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GECKOS

Henkel's leaf-tailed gecko

Uroplatus henkeli

One of the largest leaf-tailed geckos, from the forests of north-western Madagascar. By day it lies flat and almost invisible on a tree trunk, and at night it hunts in the branches. It is calm towards conspecifics and can be bred, but it tolerates neither heat nor drought and belongs with an experienced keeper.

Family: Gekkonidae

KEY FACTS

THE ANIMAL

Adult size	**20-30 cm** total length incl. tail
Weight	**50-80 g**
Lifespan	**7-11 years**
Active	**At night**
Lifestyle	**Arboreal**
Habitat	**Dry forest and rainforest**
Difficulty	**Experienced**

CARE

Min. enclosure	**60 × 60 × 100 cm** L × W × H for 2 adults
Temperature, day	**22-26 °C**
Temperature, night	**17-21 °C**
Humidity	**60-100%**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects**
Kept	**Singly, in pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**12-18 months**
Clutch size	**1-2 eggs**
Clutches per year	**1-5**
Incubation	**100-230 days** at 18-26 °C

PROTECTION AND PAPERWORK

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

About the species

Uroplatus henkeli is one of the leaf-tailed geckos, a genus with some of the most perfected camouflage in the animal kingdom. It has a large, triangular head, a flat, leaf-shaped tail and a fringe of skin folds along the body and under the chin. When it presses itself against a trunk, the fringe flows out into the bark, and the outline disappears. The eyes are large with a vertical pupil, and the tip of the tongue is black, which is one of the species' distinguishing features.

The species was described in 1990 and is named after the German herpetologist Friedrich-Wilhelm Henkel. It grows to up to 30 cm including the tail, with a body length (snout to vent) of 12-16 cm. Males typically weigh 50-70 g and females 60-80 g, while well-fed breeding females can exceed 100 g. The base colour is beige, grey or brown with darker marbling or crossbands, and it changes with light, time of day, temperature and mood. Some animals are mottled in light and dark, the so-called pied pattern.

In 2023 the northernmost populations, including those from Ankarana and Bobaomby, were described as a separate species, *Uroplatus garamaso*. It is slightly smaller, has a narrower tail and a uniformly pink tongue. Animals at the low end of the size ranges may therefore belong to the new species.

The tail cannot store fat as in many other geckos, and the species can become ill quickly and without clear warning signs. It is therefore best suited to keepers who have kept demanding nocturnal reptiles before. On the other hand, it is unusually peaceful towards conspecifics, and breeding succeeds for those who get the climate right.

Distribution and habitat

The species is found only on Madagascar, in the north-western and western part of the island, and the population is divided into several separate areas. In the north it lives in the Sambirano region and on the islands of Nosy Be and Nosy Komba. Further south it is found at Manongarivo, Sahamalaza and Kelifely, among other places, and in Ankarafantsika National Park, and furthest south in Tsingy de Bemaraha.

In 2010 the range was estimated at about 12,000 km², but the figure is too high today, because the northernmost animals are now assigned to *Uroplatus garamaso*. The species lives in protected areas such as Lokobe, Ankarafantsika and Tsingy de Bemaraha, but animals are collected for the trade even there.

> **Native range:** Madagascar.

HABITAT

Uroplatus henkeli is tied to forest and is found in at least three forest types: lowland rainforest (for example in Sambirano), dry deciduous forest (for example in Tsingy de Bemaraha) and bamboo forest (for example in Lokobe). It has not been found in open plantations, and the only record from a coffee plantation was a young animal close to the forest edge.

By day the gecko sits head-down on a tree trunk, typically 70-130 cm above the ground and preferably on thin trunks with a diameter of 2-6 cm. At night it climbs higher to hunt. The female goes down to the ground to lay eggs.

The climate is tropical with small temperature fluctuations. The rainy season lasts from November to March and the dry season from May to September. The mean temperature in the habitats is about 23-27 °C, and humidity in the forest averages about 83 %. The animals are seen mostly around the rainy season, when they are most active and breed. What they do in the middle of the dry season is not known.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A pair needs an enclosure of at least 60 × 60 × 100 cm (length × width × height), and a group of three to five animals fits in 90 × 90 × 120 cm. Bigger is better, also because it is easier to create a good temperature difference between top and bottom. Juveniles can live in 30 × 30 × 45 cm until they outgrow it. A glass enclosure with mesh in the top and at the bottom of the front gives good ventilation and the smooth surfaces that the geckos like to rest on by day. Large adults also do well in mesh cages.

Furnish with vertical trunks and branches 3-10 cm thick, preferably some of 6 cm or more for resting. Oak is a good and readily available choice, while very rough bark should be avoided. Live plants that tolerate moisture and dim light, for example rubber plant, pothos, dragon tree and peace lily, provide cover, create diffuse light and hold the humidity. Artificial plants can be used if live ones do not succeed.

