herpy

GECKOS

Centralian rough knob-tail gecko

Nephrurus amyae

A stocky desert gecko from the red centre of Australia with a bulldog head, rough, spiny skin and a small knob at the end of the tail, which it waves when hunting. It is the largest of the knob-tailed geckos, lives on insects and thrives in a dry sand terrarium with a damp hide.

Family: Carphodactylidae

KEY FACTS

THE ANIMAL

Adult size	**10-14 cm** snout-vent length
Weight	**40-65 g**
Lifespan	**10-15 years**
Active	**At night**
Lifestyle	**Rock-dwelling and terrestrial**
Habitat	**Semi-desert 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, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**12-24 months**
Clutch size	**1-2 eggs**
Clutches per year	**2-6**
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 amyae is a knob-tailed gecko and looks like no other gecko. The body is thick and compact, the head and eyes are large in proportion to the rest, and the tail is only 1-2 cm long and ends in a small ball, the knob. The gecko waves it when stalking prey. The skin is covered with pointed knobs, especially on the back and thighs, and feels like sandpaper.

The species was described as recently as 1994 by Couper and Gregson and is named after Couper's daughter, Amy. The type locality is Winnecke Goldfields north of Alice Springs. It reaches up to 14 cm from snout to vent and is the largest species in the genus. Adults weigh 40-65 g, and females are the largest, while males are noticeably smaller and lighter. The colour matches the sand and stones of the desert and ranges from cream through salmon to reddish brown.

In the terrarium it is hardy and calm, but does not like to be picked up. By day it wants to be left in peace and only comes out when the light is off. Then in return it hunts industriously, and it is a pleasure to follow it with a weak torch. If it is startled, it rises high on its legs, opens its mouth and hisses hoarsely, but it is completely harmless.

Distribution and habitat

The species lives in central Australia, mainly in the southern part of the Northern Territory around Alice Springs and in the desert regions north and west of the town. It possibly also occurs in the easternmost part of Western Australia. The range is relatively small.

The precise limit has not been mapped, so the frame on the map is an estimate of central Australia, and the registered records show where the species has actually been seen.

> **Native range:** Australia.

HABITAT

The gecko lives in dry, stony regions and on red sandy soil with scattered shrubs and tussocks of grass, often by rocky escarpments and low mountain ranges. By day it hides from the heat in crevices, under boulders and in low holes, and after dark it hunts insects, spiders and other small animals.

The climate is hot and dry with large fluctuations. In summer daytime temperatures go far above 35 °C, while the nights are milder, and in winter the nights in particular become cold. Rain is sparse and unpredictable, and the moisture the gecko needs it finds deep in its hiding places. The shift between a hot summer and a cool winter governs the animals' annual rhythm and is important if they are to breed in captivity.

Care

THE ENCLOSURE

The species lives on the ground, so floor area counts, while height is almost irrelevant. An adult needs at least 60 × 45 × 30 cm (length × width × height). A pair or a male with two females needs a floor of at least 60 × 60 cm, and larger is always better. Plastic boxes in racks are common in breeding, but a furnished desert terrarium gives far more to look at.

The substrate should be 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. The gecko does not dig deep burrows itself, but gladly uses a hide that resembles a rock crevice. Place a closed humid hide at one end, for example a plastic box with an opening in the side and damp sand. It is used when shedding and later for egg-laying. The rest of the enclosure must be dry, and good ventilation openings prevent stagnant air.

TEMPERATURE

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

Even though it is a desert species, it spends the day in shade, and too much heat is dangerous. There must always be a cool end below 28 °C. Breeding animals need a cool winter rest, see the section on mating. Measure with a digital thermometer both at the warm spot and at the cool end, and control all heat with a thermostat.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be 30-50 %, and most of the enclosure must be dry. Mist lightly once or twice a week in the evening, so the gecko can lick droplets from glass and stones. Many animals never drink from a water bowl, but a shallow, stable bowl does no harm.

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

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The gecko is nocturnal and sees little of the light. A weak UVB light all year round can nevertheless make the animals more active and give more secure calcium metabolism, but they also manage without it when the food provides vitamin D3. UVB is therefore optional, but a good offer.

