herpy

GECKOS

Northland green gecko

Naultinus grayii

Naultinus grayii is a robust, emerald-green, diurnal gecko from forest and scrub in the far north of New Zealand. It gives birth to live young, lives to about 20 years and is very rare in captivity. Its care is the same as for the other green geckos of the North Island.

Family: Diplodactylidae Former name: *Gymnodactylus grayii; Hoplodactylus grayii; Naultinus grayi*

KEY FACTS

THE ANIMAL

Adult size	**8-10 cm** snout-vent length
Lifespan	**20-30 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Temperate woodland and meadow**
Difficulty	**Experienced**

CARE

Min. enclosure	**50 × 50 × 100 cm** L × W × H for 3 adults
Temperature, day	**15-25 °C**
Basking spot	**25-30 °C**
Temperature, night	**10-16 °C**
Humidity	**60-70%**
Water	**Water dish**
UVB	**Essential** Ferguson zone 3
Diet	**Insects, fruit and nectar**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Live-bearing**
Litter size	**1-2 young**
Gestation	**240-270 days**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Near Threatened (NT)**

About the species

Naultinus grayii is a robustly built, bright green gecko with grey or golden markings along the back. The males have a blue stripe along the side below the limbs. The underside is light green, sometimes with a yellow tinge. The mouth lining is deep blue with a red tongue, and when the animal feels threatened it gapes to show it off. Green colour and daytime activity are unusual in geckos, which are mostly brown or grey and active at night. Yellow young are occasionally born in captivity, but they usually turn green within the first couple of years.

The species was described in 1843 by Thomas Bell and is named after John Edward Gray, who was head of the zoological department at the British Museum. For a time it was regarded as part of *Naultinus elegans*. It is recognised by the very large, flat, polygonal scales on the snout in front of the eyes; further back on the head the scales are small and granular.

It grows to about 10 cm from snout to vent and is thus one of the largest species in the genus. With the tail it reaches about 20 cm. The tail is long and grips the branches like a fifth hand, and the animal is very reluctant to shed it. The weight is not documented.

The animals live to about 20 years, and the genus can reach 30 years or more.

Distribution and habitat

Naultinus grayii is found only in New Zealand, in Northland in the northern part of the North Island, north of Whangaroa. The type locality is the Bay of Islands.

The species is rare and declining, and as in the rest of the genus the populations are split into small areas. New Zealand does not allow the export of wild animals, so captive animals descend from older breeding stock. Records outside the range on the map come from captive animals.

> **Native range:** New Zealand.

HABITAT

Naultinus grayii lives in forest, scrub and wetlands in the lowlands and especially in stands of the myrtle-like shrubs manuka and kanuka. The animals spend most of their time high up in the foliage, where they bask on top of the leaves and retreat into shade when it gets too hot. Precise altitude limits and details of the annual cycle are not documented.

Northland has a mild, humid and maritime climate with a great deal of rain and only a few cold nights. The genus eats much more in spring and summer than in autumn and winter.

Care

THE ENCLOSURE

Little is known about the care of *Naultinus grayii* itself, but it is kept like the other green geckos of the North Island. *Naultinus elegans* lives just south of the range, is far better known in captivity and has the same requirements.

Naultinus grayii lives up in the vegetation, so the enclosure must be taller than it is wide. A small group of one male and two females needs at least 50 × 50 × 100 cm (length × width × height). A larger enclosure gives the animals a much better chance to choose between warmth and cool, sun and shade.

Furnish with live plants with dense foliage for the animals to hide in, e.g. *Coprosma* and *Pittosporum* in pots, and with branches at several heights right up under the ceiling. Hanging *Tillandsia usneoides* is a hide the animals use eagerly, and hollow bamboo or plastic tubes hung near the top are also used. Provide two or three basking spots and hides per animal, so none is pushed out. The substrate can be a thick layer of dead leaves.

Mesh on at least three sides and in the ceiling gives good ventilation and lets the natural fluctuations in temperature and humidity come through. Glass and plastic filter out UVB. Never keep different *Naultinus* species together, because they hybridise easily.

Read more: Lighting and UVB Read more: Humidity, misting and ventilation

TEMPERATURE

The figures are borrowed from *Naultinus elegans*. The ambient temperature should lie between 5 and 25 °C all year: about 15-25 °C by day and cooler in winter. At night the temperature should fall to about 10-16 °C. Heat above 30 °C is more dangerous than cold, and frost is fatal.

A halogen spot gives a basking spot of 25-30 °C in the same place that the UVB light reaches. In summer the spot is on for two to three hours in the morning and afternoon, in winter for about an hour in the morning and afternoon. Do not heat the room in winter: the cool period with reduced activity and little or no food is part of the annual cycle. Never place the enclosure so that the sun shines in through a window pane, because it will quickly overheat.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be 60-70 %, as long as the animals can seek out more humid places in the enclosure themselves, e.g. dense foliage. Air that is too dry causes poor sheds, and stagnant humid air causes fungus and respiratory infections. Good ventilation is therefore just as important as misting.

