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GECKOS

Rough-snouted giant gecko

Rhacodactylus trachyrhynchus

Rhacodactylus trachyrhynchus is a rare, nocturnal tree-dweller from New Caledonia with rough scales on the snout and an unusual trait: it gives birth to live young, which in the genus it shares only with a single close relative. The species is vulnerable in the wild and only rarely seen in enclosures, and the guide is partly based on experience with its closest relatives.

Family: Diplodactylidae

KEY FACTS

THE ANIMAL

Adult size	**30-38 cm** total length incl. tail
Lifespan	**15-20 years**
Active	**At night**
Lifestyle	**Arboreal**
Habitat	**Dry forest and rainforest**
Difficulty	**Experienced**

CARE

Min. enclosure	**60 × 45 × 90 cm** L × W × H for 1 adult
Temperature, day	**22-27 °C**
Temperature, night	**18-22 °C**
Humidity	**50-80%**
UVB	**Optional**
Diet	**Insects, fruit and complete diet**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Live-bearing**
Litter size	**1-2 young**
Clutches per year	**1**
Gestation	**150-240 days**

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Vulnerable (VU)**

About the species

Rhacodactylus trachyrhynchus is easy to recognise by the large, rough scales that cover the snout. The body is long and sturdy, the toes are moderately broad, and the long tail can grip the branches like a fifth hand. The markings are a mosaic of grey-green, white and brown blotches in shifting shades, which blur its outline against lichen and bark. The eyes have vertical pupils and no lids.

The species was described by the Portuguese zoologist Bocage in 1873. The body measures up to 19 cm without the tail, and the tail is about as long. The total length is thus about 30-38 cm. The weight is not known.

The most distinctive thing is its reproduction. Almost all other geckos lay eggs, but this species is ovoviviparous: the young develop inside the mother's body and are born alive. Outside New Zealand this is almost unknown among geckos, and in the genus it shares the trait with the closely related *Rhacodactylus trachycephalus*, which was previously regarded as a subspecies. Live birth gives fewer young per year than in the genus' egg-laying species, and this is part of the explanation for the species being vulnerable.

In enclosures it is a rarity, and its care is little known. It is therefore best suited to a keeper who has already kept larger *Rhacodactylus* species and who is prepared to make their own observations.

Distribution and habitat

Rhacodactylus trachyrhynchus lives only in New Caledonia in the south-western Pacific. Confirmed records come only from the main island, Grande Terre, where the species is known from a few, scattered localities in the central and southern parts, including Mont Aoupinié, Cui near Canala, Mont Gouemba and Goro on the south-east coast and the Pindaï peninsula on the west coast. At Pindaï it is the commonest of the large geckos. There are also records from the Île des Pins, but they may date from before *R. trachycephalus* was separated as its own species.

The distribution is small and fragmented. It is estimated that the species occurs within an area of about 6,300 km², but occupies only about 44 km² of it, divided among a handful of isolated populations. The 13 recorded finds all lie in New Caledonia between about 20 and 23 degrees south.

> **Native range:** New Caledonia.

HABITAT

Rhacodactylus trachyrhynchus is a forest specialist. In most places it lives in humid forest, but it has also been found in dry, hard-leaved forest. It is found at altitudes from about 50 to 500 metres above sea level, so it is a lowland species. By day it hides in crevices and holes in trees, and at night it forages up in the canopy. The genus' species are not found in disturbed areas.

The climate in New Caledonia is mild and humid with cool nights, not tropically hot. The temperatures the species prefers in the wild have not been measured. The threats are especially deforestation, repeated fires in the adjoining savanna, the invasive little fire ant *Wasmannia auropunctata*, introduced rats and cats and illegal collecting.

Care

THE ENCLOSURE

The care of *Rhacodactylus trachyrhynchus* is almost unknown, so the care advice is borrowed from the closely related *Rhacodactylus leachianus* and is a cautious starting point. An adult needs a tall enclosure of at least 60 × 45 × 90 cm (length × width × height), and larger is better, because the animal is over 30 cm long and lives up in the trees. A pair needs more space, for example 90 × 45 × 90 cm.

Furnish it with sturdy branches at different angles and heights, large cork tubes and cork bark and dense foliage, preferably live plants such as pothos and rubber tree, so that the animal can hide high up by day. A moisture-retaining mixture of coconut fibre and unfertilised soil suits as substrate, possibly as a bioactive substrate. Young animals live safely in a smaller, densely planted box with kitchen roll as substrate, so that you can keep track of what they eat and how the droppings look. Ventilation must be good, preferably both low down and high up, so that the air does not stand still.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

By day 22-27 °C is suitable for *Rhacodactylus trachyrhynchus*, and at night it may fall to 18-22 °C. A basking spot is unnecessary, because the species is nocturnal and belongs in a mild climate.

