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GECKOS

Northern velvet gecko

Oedura castelnaui

Oedura castelnaui is a flattened, nocturnal climber from open woodland and savanna in northern Queensland, especially on the Cape York Peninsula. It lives hidden by day and comes out when darkness falls. Care and breeding are largely based on experience with other species in the genus.

Family: Diplodactylidae Former name: *Phyllodactylus castelnaui; Oedura mayeri* Published 15 November 2026

KEY FACTS

THE ANIMAL

Adult size	**15-20 cm** total length incl. tail
Lifespan	**10-15 years**
Active	**At night**
Lifestyle	**Arboreal and terrestrial**
Habitat	**Savanna**
Difficulty	**Intermediate**

CARE

Min. enclosure	**45 × 45 × 60 cm** L × W × H for 1 adult
Temperature, day	**24-28 °C**
Basking spot	**30-32 °C**
Temperature, night	**20-24 °C**
Humidity	**40-70%**
UVB	**Optional** Ferguson zone 1
Diet	**Insects**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Incubation	**60-75 days** at 26-29 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Oedura castelnaui belongs to the genus *Oedura*, which consists of medium to large, flattened geckos with distinct markings. Most species in the genus live hidden on trees or rocks. They like to lie under loose bark or in crevices and come out only when darkness falls.

The species was described in 1889 by the Frenchman Alexandre Thominot as *Phyllodactylus castelnaui* and is named after the naturalist François Louis de la Porte, comte de Castelnau. For a time it was regarded as a synonym of *Oedura tryoni*, but today it stands as a separate species. In 2018 it emerged that *Oedura fracticolor*, described by De Vis in 1884 from Normanton on the Gulf of Carpentaria, is the same species. The older name has been formally suppressed, so *O. castelnaui* is retained. When the genus was cut down in 2012 and several species were moved to other genera, the species remained in *Oedura*.

The species grows to about 15-20 cm in total and can live 10-15 years. Both figures are estimates based on the genus, and the weight is not known.

Expect an animal that lies hidden most of the time and comes out only at night. It is an animal to watch, not to handle.

Distribution and habitat

Oedura castelnaui occurs only in Australia, in northern Queensland. The main distribution is the Cape York Peninsula, but the adjoining Einasleigh Uplands and the Wet Tropics region are also included, and the old type specimen of *Oedura fracticolor* comes from Normanton on the Gulf of Carpentaria. The type locality of *O. castelnaui* is given simply as Australia.

There are also a few registered records further south in Queensland and in New South Wales. They are probably due to confusion with closely related *Oedura* species, so the map should be read with caution.

> **Native range:** Australia.

HABITAT

Oedura castelnaui lives in open woodland, savanna and grassland with tussock grass. It is arboreal and nocturnal, but is often also found on the ground among fallen branches and leaves.

Cape York has a tropical climate with a distinct wet summer and a dry winter. That is the climate the enclosure should be based on. Like other *Oedura* species, it probably hides under loose bark and in crevices by day and hunts insects at night.

Care

THE ENCLOSURE

A single adult *Oedura castelnaui* needs a tall enclosure of at least 45 × 45 × 60 cm (length × width × height). A pair needs somewhat more, for example 60 × 45 × 60 cm.

Furnish it with cork bark, flat cork tubes and slanting branches, so that the animal can creep in under something that presses lightly against its back and belly. This corresponds to the genus' natural behaviour. Preferably add a cork back wall with crevices that the gecko can hide in. Artificial plants or hardy live plants provide extra cover.

A mixture of unfertilised soil and sand, covered with dry leaves and pieces of bark, can be used as substrate, since the species also moves about on the ground. The enclosure should be dry at one end and have good ventilation. Lids and doors must fit tightly, because flat geckos like this one quickly find a gap.

TEMPERATURE

Keep the daytime temperature at 24-28 °C and let a small area reach 30-32 °C, for example under a low lamp or a heat mat on the side. At night the temperature may fall to 20-24 °C. The species is tropical and not used to getting cold, so avoid long periods below 20 °C. Special winter cooling is not known to be necessary for this species.

Use a thermostat for all heating, and measure with a digital thermometer at both the warm and the cool end. If the animal constantly lies at the warmest end, the enclosure is too cool. If it lies at the cool end all the time, it is too hot.

Read more: Heat and temperature

HUMIDITY AND WATER

Keep the air at around 40-60 % with a brief rise to nearly 70 % after misting in the evening. Let the enclosure dry out during the day.