Mist the foliage so the animals can lick the droplets off the leaves, and let the plants dry out in between. There must always be fresh drinking water. A small drip system over a plant provides a steady supply of droplets throughout the day.

LIGHTING AND UVB

As a diurnal, basking gecko, *Naultinus grayii* needs UVB. Outdoors behind mesh the animals get it from the sun, but indoors a UVB fluorescent tube (T5) made for reptiles must be used. Aim for a UV index of about 3-5 where the animals bask, corresponding to Ferguson zone 3. The tube must shine in the same place the spot heats, otherwise the animal does not make use of the UVB light.

Provide shade zones, so the animal can choose for itself. Control the light with a timer that follows the seasons, and keep the night dark.

FEEDING

In the wild the genus takes flying insects such as moths and flies, and also spiders. It also licks nectar and honeydew. The diet is mainly insects supplemented with something sweet.

In captivity, feed live insects such as flies, moths, small beetles, spiders, crickets and locusts. The animals readily take fruit puree, mashed banana and diluted honey from a small dish. Farmed feeder insects are dusted with a calcium and vitamin supplement, and finely chopped cuttlebone in a small dish is an extra source of calcium. The animal makes D3 itself with the help of UVB.

Adults are fed one to four times a week: most often in the warm season and less often when it gets cooler. Pregnant females need extra. The animals become fat easily, so watch the thighs, pelvis and tail base.

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

BEHAVIOUR AND HANDLING

Naultinus grayii is calm and slow and hunts by ambush. It is not an animal to be handled much. When threatened it gapes with its blue mouth and can emit short, croaking or barking sounds. Never grab the tail.

The males in particular can be very aggressive towards their own kind. A group of one male and two females works when there is enough space. Watch the interaction, and remove an aggressive animal.

Small orange-red mites may sit by the eyes, limbs and ear openings. They are largely harmless.

Breeding

SEXUAL MATURITY AND SEXING

The males have distinct bulges at the base of the tail and visible pores under the thighs and in front of the vent; the females lack both. The males also have a blue stripe along the side. The young grow slowly and acquire adult colours after a few years. Age and weight at sexual maturity are not documented, so the box shows no value.

MATING

Mating usually takes place in spring. A natural seasonal rhythm in temperature, humidity and day length is the most important thing for getting the animals to breed. During courtship the male follows the female and licks and bites her, typically on the neck and over the shoulders, until she allows mating. Small bite marks are therefore not necessarily a sign of fighting. Only separate the animals in the case of persistent chasing or actual injuries.

EGG-LAYING AND CLUTCHES

Naultinus grayii does not lay eggs but gives birth to live young. The female gives birth to two young, more rarely one. In New Zealand the young are born between April and October, but outside the home country the female can give birth at other times of the year. The length of gestation is not reliably known for the species; the roughly 8-9 months are borrowed from *Naultinus elegans*.

Pregnant females bask more and move between warm and cool places. Give them plenty of food and free access to finely chopped cuttlebone. After birth the female is hungry: mist her lightly, and give juicy, protein-rich food.

INCUBATION

There is no incubation, because the species is live-bearing. The box's 240-270 days correspond to a gestation of 8-9 months. The mother regulates the temperature of the embryos herself by moving between sun and shade, so the enclosure must have both a basking spot and cool, shaded places throughout the period.

Disturb the female as little as possible in the last months.

Read more: Incubating eggs

REARING THE YOUNG

The young are independent from birth. The safest course is to move them to a small enclosure of their own as soon as they are found, so they are not chased or eaten by adults. There they can stay for the first year or so.

Wait 1-2 days before feeding, so the yolk sac is used up. Then give fruit flies, small houseflies and other small insects every day for the first six months. Keep the temperature steady within 10-25 °C, and mist the young directly, so they get enough water. Kitchen roll as substrate makes it easy to see whether they are eating and passing droppings.

Health and common mistakes

The typical problems are caused by wrong conditions:

- Too high a temperature, especially heat above 30 °C. It causes stress and can be fatal for a species from a cool climate.
- Stagnant, humid air, which causes fungus and respiratory infection. Air that is too dry causes poor sheds.
- Calcium deficiency and metabolic bone disease, when UVB or calcium in the food is lacking. Glass and plastic between lamp and animal filter out UVB.
- Obesity, because the animals easily become fat in captivity.
- Stress and bite wounds, when several animals, especially males, are kept together.
- Mites around the eyes and limbs, which are harmless in small numbers.

See a reptile-experienced vet if the gecko loses weight, does not eat for several weeks outside the winter period or seems lethargic.

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.