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GECKOS

Kimberley rough knob-tailed gecko

Nephrurus sheai

A large, stocky knob-tailed gecko from Australia's northern rocky country in the Kimberley and the Top End, with spiny skin, distinctly banded toes and a small knob at the end of the tail. It is nocturnal, feeds on insects and is only sparsely described in captivity, so the guide is based on the close relative *Nephrurus amyae*.

Family: Carphodactylidae

KEY FACTS

THE ANIMAL

Adult size	**9-12 cm** snout-vent length
Lifespan	**10-15 years**
Active	**At night**
Lifestyle	**Rock-dwelling and terrestrial**
Habitat	**Savanna and rocky terrain**
Difficulty	**Intermediate**

CARE

Min. enclosure	**60 × 45 × 30 cm** L × W × H for 1 adult
Temperature, day	**24-28 °C**
Basking spot	**30-32 °C**
Temperature, night	**20-23 °C**
Humidity	**30-50%**
UVB	**Optional** Ferguson zone 1
Diet	**Insects**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**12-24 months**
Clutch size	**1-2 eggs**
Clutches per year	**2-4**
Incubation	**80-100 days** at 27-29 °C

PROTECTION AND PAPERWORK

CITES	**Appendix III**
EU annex	**Annex C**
IUCN	**Least Concern (LC)**

About the species

Nephrurus sheai is a large knob-tailed gecko with a compact body, broad head and large eyes. The tail is short and ends in a small ball, the knob, which the gecko waves when it lies in wait for prey. The skin is covered with pointed tubercles, but on the rear body and thighs they are only moderately spiny and thus less coarse than in the close relative *Nephrurus amyae*. A good identifying feature is the toes, which are strongly banded in brown and white.

The species was described in 1994 and is named after the Australian veterinarian and herpetologist Glenn Shea. It belongs to the group around *Nephrurus asper* and grows to 12 cm from snout to vent. That is slightly smaller than *N. amyae*, but larger than *N. asper*. There are no reliable figures for weight.

The species is rare in captivity. It is nocturnal, lies hidden by day and goes hunting after dark. If startled, it rises up on stiff legs and can give a hoarse bark, but it is harmless.

Distribution and habitat

The species lives in northern Australia, in the Northern Territory and in the Kimberley region of northern Western Australia. The type locality is at Magela Creek in Kakadu in the Northern Territory. The range extends from there across the areas around Katherine and the Victoria River to Kalumburu, the Mitchell Plateau and the Prince Regent River in the north-west and south to Halls Creek and Fitzroy Crossing.

The exact boundary has not been mapped, so the map shows only the approximate region. As a rule Australia does not permit the export of wild reptiles, so animals outside the country come from captive breeding.

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

> **Native range:** Australia.

HABITAT

The gecko lives in rocky country and dry woodland: stony slopes, gorges, rock outcrops, dry caves and savanna woodland with scattered trees. By day it hides in crevices, caves and under stones, and after dark it hunts insects and other small animals on the ground.

The climate in the range is tropical with a monsoon: a hot and humid wet season, running roughly from November to April, and a long, dry and somewhat cooler period for the rest of the year. In the terrarium this corresponds to a dry terrarium with a small humid hide. Temperature and humidity in the hiding places themselves have not been measured.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

Little is known about the care of *Nephrurus sheai*. The dimensions and climate are borrowed from the close relative *Nephrurus amyae*, which is far better known in captivity. *Nephrurus wheeleri* and *Nephrurus levis* also have similar requirements.

The species lives on the ground, so floor area counts, while height hardly matters. An adult needs at least 60 × 45 × 30 cm (length × width × height). A pair needs a floor of at least 80 × 40 cm, and larger is always better. Never keep two males together.

The substrate is sand, 2-3 cm deep in the dry part. Provide two or three hides per animal, for example cork bark, artificial rock caves or an upturned saucer. Place an enclosed humid hide at one end, for example a plastic box with an opening in the side and slightly moist sand. It is used during shedding and later for egg-laying. The rest of the terrarium is dry, and good ventilation openings prevent stagnant air.

TEMPERATURE

Keep the terrarium at 24-28 °C by day with a warm spot of 30-32 °C, for example with a heat mat under one end, so that the animal can choose for itself. At night the temperature may fall to 20-23 °C.

Although the species comes from a hot country, it spends the day hidden, and there must always be a cool end below 28 °C. Nocturnal knob-tailed geckos have no need of heat lamps or basking spots, and light from above can stress them. Control all heat with a thermostat, and measure with a digital thermometer both at the warm spot and in the cool end.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity is 30-50 %, and most of the terrarium is dry. Mist lightly once or twice a week in the evening, so that the gecko can lick droplets from stones and furnishings. A low, stable water bowl does no harm.