Always put a shallow bowl of fresh water in the enclosure, and change it every day. Mist a couple of times a week, so that the animal can also drink droplets from plants and bark. A constantly damp substrate causes mould and skin problems. A humid hide at the cool end helps the animal through shedding.

LIGHTING AND UVB

Oedura castelnaui is nocturnal, and UVB is not essential. A weak UVB light is nevertheless a reasonable choice, as long as there is also shade. Use a UVB tube for shade-dwellers (Ferguson zone 1), mounted over one side of the enclosure, so that the UV index is at most around 1 at the uppermost branches. Calcium with vitamin D3 in the food, on the other hand, is necessary whether or not there is UVB.

Keep the light on for 12 hours a day in summer and 10 hours in winter, ideally with a timer. Do not use coloured night lights. It should be dark at night.

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

FEEDING

Oedura castelnaui lives on insects.

Give live feeder insects of a suitable size: crickets, dubia roaches, grasshoppers and now and then mealworms or waxworms. The insects should be smaller than the distance between the animal's eyes. Adults get 3-4 insects two to three times a week, while the young need small insects every other day.

Dust the insects with calcium. Use calcium with vitamin D3 at every second or third feeding and an all-round vitamin powder about once a week. Feed in the evening, when the animal is active, and remove any live crickets that are not eaten, so that they do not gnaw at the gecko.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Like other *Oedura* species, *Oedura castelnaui* is probably calm, but secretive and quick, and it wriggles free fast if you grab it.

Do not pick it up more often than necessary. When you do, sit low, use both hands and let it run from hand to hand. Never grab the tail, because it can be dropped and does not grow back in the same form. New animals should be given a couple of weeks' peace to settle in.

As a rule, keep the animals singly. Males must not be kept together. A pair can be tried if the enclosure is large and has many hides, but watch for bites and lost tails, and separate the animals if there is unrest.

Breeding

SEXUAL MATURITY AND SEXING

Age and size at sexual maturity are not known for *Oedura castelnaui*. As in its relatives, the males can probably be recognised by the hemipenal bulges at the base of the tail and by pores in front of the vent.

Breed only females that are fully grown and in good condition. Small and slight females are drained of calcium by egg-laying.

MATING

When in the year *Oedura castelnaui* mates, and whether a rest period matters, is not known.

Put the male in with the female and remove him again after mating. The male may bite the female on the neck, so keep an eye on them at the start.

EGG-LAYING AND CLUTCHES

A clutch in *Oedura castelnaui* consists of two eggs with a parchment-like shell. The number of clutches a year and the interval between them are not known.

Offer the female a lay box with damp soil or sphagnum, for example a small plastic box with a hole in the lid. Otherwise she buries the eggs under a hide. Give her plenty of calcium and insects throughout the season, and keep an eye on her weight, so that she does not lose too much.

INCUBATION

The eggs of *Oedura castelnaui* hatch after about 60 days. Whether temperature determines the sex is not known.

Carefully move the eggs to a small box with damp vermiculite or perlite without turning them. Lay them half-buried in the substrate, and mark the top with a pencil. Keep the temperature at 26-29 °C. At the low end it takes longer, so expect 60-75 days. Air the box once a week. Eggs that collapse and turn mouldy are infertile or dead.

REARING THE YOUNG

The young of *Oedura castelnaui* are small and secretive and can be housed individually in small plastic boxes with damp kitchen roll, a hide and a water bowl.

After the first shed, give them very small crickets or dubia nymphs, dusted with calcium with D3, every other day. Weigh them regularly, keep them apart from the adults, and move them to a larger enclosure when they are about half grown. How fast they grow is not known.

Health and common mistakes

The typical problems in *Oedura castelnaui* and other nocturnal, insectivorous geckos are:

- Too little calcium and vitamin D3, which causes soft bones, bent limbs and tremors. Dust the insects, and give breeding females an extra supplement.
- Temperatures that are too low or too high. Measure the temperature at both ends of the enclosure.
- A constantly damp substrate, which causes mould and skin problems, and air that is too dry, which causes shedding problems. Remnants of skin on toes and tail tip must be loosened carefully with lukewarm water.
- Dropped tails after handling or fighting. It is not dangerous, but the tail does not grow back in the same form.
- Intestinal worms and other parasites. Have a faecal sample examined if the animal loses weight.

A healthy animal has clear eyes, a plump tail and a good grip. See a vet experienced with reptiles if the gecko loses weight, does not eat for several weeks or looks limp.

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.