Heat is the greatest danger for the genus. If the temperature stays above 28 °C for long, the animal becomes stressed and may come to harm. Therefore place the enclosure away from south-facing windows, and keep an eye on the temperature on hot summer days. If the room is cold in winter, a weak heat mat on the side or a low heat bulb controlled by a thermostat can help. Always measure with a digital thermometer both at the top and at the bottom.

Read more: Heat and temperature

HUMIDITY AND WATER

Keep the humidity for *Rhacodactylus trachyrhynchus* at 50-80 %. Mist the enclosure thoroughly in the evening, so that it rises to 70-80 %, and let it fall again during the day, so that substrate and branches have time to dry. Constantly wet conditions cause mould and skin problems.

The gecko drinks droplets from leaves and glass, but also provide a heavy, stable water bowl and change the water every day or every other day. A hygrometer in the middle of the enclosure shows whether the rhythm is holding.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

Rhacodactylus trachyrhynchus is nocturnal and probably, like the genus' other species, manages without UVB when the food contains vitamin D3. UVB is therefore optional. If you choose a weak UVB tube, keep it to shade-dwellers (Ferguson zone 1), and make sure the animal can always retreat into shade.

Keep the light on for 10-12 hours a day, ideally controlled by a timer, and keep it dark at night. Avoid strong spotlights and coloured night lights.

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

FEEDING

Like all *Rhacodactylus* species, *Rhacodactylus trachyrhynchus* is probably omnivorous, with insects and fruit as the main food and occasionally small lizards, nestling birds and rodents. A mixed diet is therefore the starting point.

The staple can be a ready-mixed powdered diet for fruit-eating geckos, mixed to a thick paste and served in a dish high up. Adults get paste two to three times a week, young animals more often, and leftovers are removed after a day. In addition, give live insects once or more a week, for example dubia roaches, crickets and grasshoppers, dusted with calcium with D3. The insects must not be wider than the distance between the animal's eyes. Ripe fruit can be given as a treat in small amounts. Weigh the animals regularly, so that you can follow whether they are gaining weight.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Males of *Rhacodactylus trachyrhynchus* often fight if they are together, while females are social and can be kept together. Therefore never keep two males in the same enclosure. A male can be kept alone or with one or two females.

Like the genus' other large species, it is a climber that sleeps hidden by day and becomes active only after dark. Give a new animal a few weeks' peace to settle in, and wait to handle it until it eats calmly. Do not grab the tail. An animal of this size can bite hard if it becomes frightened.

Breeding

SEXUAL MATURITY AND SEXING

Age and weight at sexual maturity in *Rhacodactylus trachyrhynchus* are not known. The genus' large species grow slowly and become sexually mature only after a couple of years, and this probably also applies to this species. As in other geckos, the sex is determined with a magnifying glass by looking for hemipenal bulges and preanal pores in the males. Never breed a young or light female.

MATING

The mating season and rest period of *Rhacodactylus trachyrhynchus* are not known. Keep a pair or one male with two females. Put the male in with the female, and keep an eye on them the first nights. Note dates and temperatures as you go.

EGG-LAYING AND CLUTCHES

Rhacodactylus trachyrhynchus does not lay eggs, but gives birth to live young. This is unusual for a gecko and in the genus is known only from this species and *Rhacodactylus trachycephalus*. Live birth in the species has been known since 1979 and produces fewer young per year than in the genus' other species, probably one to two young per litter and one litter a year.

A pregnant female needs peace, plenty of food and calcium and good hides. There is no need for a lay box. The young are born in the enclosure, and the newborns have no egg tooth, because they do not have to break a shell.

INCUBATION

In *Rhacodactylus trachyrhynchus* there is no incubation, because the young develop inside the mother, and there is therefore no incubation temperature. How long the female is pregnant is not known; 150-240 days is a rough guide. Keep the female at the usual temperatures, and avoid heat above 28 °C, which can harm both female and foetuses.

Read more: Incubating eggs

REARING THE YOUNG

The young of *Rhacodactylus trachyrhynchus* are fully developed at birth and fend for themselves from the start. Move them to a small, densely planted terrarium box with kitchen roll as substrate, a couple of branches and a hide, and mist daily. Give powdered diet for fruit-eating geckos and small, calcium-dusted insects three to four times a week, as for young animals of the genus' other species. Keep a close eye on the young, and weigh them regularly. Keep the young singly if you see signs of stress or biting.

Health and common mistakes

Illnesses have not been studied in *Rhacodactylus trachyrhynchus*, so the advice applies to the genus' large geckos in general. The typical faults are:

- Heat above 28 °C, which causes stress and loss of appetite and, at worst, death.
- Too little calcium and vitamin D3, especially in pregnant females and young. It can cause soft jaws, bent limbs and tremors.
- A constantly wet substrate and poor ventilation, which cause mould and skin problems.
- Remnants of skin stuck to toes and tail tip after shedding.
- A dropped tail. It does not grow back, so never grab it.

See a vet experienced with reptiles if the gecko loses weight, does not eat for several weeks or looks limp, and contact the vet in good time if a pregnant female seems ill.

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.