Use a T5 tube for shade-dwelling animals (Ferguson zone 1), for example 5 %, over part of the enclosure, so there is always shade. Let the day length follow the seasons: about 14 hours in summer, 12 hours in spring and autumn and 8 hours in winter. At night it must be dark, without coloured night lights.

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

FEEDING

The gecko is a greedy insectivore. Adults get live insects three times a week, preferably a varied selection of crickets, roaches, mealworms, superworms and silkworms. Large roaches are often the favourite. A meal is typically 4-6 adult crickets or 1-2 large roaches. Do not release too many insects at once, because it stresses the animal. Juveniles are fed five times a week.

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

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

The species is calm, but does not like being handled. Pick it up seldom and briefly, and sit low, because it is no climber and can fall. If you hold too hard, it struggles or barks. Never grab the tail.

The animals usually live peacefully together, and a male with two females can live together for years without fights. Do not put two males together all the same. 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 before the light goes off.

Breeding

SEXUAL MATURITY AND SEXING

Males are smaller than females and have, like other knob-tailed geckos, a distinct bulge at the base of the tail, where the hemipenal pouches sit, and pores in front of the vent. The sex can be seen fairly early, but it requires a magnifying glass and an animal large enough for the details to be seen.

The animals become sexually mature at an age of 12-24 months and are fully grown after about 18 months. Females should be at least 18 months old and weigh 45 g or more before being put to breed, while males are mature at a smaller size. The figures are poorly documented.

MATING

The animals need to feel the seasons in order to breed regularly. Begin in November by lowering the temperature gradually over a few weeks. Feeding is then stopped, while the heat is kept for another week, so the gut can empty. Then the heat is switched off for a week, and the animals are moved to small, airy boxes with sand and hides at about 10 °C, for example in an unheated room. One half of the sand is kept slightly damp, so they do not dry out. After about six weeks they are moved back, the temperature is raised over a week, and feeding is resumed.

Mating most often takes place a few weeks after the winter rest. Letting pairs and trios stay together all year often gives the best results. Make sure the male is not too pushy, 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 skin about two weeks before laying. She almost always lays two eggs at a time, occasionally only one, and the eggs are large in proportion to her.

The female lays 2-6 clutches per season. Give the female a closed plastic box with 7-8 cm of damp sand to lay in. If the box is transparent, you can see the eggs from below. If she lacks a suitable place, she may hold the eggs back, and that is dangerous. Give her plenty of insects and calcium throughout the season.

INCUBATION

Carefully move the eggs to a small box with damp substrate without turning them. Perlite mixed with water 1:1 by weight, for example 30 g perlite and 30 g water, works well. Mark the top. The eggs grow considerably along the way.

Keep a stable temperature of 27-29 °C in an incubator. The eggs hatch after 80-100 days, at 27 °C after about 90 days. Occasionally it takes up to 120 days, so be patient, and do not discard eggs too early. Whether temperature determines sex has not been studied.

Read more: Incubating eggs

REARING THE YOUNG

The hatchlings are large at hatching in proportion to the adults; the weight is not documented. Keep them separately in small boxes with sand, a hide and a small humid hide at the same temperature as the adults. That way you can be sure that each hatchling is eating and growing.

Offer small insects dusted with calcium five times a week. Growth is slow at first, and the hatchlings are only fully grown after about 18 months. They shed often, so the humid hide must always be there.

Health and common mistakes

The species is hardy, and most problems are caused by wrong humidity, wrong heat or deficiencies in the food. The typical mistakes are:

- Too little calcium and vitamin D3, especially in egg-laying females and juveniles. It causes soft bones and tremors.
- Retained 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, damp place to lay. A female that sits strained with a distended belly without laying must go to a vet.
- Dehydration if the whole enclosure is bone dry.
- Poor condition after breeding. The female must have time to put on weight again.
- Sand swallowed with the prey. Feed in a shallow dish, and use fine, clean sand.

A healthy gecko is plump, especially in the tail and at the tail base, has clear eyes and is active at night. See a vet experienced with reptiles if it loses weight, does not eat for several weeks, develops swellings or seems limp.

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.