The substrate can be soil mixed with a little sand on top of a drainage layer of clay pebbles, separated by a cloth, and covered with a layer of dead leaves. It should be slightly damp, but never wet, especially if there are females that are going to lay eggs. A couple of large pots of soil provide extra laying sites. Avoid rough artificial rock, which causes snout injuries when the animal leaps for prey.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

By day it should be 22-26 °C, and at night the temperature should fall to 17-21 °C. The night-time drop is important for well-being, but if the night stays constantly at the cold end, the females may have difficulty laying their eggs.

Heat is the greatest danger. Sustained temperatures above 27 °C slowly weaken the animal, and above 32 °C it becomes restless, stops eating and can die within a short time. It copes with short heat peaks in summer. Therefore place the enclosure somewhere cool without direct sun, and find out how hot the room gets in summer.

The species takes its temperature from its surroundings and seldom basks, but gravid females occasionally do. Therefore use a weak halogen spot (35-75 W depending on the size of the enclosure) over a small part of the enclosure, so that the animals can choose for themselves, while the rest of the enclosure holds the background temperature. For juveniles the spot under the lamp should be about 30 °C. A small seasonal variation, with the high end of the ranges in summer and the low end in winter, is necessary to get the animals to breed (see breeding). Measure with reliable digital thermometers, and check them every time you look in on the animals.

HUMIDITY AND WATER

Humidity should be high: from about 60 % during the day and up towards 100 % right after misting. Mist once or twice a day, so that droplets form on leaves and glass, which the animals drink. The aim is a damp, but not soaked, enclosure. Do not mist right after feeding, as the water washes the calcium off the insects.

A fogger that runs for a couple of hours in the morning imitates the dew of the forest and gives high humidity without wet surfaces, but it should not run all day and night. Good ventilation is crucial, so that the air does not stand still.

The gecko drinks droplets and licks water from its eyes, but provide a shallow bowl of fresh water all the same, changed daily. Sunken eyes, poor sheds and a wrinkled tail with curling fringes are signs that the animal is dehydrated.

Read more: Calcium, vitamins and supplements

LIGHTING AND UVB

The species is nocturnal and can manage without UVB when the supplement contains vitamin D3, but it is a good idea to offer it, because in the wild the animals receive diffused UV light through the foliage. Use a UVB tube for forest animals, e.g. a 7 % T5 tube, mounted outside the mesh lid together with the heat spot. The UV index should be 0 in the shade among the plants and at most about 3 on the uppermost, open branches, which corresponds to Ferguson zone 2. A UV index meter is necessary, because plants and the age of the tube change the output.

Provide 12-14 hours of light in summer and 8-10 hours in winter. Day length should follow the temperature and is an important trigger for breeding. A little moonlight through a window or a faint, dimmed LED at dusk helps the animals orient themselves. Avoid direct sun, which quickly overheats the enclosure.

Read more: Lighting and UVB

FEEDING

Uroplatus henkeli feeds on insects and other small animals. Offer a varied mix of crickets, locusts, roaches (for example dubia), waxworms and other feeder animals, which have themselves been given good food for the last 24-48 hours. Dust them with calcium and a vitamin supplement according to the product's instructions. Vitamin D3 preferably comes from the UVB light, but without UVB the supplement must contain D3.

Snails are perhaps the most important food for the females. Females that are given small snails lay more eggs, recover more quickly after laying and have large calcium pouches on the neck. The shell should be roughly as large as the gecko's eye. Use captive-bred snails, for example garden snails or pond snails, never wild ones, which can carry snail poison and parasites. Adult males usually refuse the snails, while juveniles of both sexes take them.

Juveniles are fed three times a week with small crickets or fruit flies, half-grown and adult animals two to four times a week and only twice a week in the cool period. Females before, during and after laying need more. Release the insects up in the branches late in the day. Weigh adults every third to sixth month and juveniles every month or every other month. Overweight makes the animals less viable and can cause floppy tail.

Read more: Feeder animals: keeping and breeding Read more: Buying animals: captive-bred, wild-caught and transport

BEHAVIOUR AND HANDLING

By day the gecko sits perfectly still and camouflaged on a trunk or on the glass. It is an animal to watch, not to handle. Touch stresses it, and it may shed its tail, which regrows and looks like the old one. Handle it only when it needs to be weighed or examined. If it feels threatened, it opens its mouth wide, shows the black tip of its tongue and lets out a shrill scream.

Socially the species is unusually peaceful for a gecko. Even males are seldom aggressive towards each other, and pairs or small groups can be kept together, including all-male or all-female groups. Smaller animals may nevertheless be suppressed, so keep animals of the same size together. Put the animals together in the morning, and check them for bites the next morning. Serious wounds mean they must be separated at once.

During the breeding season, males may gape and scream at each other, and new animals may be met with territoriality in an established group. In very large exhibits the species can live with other large species, but in an ordinary enclosure it should be kept only with its own kind.

Breeding

SEXUAL MATURITY AND SEXING

Adult males have distinct hemipenal bulges at the base of the tail, best seen from below. In animals that have just become sexually mature, the bulges can be hard to see. At night, males often have large dark brown to black blotches and females fine dark dots. Even newly hatched juveniles can be sexed: females have a black crossband at the nape, while males have a black stripe along the back and fine stripes on the sides of the back.

