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GECKOS

Pacific gecko

Dactylocnemis pacificus

A nervous, quick and beautifully patterned nocturnal gecko from the north-western part of New Zealand's North Island, where it lives in scrub, forest and on rocky coasts. It gives birth to live young, reaches 14-18 cm in length and can live beyond 20 years. It thrives in a cool, temperate climate.

Family: Diplodactylidae Former name: *Hoplodactylus pacificus*

KEY FACTS

THE ANIMAL

Adult size	**14-18 cm** total length incl. tail
Lifespan	**20-25 years**
Active	**At night**
Lifestyle	**Arboreal, rock-dwelling and terrestrial**
Habitat	**Rocky terrain and temperate woodland and meadow**
Difficulty	**Intermediate**

CARE

Min. enclosure	**50 × 50 × 100 cm** L × W × H for 3 adults
Temperature, day	**18-24 °C**
Temperature, night	**12-18 °C**
Humidity	**50-80%**
UVB	**Optional** Ferguson zone 1
Diet	**Insects, fruit and nectar**
Kept	**Singly or one male with several females**

BREEDING

Reproduction	**Live-bearing**
Sexually mature	**18-24 months**
Litter size	**1-2 young**
Clutches per year	**1**
Gestation	**270-360 days**

PROTECTION AND PAPERWORK

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

About the species

Dactylocnemis pacificus is a nocturnal gecko with a strong prehensile tail, which it uses as an extra limb when climbing in bushes and trees. The back is brown, olive green or grey with spots, stripes, chevron patterns or bands that are lighter than the base colour. Some animals have mustard-yellow spots, especially on the neck, and a few have a pink or orange tinge. The belly is uniformly pale grey, the eyes are brown, and the toes are slender.

The body is up to 9 cm from snout to vent, and the tail is longer than the body, so the total length is about 14-18 cm. Adults weigh up to 19 g. The species is known for being nervous and quick and loses its tail easily, so it is poorly suited to handling.

The species was described in 1842 as *Naultinus pacificus* and for many years stood in the genus *Hoplodactylus*. It was moved back to the genus *Dactylocnemis* in 2011, when DNA studies showed that the group consists of several closely related forms that were previously regarded as one highly variable species. Animals of the genus in captivity may therefore belong to another, still undescribed species, and different forms must not be mixed and hybridised.

Distribution and habitat

Dactylocnemis pacificus is found only in New Zealand: in the north-western part of the North Island north of the Whanganui River and north-west of the Raukumara, Te Urewera and Kaweka ranges, and on many islands along the north-east coast. On the northernmost tip of the North Island, the Aupōuri and Karikari peninsulas, it is replaced by closely related, still undescribed forms.

The range is large, and the species is not threatened worldwide. On the mainland, however, populations are declining because of introduced mammalian predators and loss of habitat, while populations on many offshore islands are stable.

> **Native range:** New Zealand.

HABITAT

Dactylocnemis pacificus lives in many kinds of habitat: swamps, scrub, older forest, rocky coasts, back dunes, small rocky islets and rock outcrops. It is especially tied to lowland forest and scrub with manuka and kanuka. By day it hides in crevices in rocks and clay banks, in hollow trees, under loose bark, in dense sedges on the ground and in epiphytes high up in the tree crowns. At night it forages both on the ground and in the bushes.

The climate of the range is temperate and mild with humid winters, almost without frost at the coast and with summer days of about 20-25 °C. At night it is cooler. The species is thus adapted to moderate warmth, not tropical heat.

Care

THE ENCLOSURE

The care of *Dactylocnemis pacificus* is only sparsely described. The species is regarded as fairly easy to keep and breed, but there are no documented temperatures, so the climate figures are based on the range. *D. pacificus* lives mostly in trees and bushes, but forages far more on the ground than *Mokopirirakau granulatus*, with which it often lives. Height matters more than floor area, but the floor must be used too.

One male with two females needs an enclosure of at least 50 × 50 × 100 cm (length × width × height). Furnish it with live plants, trunks, branches and a layer of leaf litter on the bottom. Hides are essential, because the species is shy and rarely comes fully out in daylight. Hollow bamboo tubes, both on the ground and hung horizontally high up along the sides, cork tubes, loose pieces of bark and stacks of slabs with narrow gaps on the bottom are readily used. Place the hides close to the warm spots by the mesh, because the species only basks from cover.

Two males must not be kept together, because they bite each other. The young are independent from birth and grow up best in a smaller box of their own. Ventilation must be good, so the air does not become stagnant. The care is in general the same as for *Mokopirirakau granulatus*, which is the best-known New Zealand gecko in captivity.

