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GECKOS

Kim Howell's dwarf gecko

Lygodactylus kimhowelli

Lygodactylus kimhowelli is a small, diurnal climber from the coastal forests of north-eastern Tanzania. It has a yellow head, a blue-grey body and black longitudinal stripes, and it wants sun, warmth and a tall enclosure with bromeliads and cork. It suits keepers with a little experience who want to watch a lively, territorial animal in daylight.

Family: Gekkonidae

KEY FACTS

THE ANIMAL

Adult size	**9 cm** total length incl. tail
Lifespan	**5-8 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Rainforest and montane forest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**40 × 40 × 40 cm** L × W × H for 2 adults
Temperature, day	**25-30 °C**
Basking spot	**30-35 °C**
Temperature, night	**18-24 °C**
Humidity	**50-85%**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects, fruit and small invertebrates (springtails, fruit flies)**
Kept	**In pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**14-18 months**
Clutch size	**1-2 eggs**
Incubation	**75-100 days** at 25-28 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Lygodactylus kimhowelli is a small day gecko with round pupils and fine lamellae under the toes and on the tip of the tail, which it uses to climb on trunks, cork and leaves. The head is yellow and marked with four black longitudinal stripes, which continue backwards towards the base of the tail. At the forelimbs the colour changes to a blue-grey blend. The male can be recognised by a dark throat and a thick tail base, while the female's throat is paler or without colour altogether.

The species was described in 1995 by Georges Pasteur. The scientific name was given in honour of the herpetologist Kim Howell for his great contribution to knowledge of the reptiles of Tanzania. The species belongs to the group of dwarf geckos that includes *Lygodactylus picturatus* and *Lygodactylus williamsi*, among others.

It is one of the larger dwarf geckos. It grows to about 9 cm including the tail, while the body and head from snout to vent measure only 4 cm. The young look like the adults, but have a red belly, a red underside to the tail and legs, and distinct black stripes on the back. They are 13-14 mm long at hatching.

It is territorial and fast, and you should be prepared for it being an animal to watch and not to handle. Only a few experiences with the species in captivity have been described.

Distribution and habitat

Lygodactylus kimhowelli is endemic to Tanzania. The type locality is the forest edge at the Amboni Caves in the Tanga region. The species is known from the coastal forests from there northwards towards the border with Kenya, and from the East Usambara Mountains, including the area around Amani.

A few observations further inland and a record at Arabuko Sokoke in Kenya are unresolved and are not counted in the original range.

> **Native range:** Tanzania.

HABITAT

Lygodactylus kimhowelli lives in forest from sea level up to about 1,350 metres, and it has also been found in suburban gardens. It is arboreal and diurnal and is probably seen mostly on thick tree trunks, where it basks. At night it hides in crevices and behind bark.

The coastal forest in the area is warm and humid. Little is documented about the climate and seasonal rhythm for this species in particular, and there are no measured figures for temperature and humidity in the wild. The care is therefore based on experience from vivaria, where the animals do best in an enclosure that is slightly drier than for typical rainforest species.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A pair of *Lygodactylus kimhowelli* needs an enclosure of at least 40 × 40 × 40 cm (length × width × height), and bigger is better, because the species is one of the larger members of the genus and lives up in the trees. A group of one male and two females does well in, for example, 50 × 50 × 60 cm. Height matters more than floor area. The lid must have a large mesh area, and the joints must be so tight that neither the geckos nor the feeder insects escape.

Cork for the back wall and sides and pieces of bark provide both visual cover and extra climbing surfaces. Thick and thin branches, for example of oak, and bamboo canes provide hiding places and lookout points. Sansevieria is well suited, because the leaves are used as runways, and the small funnels between the leaves are used for egg-laying. Bromeliads also work well.

A mixture of about two thirds coconut fibre and one third peat with a little sand, 2-3 cm deep, can be used as substrate, as the animals do not dig. A layer of drainage clay pebbles at the bottom, separated from the soil by a felt fabric, prevents stagnant water.

TEMPERATURE

Lygodactylus kimhowelli needs 25-30 °C by day and 18-24 °C at night. The upper part of the range suits summer, and in winter the night temperature may fall to 18-22 °C.

The species loves sun and needs a basking spot at 30-35 °C. Use a halogen spot or a small heat lamp, and adjust the output to the size of the enclosure so that a small enclosure does not get too hot. The heat lamp does not need to be on all day: two to four periods of 30-45 minutes in summer and two in winter are enough. Always measure with a thermometer both at the top and at the bottom, and provide a cooler area where the gecko can retreat.

Read more: Heat and temperature

HUMIDITY AND WATER

Mist the enclosure for *Lygodactylus kimhowelli* once or twice a day, preferably onto the plants, so the humidity by day is about 50-70 % and rises to 70-85 % at night. The enclosure should still be slightly dry, and stagnant water and a constantly wet substrate must be avoided. Good ventilation openings at the top keep the air moving.