The most important thing is the humid hide, where the sand is kept slightly moist all year. Here the animal sheds, and here the female lays her eggs. Change the sand if it begins to smell or go mouldy.

LIGHTING AND UVB

The gecko is nocturnal and sees little of the light. A weak UVB light can make the animals more active and give more reliable calcium metabolism, but they also manage without it when the food supplies vitamin D3. UVB is therefore optional.

Use a UVB tube for shade-dwelling animals (Ferguson zone 1), for example a 5 % T5 tube, over part of the terrarium, so that there is always shade. Let the day length follow the seasons, with 12-14 hours in summer and a shorter day in winter. At night it must be dark, with no coloured night light.

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

FEEDING

The species is an insectivore. In the wild, knob-tailed geckos take everything from ants and spiders to cockroaches, crickets, scorpions, larvae and beetles and even smaller geckos and skinks. Adults are given live insects three to five times a week, preferably a varied selection of crickets and cockroaches. Mealworms are taken by many animals, but they respond less to them because they move little. Do not release too many insects at once, because it stresses the animal.

Dust the insects lightly with calcium with vitamin D3 just before feeding, give a multivitamin once a week, and feed the insects greens before they are served. The tail is the animal's fat store, and a plump tail shows that the animal is doing well. Females that have laid eggs need extra food.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Knob-tailed geckos tolerate handling, but are not as calm as many other geckos. Pick the animal up rarely and briefly, and sit low, because it is no climber and can fall. Never grab the tail.

A male and a female can probably be kept together as with *N. amyae*, but two males must never be put together. Watch for bites, weight loss and animals that hide all the time, and separate them if there is unrest. By day the gecko sleeps in its hide and is hard to spot until the light goes out.

Breeding

SEXUAL MATURITY AND SEXING

Males are recognised by a distinct bulge at the base of the tail, where the hemipenal pouches sit, and by pores in front of the vent. This requires a magnifying glass and an animal large enough for the details to be seen. The age at sexual maturity is not documented for the species, but close relatives are sexually mature after 12-24 months. Females must be fully grown and in good condition before being put to breeding.

MATING

Breeding of the species is hardly documented at all. In *N. amyae* from central Australia, a cool period of about six weeks at about 10 °C sets breeding in motion. *N. sheai* lives in the tropics, where the dry season is far warmer, so a milder rest with a drop of a few degrees and shorter days is the safe choice. Stop feeding a week before, and lower the heat gradually.

After the rest the temperature is raised over a week, feeding is resumed, and mating usually follows some weeks later. Make sure the male is not too insistent, and separate the animals if the female becomes stressed.

EGG-LAYING AND CLUTCHES

A gravid female becomes distinctly thicker, and the large eggs can be seen through the belly wall about two weeks before laying. Knob-tailed geckos lay 1-2 eggs at a time, most often two. The number of clutches per season is not documented for *N. sheai*; in *N. amyae* it is typically 2-4.

Give the female an enclosed plastic box with 7-8 cm of slightly moist sand to lay in. If she lacks a suitable place, she can hold back the eggs, and that is dangerous. Give her plenty of insects and calcium throughout the season.

INCUBATION

Carefully move the eggs to a small box with a moist substrate without turning them, and mark the top. Perlite mixed with water 1:1 by weight works well. Keep a stable temperature of 27-29 °C in an incubator. The eggs hatch after 80-100 days, as in *N. amyae*. Do not discard eggs too early, because some take longer.

Read more: Incubating eggs

REARING THE YOUNG

The young are kept singly in small boxes with sand, a hide and a small humid hide at the same temperature as the adults, and they are given small insects dusted with calcium five times a week. They shed often, so the humid hide must always be there, and growth is slow at first.

Health and common mistakes

Diseases of the species have not been described. In knob-tailed geckos most problems are caused by incorrect humidity, incorrect heat or deficiencies in the diet. The typical mistakes are:

- Too little calcium and vitamin D3, especially in egg-laying females and young animals. This causes soft bones and tremors.
- Stuck shed on the toes and around the eyes, if the animal lacks a humid hide.
- Egg-laying difficulties, if the female does not have a suitable, humid place to lay. An animal that sits straining with a distended belly without laying needs a vet.
- Dehydration, if the whole terrarium is bone dry.
- Sand swallowed with the prey. Feed in a low dish, and use fine, clean sand.

A healthy animal is plump, especially in the tail, has clear eyes and is active at night. Seek a vet with experience of reptiles if the animal loses weight, does not eat for several weeks or seems listless.

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.