemble the species' natural habitat. Add live plants with broad leaves, for example pothos, sansevieria or bromeliads, where the gecko can drink droplets and hide. The substrate can be damp, fertiliser-free soil mixed with coconut fibre and covered with dead leaves. A bioactive substrate with springtails and woodlice keeps mould down.

The enclosure must have mesh ventilation both at the top and at the bottom, so that the droplets from the morning misting dry up during the day. Still, saturated air is more dangerous for the species than slightly dry air.

Read more: Terrarium construction and bioactive substrate Read more: Feeder animals: keeping and breeding

TEMPERATURE

During the day the enclosure should be 25-28 °C, with a small basking spot of 30-32 °C under a halogen spot, where the gecko can warm up. Let the animal choose between the basking spot and the cooler parts of the enclosure. At night the temperature should fall to 20-23 °C.

Measure with digital thermometers both at the basking spot and at the bottom, and position the lamp so no perch becomes warmer than 32 °C. Hang it above the mesh lid with some distance, so the animal cannot burn itself. If the gecko sits with its mouth open or hides all day, it is usually too hot.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should average 60-80 %, measured in the middle of the enclosure. Mist thoroughly in the morning and again in the late afternoon, so that leaves and panes are covered in droplets. The gecko licks the droplets, and this is its main way of drinking. A water dish is therefore not enough, but a small, flat dish may be left out.

Moisture must alternate with drying out. If droplets are still on the panes the next morning, there is too little air exchange or too much misting.

LIGHTING AND UVB

The species is diurnal and needs UVB. Use a T5 tube of a strength and distance that gives a UV index of 3-4 at the uppermost perches (Ferguson zone 3), and preferably measure with a UV index meter. The rest of the enclosure must lie in shade, so that the gecko can always withdraw from the light. Replace the tube after the time the manufacturer states, because the output declines.

Keep the light on for 13 hours in summer and 11 hours in winter, preferably on a timer, and supplement with a daylight tube if you like. At night it must be dark. Strong light is part of the reason the animals develop their luminous colours.

Read more: Lighting and UVB

FEEDING

The gecko eats both small insects and sweet things. Offer small live insects such as fruit flies, newly hatched crickets and small houseflies, dusted with calcium with D3. The insects must be smaller than the distance between the animal's eyes.

Supplement with prepared food for fruit-eating geckos, mixed into a thin paste and served in a small dish or on a leaf. It provides calcium, vitamins and the sweetness the species seeks in the wild. A drop of fruit purée can be a treat.

Juveniles get insects daily and prepared food every other day. Adults manage with insects two to three times a week and prepared food once a week. Breeding females need extra calcium throughout the season. Adjust the quantities according to the animal's body shape, so that it becomes neither thin nor fat.

BEHAVIOUR AND HANDLING

The gecko is shy and fast and is poorly suited to handling. If it has to be moved, coax it into a container rather than grabbing it, because the tail is easily dropped, and the skin is thin and delicate.

In the enclosure you can keep a pair or one male with two or three females, if there is space and many hides. Males must never be kept together, because they fight hard, and females too can become dominant over each other. The species communicates with nods and head movements, and a peaceful group can often be seen basking together. A stressed animal hides, loses weight or becomes dull in colour.

Breeding

SEXUAL MATURITY AND SEXING

Males can be recognised by the pores on the underside of the thighs, which are surrounded by yellow to orange scales, and the sex can often be seen from 3-4 months of age. Males are typically sexually mature after 5-6 months and females after about 8 months, but size matters more than age. Wait to breed a female until she is almost fully grown, because egg-laying drains her of calcium.

MATING

The species breeds in the rainy season, in the wild from about November to March. In the enclosure the females can lay eggs for most of the year when light, warmth and food are right. Mating happens by itself when the animals are put together. The male bites the female on the neck, and small scratches may result. If the female constantly keeps away, or there are fights, separate the animals. Give the females a short winter break with slightly shorter days and slightly cooler nights, so that they can rebuild their calcium reserves.

EGG-LAYING AND CLUTCHES

The female usually lays two eggs at a time, now and then only one, and typically at intervals of 4-8 weeks for much of the year. How many clutches there are per year is not well documented.

The species glues its eggs fast, most often inside bamboo canes, on leaves or on the pane. Never try to loosen them, because the shell breaks easily. Provide the female with several suitable laying sites, for example bamboo canes or short plastic tubes that can be taken out of the enclosure. Females may eat eggs to obtain calcium, so make sure there is always plenty of calcium, and check the laying sites regularly.

INCUBATION

Glued eggs are incubated where they sit. If they are in a bamboo cane or a loose plastic tube, the whole tube can be moved into a small box with damp vermiculite or perlite and ventilation holes in the lid. If they are on the pane or in a plant, you can place a small, ventilated cup with mesh over them, so that the young do not disappear or get eaten.

Keep the temperature at 27-29 °C. The eggs then typically hatch after 40-60 days, and at lower temperatures it takes longer. In other day geckos temperature affects sex, but for this particular species there are no reliable figures.

REARING THE YOUNG

The young are only 2-3 cm long when they hatch and begin to eat after a couple of days. Keep them in a small, humid faunarium with mesh ventilation, a piece of bamboo and a plant, and mist daily. Give fruit flies and prepared food from the first week, and dust the flies with calcium.

Keep the young apart from the adults, who may regard them as prey. Siblings can live together while they are small, but separate them if one is being chased or falls behind. As they approach adult size, the males must in any case be separated.

Health and common mistakes

The species is small and delicate, and most problems are caused by husbandry mistakes. The typical ones are:

- Too little calcium, D3 and UVB, which causes soft jaws, bent limbs and tremors. Breeding females in particular are at risk.
- Too much heat and too little air exchange, which dries the animal out or stresses it.
- Constantly wet conditions and mould, which cause skin infections.
- Skin remnants stuck on the toes and tail tip. Ensure high humidity when the animal sheds.
- Fights, which cause wounds and dropped tails.

A healthy animal has luminous colours, clear eyes and a plump tail. Small animals quickly become ill, so see a vet with reptile experience if the gecko is lethargic, loses its colour, loses weight or stops eating.

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.