The gecko drinks droplets from leaves and cork, and it must have access to water every day. It can tolerate a single day without water, but you need to be aware of hot summer days and of where the enclosure stands. A large water bowl is not necessary.

LIGHTING AND UVB

Lygodactylus kimhowelli is diurnal and loves sun, so do not skimp on the light. Use, for example, two T5 tubes with a daylight spectrum, preferably with a UVA and UVB share, and a halogen spot as the heat spot. UVB is recommended, but which Ferguson zone suits the species is not documented. Zone 2 is a cautious estimate. Give the gecko shade in part of the enclosure.

Switch the light on for 14-16 hours in summer and 12-14 hours in winter, ideally controlled by a timer. A weak night light for up to four hours can be used if you wish. Otherwise it should be dark at night.

Read more: Lighting and UVB

FEEDING

Lygodactylus kimhowelli needs live prey of a size it can manage: small crickets, grasshoppers, flies, mealworm beetles, wax moth larvae, aphids, woodlice, cockroaches and springtails. Give six to eight small prey items every second day; the amount applies to the genus in general. Also offer a fruit paste now and then, for example mashed banana or fruit-based baby food.

Calcium supply is important, and there is no single solution. Dust the feeders with calcium and vitamins, hang up a cuttlebone, or put crushed hen's eggshells and empty eggshells from hatched geckos in the enclosure. Some animals spit dusted insects out again, so give them several routes to calcium. Females that lay eggs use a lot of calcium.

Small animals need the smallest feeders, and the amount of food for juveniles is not documented.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Lygodactylus kimhowelli is territorial and can be stressed by too many animals in too little space. Males must never be kept together, because they are very territorial. Several females can usually live together, but you have to try it out and be ready to separate them. A pair or one male with one or two females is the most common way of keeping them.

It is fast and very small and not suited to handling. The animals are mostly for watching, and you need to spend time making the enclosure so good that the geckos are active and visible in daylight. Take care that they do not escape when you open the enclosure, and open it only briefly when feeding.

Breeding

SEXUAL MATURITY AND SEXING

In *Lygodactylus kimhowelli*, the male is recognised by a distinctly darker throat, which becomes darker with age, and by a thickened tail base with two hemipenal pouches. The male has 10-11 pores in front of the vent, and a secretion from them is usually seen. The female has a paler, less pronounced throat colour and no thick tail base. Many dwarf geckos are sexually mature after 9-15 months, but it is an advantage to wait to pair the animals until they are 14-18 months old.

MATING

Lygodactylus kimhowelli mates all year round. Put one male and one or two females together in an enclosure of suitable size, and keep an eye out that the male does not chase the females too hard. Several hiding places are needed, so the females can get away from him.

A short winter period with fewer hours of light, 12-14 hours, and a slightly lower temperature, 18-22 °C at night, is useful for breeding. The females also take breaks from egg-laying themselves, typically from July to September and from December to February.

EGG-LAYING AND CLUTCHES

The female of *Lygodactylus kimhowelli* lays 1-2 eggs, about 5-6 mm in size, every four to six weeks when she is in lay. She most often hides them in film canisters, bamboo canes, bromeliads, between bark or in a sansevieria, and otherwise on the ground. Provide several possible sites, for example a small tin with damp substrate and a hole in the side.

If you can take the eggs out of the enclosure, you should do so, so they are not destroyed by the other animals. Give the female plenty of calcium and small insects throughout the season, and stop breeding if she loses weight.

INCUBATION

Carefully move the eggs of *Lygodactylus kimhowelli* to a small box with slightly damp substrate, and do not turn them. No incubation temperature has been documented for this species. 25-28 °C is an estimate corresponding to a warm incubator or the temperature in a warm enclosure. The eggs hatch after about 75-100 days.

Temperature does not appear to have much effect on the sex ratio, but this has been little studied.

Read more: Incubating eggs

REARING THE YOUNG

The young of *Lygodactylus kimhowelli* are 13-14 mm long at hatching. They need a small enclosure with good ventilation, many hiding places and a fine, slightly damp substrate, and the enclosure must be misted daily.

Give the smallest feeder insects, for example springtails and fruit flies, dusted with calcium, and provide access to calcium in a small dish. No special requirements for the young of this species have been documented, so the care is based on the same conditions as for the adults. Keep the young apart when they begin to show territorial behaviour.

Health and common mistakes

Few diseases have been documented in *Lygodactylus kimhowelli*. The typical mistakes are:

- Too little calcium and vitamin D, especially in females that lay many eggs. This causes weak bones. Make sure there is calcium in the food and as a freely available supply.
- Too much heat on hot summer days or in a small enclosure with a powerful lamp.
- Stagnant water and a wet substrate, which cause mould and skin problems.
- Shedding problems and blood mites are known problems in dwarf geckos. Check the toes and tail tip after shedding.

A healthy animal is active in daylight, has clear eyes and a plump tail. See a vet experienced with reptiles if the gecko loses weight, stays hidden for a long time or does not eat.

Read more: Common diseases and signs of illness

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.