TEMPERATURE

Temperatures are not documented for the species in captivity and follow the climate of the range. By day the enclosure should be 18-24 °C and at night 12-18 °C, so it cools naturally. In winter the night temperature may fall towards 10-12 °C.

The species comes from a cool climate, so the enclosure must not stand in direct sun or in a warm room in summer. A heat lamp is not needed in an ordinary living room. Direct contact with heat bulbs and heat mats causes burns to the transparent spectacle of the eyes, so extra heat must always be placed out of the animal's reach and controlled by a thermostat. Measure with a digital thermometer both at the top and at the bottom.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be 50-80 %. Mist the enclosure lightly in the evening, so leaves and bark are moist at night, and let it dry out partly during the day. Constantly wet conditions cause mould and skin problems.

The gecko drinks droplets from the leaves. Also provide a shallow dish of fresh water, changed often. A hygrometer shows whether the routine is working.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

Dactylocnemis pacificus is nocturnal and only basks hidden near its daytime hide, so it has no documented need for UVB. A weak UVB tube for shade-dwelling species (Ferguson zone 1) over one side of the enclosure is a good but optional solution when there is plenty of shade and cover. Do not use strong spotlights. Day length follows the season: about 12-14 hours in summer and 10 hours in winter, with darkness at night.

Read more: Lighting and UVB

FEEDING

Dactylocnemis pacificus is omnivorous, but lives mostly on insects. In the wild it takes moths, flies, beetles, locusts and other invertebrates, and it licks nectar, sap from small fruits and honeydew from scale insects.

Give live insects such as crickets, small locusts, flies and moths, dusted with calcium and vitamin D3, two to three times a week. The young get fruit flies and small houseflies. Also offer, now and then, a small dish of fruit puree or mashed banana, preferably with a little diluted honey. The species becomes overweight easily, and the signs are a thick, swollen tail and fat folds on the neck. The sweet food should therefore be given sparingly.

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

BEHAVIOUR AND HANDLING

Dactylocnemis pacificus is quick, nervous and loses its tail easily, so handling is kept to a minimum. Move it only when necessary, and let it run from hand to hand over a low, soft surface. Never grab the tail.

The species lives singly, but many animals can share the same hide, especially on islands with dense populations. In the enclosure a male and two females can be kept together when there are many hides. The males are aggressive towards other males, especially in the mating season, and wild males often have scars from fights. By day the species is rarely seen, and it only comes fully out in the dark.

Breeding

SEXUAL MATURITY AND SEXING

The males are recognised by the two hemipenial bulges at the base of the tail and a row of pores in front of the vent. *Dactylocnemis pacificus* becomes sexually mature after one and a half to two years. Females should only be bred once they are fully grown and in good condition.

MATING

Mating takes place in autumn. The male bites the female repeatedly on the neck and head; it looks violent, but is normal. Check for injuries, and separate the animals if a female is chased continuously. A cool winter with shorter days is part of the natural rhythm.

EGG-LAYING AND CLUTCHES

Dactylocnemis pacificus gives birth to live young and thus lays no eggs. The female gives birth to one or two young a year, in the wild from about February, that is, late summer in the southern hemisphere. In animals kept outside the range, birth can come as late as April. The length of gestation is not documented; the figure in the box is an estimate based on the time from mating in autumn to birth the following year.

INCUBATION

There is no incubation, because the female carries the young until birth. Keep the female undisturbed, give her plenty of food, calcium and hides, and let the enclosure follow the seasonal temperatures.

Read more: Incubating eggs

REARING THE YOUNG

The young are independent from the first day and are moved to a smaller rearing box with hides, plants and leaf litter. They are fed fruit flies and small houseflies, dusted with calcium, and misted lightly daily. After about two years they are big enough to go into an enclosure for adults. Keep them separate from adult males.

Health and common mistakes

Diseases in *Dactylocnemis pacificus* are only sparsely documented. The typical problems are:

- Obesity. The signs are a thick, swollen tail and fat folds on the neck. Give fruit and honey sparingly.
- Burns to the eye spectacle from heat bulbs or heat mats that the animal can touch.
- Too much heat for a long period.
- A lost tail from handling. The tail is a defence, and the animal loses it easily.
- Shedding problems, which are also seen in wild animals. Provide a moist hide.
- Intestinal worms, mites and bacteria such as *Salmonella*, which occur in wild animals of the genus. Wash your hands after contact.

See a reptile-experienced vet if the animal loses weight, does not eat or seems sluggish.

Read more: Quarantine and hygiene 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.