The animals become sexually mature after about 12-18 months. Females must be in top condition before they are put to breed, with good muscle tone and distinct calcium pouches on both sides of the neck. Healthy breeding females weigh 70-115 g, and they are most fertile from the second to the seventh year of life. Sex is determined by chromosomes (males ZZ and females ZW), as in the rest of the genus.

MATING

Breeding requires a clear seasonal rhythm with changing temperature, humidity and day length. Without it the animals stagnate, and in the worst case they are weakened. In Europe the cool period is normally placed in our winter, so that it follows the natural temperature of the room. The animals are put together when it gets warmer again.

The species is not fussy, and breeding groups can be put together with almost any ratio of males to females. Several males can stimulate each other, but then you do not know who the father is. The male waves his tail, climbs onto the female without biting her neck and brings his tail in under hers. Mating takes place at night and can last several hours. If two animals will not, a brief separation often helps.

The female can store sperm and lay several clutches after a single mating. Give her about three months' rest from the males every year, preferably in the cool period, and earlier if she loses weight.

EGG-LAYING AND CLUTCHES

About one to two months after mating, the female usually lays two eggs, sometimes only one and very rarely up to four. She can lay up to five clutches in a season. The eggs are round and hard-shelled, not leathery as in many other geckos, and measure about 2 cm in diameter and weigh 2-4 g. They can be seen through the belly of a gravid female.

The female lays the eggs at night, just under the leaves or lightly buried in the substrate, and rolls them in soil with her hind feet while the shell hardens. She readily uses the same site again. Give her damp soil covered with leaves or a few large pots. Leave her in peace, and collect the eggs afterwards without turning them. Eggs that lie loose on top of the substrate without soil on them are often infertile and are frequently eaten by the female.

Examine the female after each clutch to make sure she has laid all her eggs and is in good condition. If she loses weight, it is time to stop breeding for that season.

INCUBATION

Incubate the eggs in a small plastic box with vermiculite mixed with water 1:1 by weight, or with soaked and well-squeezed sphagnum. Lay them half-buried in the substrate without turning or covering them. Humidity must be above 70 %, but the egg itself must be kept dry. A good trick is to place the egg on a small dish of dry vermiculite on top of the damp layer. Make sure condensation from the lid does not drip onto the eggs. Newly hatched young can swallow vermiculite, so consider sphagnum or cover the vermiculite with fine cloth.

The temperature should be between 18 and 26 °C. The eggs can hatch at a constant 24-26 °C, but a night-time drop to 18-22 °C gives more hatchings, and a gradual rise and fall is best. A room with natural fluctuations therefore often does better than an incubator.

The eggs hatch after 100-230 days, on average 165 days, and higher temperatures give a shorter time. Eggs from the same clutch usually hatch within a few days and at most a week of each other. Early on, you can see blood vessels by shining a torch through the egg in a dark room.

Read more: Incubating eggs

REARING THE YOUNG

The young measure 4-5 cm from snout to vent and about 7 cm in total at hatching. Let them stay in the incubation box until they have shed for the first time. When they are lively, well-formed and the navel is closed, move them to a small glass enclosure of at least 30 × 30 × 45 cm, furnished as a miniature version of the adults'. Plastic tubs are a poorer choice, because plastic blocks UVB light and ventilation is poorer.

Keep the young at 23-25 °C by day and 19-21 °C at night with a weak halogen spot (for example 35 W), which gives about 30 °C in a small spot. Juveniles tolerate heat less well than adults, so there must be a clear difference between warm and cool. The UV index must reach at most 3 under the lamp. Give small crickets and fruit flies three times a week, dusted with supplement at every feed, and small snails when the young can take them. Feeding with tweezers at the start shows whether all are eating.

Juveniles can be kept singly or in groups of at most four until they are eating well and growing well. Keep them the same size, and move those that fall behind to their own enclosure.

Health and common mistakes

Uroplatus henkeli is delicate, and animals in poor condition can waste away and die with very little warning. Prevention and close observation are therefore the most important things. The typical problems are:

- Too high a temperature. A longer time above 27 °C and especially above 32 °C causes restlessness, loss of appetite, emaciation and ultimately death.
- Dehydration. Sunken eyes, poor sheds, a wrinkled tail and curled tail fringes are signs of too low humidity or too little water.
- Floppy tail, where the tail flops down over the back when the animal hangs head-down. It is linked to overweight and is prevented by moderate feeding.
- Lost tail. This is often a sign of stress or poor well-being, and in weakened animals the tail can fall off without being touched.
- Eggs that become stuck and exhausted females. This is often caused by too little calcium, nights that are too cold or too many clutches. Snails, an annual rest period and a check after each clutch prevent it.
- Snout injuries from rough artificial rock or too small an enclosure, and wounds from bites.

Weigh the animals regularly, and keep an eye on muscle tone and calcium pouches. Seek a vet with experience in reptiles if the gecko loses weight, stops eating, seems sluggish or does not drink on its own. Until then you can give water by gently misting onto the snout. Preferably have a faecal sample examined.

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.