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GECKOS

Western chameleon gecko

Eurydactylodes occidentalis

Eurydactylodes occidentalis is the smallest species in the genus of New Caledonian chameleon geckos: a small, nocturnal, tree-dwelling gecko with a prehensile tail that lives only in the coastal lowlands of western Grande Terre. The species was first described in 2009, is threatened in the wild and is only rarely seen in captivity. Its care is based on its relatives *Eurydactylodes vieillardi* and *Eurydactylodes agricolae*.

Family: Diplodactylidae

KEY FACTS

THE ANIMAL

Adult size	**5 cm** snout-vent length
Lifespan	**10-15 years**
Active	**At night**
Lifestyle	**Arboreal**
Habitat	**Dry forest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**45 × 45 × 60 cm** L × W × H for 1 adult
Temperature, day	**22-26 °C**
Basking spot	**27-29 °C**
Temperature, night	**20-23 °C**
Humidity	**60-80%**
UVB	**Recommended** Ferguson zone 1
Diet	**Insects, fruit and complete diet**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Incubation	**50-90 days** at 22-26 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Endangered (EN)**

About the species

Eurydactylodes occidentalis is a slender, small gecko with a triangular head, large eyes without lids, vertical pupils and a prehensile tail. It is the smallest species in the genus: the body reaches up to 5 cm from snout to vent. Total length and weight are not documented.

The head scales, especially between the nostrils and in front of the eyes, are large, angular and fairly symmetrical. The groove from the corner of the mouth and the groove below the ear opening do not join but are separated by a narrow bridge of scales, which sets the species apart from *Eurydactylodes symmetricus* and *Eurydactylodes agricolae*. From *Eurydactylodes vieillardi* it differs in its larger, more symmetrical head scales and its smaller size. The pattern is three irregular, dark crossbands on a pale ground. The male has more than 60 pores in front of the vent, arranged in several rows.

The species was described in 2009 by Bauer, Jackman, Sadlier and Whitaker. The Latin species name means "western" and refers to its distribution along the west coast. At the time of description the species was known from only four specimens, and genetic data clearly separate it from the three other species in the genus. It is far rarer in terrariums than *Eurydactylodes*

vieillardi and *Eurydactylodes agricolae*.

Lifespan is not documented, but the other species in the genus can live for at least 10 years.

Distribution and habitat

Eurydactylodes occidentalis lives only in the coastal lowlands of western Grande Terre in New Caledonia, in Province Sud. The type locality is a low-lying marsh, Marais Fournier at Gouaro-Déva, north-west of the beach at Poé, near Bourail. The few later records lie in the same area and a little further to the south-east. The range is narrow and fragmented.

> **Native range:** New Caledonia.

HABITAT

The species lives in lowland forest and scrub along the west coast, from sea level up to about 20 m above sea level, including the edges of marshes. It is nocturnal and lives in bushes and low foliage, where it sleeps hidden by day. The west coast is drier and warmer than the mountainous parts of Grande Terre, with a distinct dry season and a more humid season.

The species is endangered (EN). The coastal lowlands are heavily fragmented by clearance for agriculture and grazing, and the remaining forest burns repeatedly. The invasive ant *Wasmannia auropunctata* is a further threat to small, tree-dwelling reptiles in New Caledonia.

Care

THE ENCLOSURE

Little is known about the care of *Eurydactylodes occidentalis*. The figures are borrowed from *Eurydactylodes vieillardi* and *Eurydactylodes agricolae*, which have almost the same way of life and size. For one adult, the terrarium should be at least 45 × 45 × 60 cm (length × width × height). Larger is better, and height matters more than floor area because the species climbs. A pair, or a male with two females, can be kept together in a terrarium with more space; unless you are breeding, there is no reason to keep more than one animal. A glass terrarium with a mesh lid gives both high humidity and fresh air. The mesh must be fine, because the animals are small and escape through small gaps.

Furnish with plenty of thin branches of different thicknesses, vines, cork and leaves, so the animal can climb and sleep among the foliage. There must be hiding places at every height, not only on the ground. Live plants provide cover and help hold the humidity. A substrate of 60% organic topsoil and 40% coconut fibre with a thick layer of leaves on top works well and also cushions any fall. Remove droppings daily, and replace the whole substrate every three to four months.

Read more: Humidity, misting and ventilation

TEMPERATURE

By day the temperature should be 22-26 °C across most of the terrarium, with a warm spot under a lamp at 27-29 °C. At night it should fall to 20-23 °C. A white heat bulb of about 40 W above a branch at the top of the terrarium is the simplest heating; if the spot is too hot, switch to a weaker bulb. Heat is highest at the top and lowest at the bottom, and there must be branches and foliage at every height so the animal can choose for itself. Measure with a digital thermometer with the probe on the branch under the lamp. The temperature must not exceed 30 °C. The small, nocturnal species of the genus are sensitive to heat, so place the terrarium away from windows and radiators.

HUMIDITY AND WATER

Keep the humidity at 60-80%, measured in the middle of the terrarium. It is lowest at the warm end and highest at the cool end. It should rise at night and fall during the day, but never drop below 50%. Mist the terrarium thoroughly with a pressure sprayer every evening and in the morning as needed, so the animal can drink droplets from the leaves. Also provide a shallow dish of fresh water, and scrub it once a week. The substrate and branches must be able to dry out between mistings, because constantly high humidity and still air cause skin and respiratory problems.

LIGHTING AND UVB

The species is nocturnal and can manage without UVB when the food contains vitamin D3, but a weak UVB light is an advantage. Use a UVB tube for shade-dwellers (Ferguson zone 1), for example a 7% T5 tube, 20-30 cm above the mesh or 25-40 cm below the mesh. A 2.4% tube must sit closer, about 10 cm above the mesh. The aim is a UV index of 1-2 on the

uppermost branch, and it is best checked with a UV meter. There must always be shade in the rest of the terrarium. Keep the light on for 10-12 hours, slightly longer in summer, controlled by a timer. At night it must be dark.

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

FEEDING

The species is probably a fruit and insect eater like the rest of the genus. Give about half a prepared diet for fruit-eating geckos, mixed to a thick paste, and half live insects. The paste is given in a small dish on a wall-mounted ledge and not on the ground. Alternate between several flavours so the diet is varied.

Juveniles up to one year old get insects every other day and paste 2-3 times a week. Adults get insects and paste 2-3 times a week. Suitable insects are crickets, cockroaches, locusts, silkworms and wax moth larvae, no longer than the distance between the animal's eyes. Because the species is so small, the insects must be small. Dust the insects with calcium and vitamin D3, let them feed on good gut-loading food for 2-3 days before feeding, and give a multivitamin once a month.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Eurydactylodes occidentalis is small and calm, and the species of the genus can be accustomed to brief handling. Let a new animal settle for two weeks, and handle it only once it has eaten. Start with short visits in which the hand is held still in the terrarium, and then keep sessions under five minutes. Support the feet, body and tail, and let the animal walk from hand to hand. Sit close to a soft surface so the animal does not fall far if it jumps. Never grab the tail. Handle preferably in the evening so you do not disturb the animal's rest.

Eurydactylodes vieillardi and *Eurydactylodes agricolae* can squirt a sticky, foul-smelling fluid from the tail when startled, and it causes pain if it hits the eyes. Whether *Eurydactylodes occidentalis* does the same is not documented, but handle the animal in the same way, and wash your hands afterwards.

A pair, or a male with two females, can live together, but two males must never be kept together.

Breeding

SEXUAL MATURITY AND SEXING

Age and weight at sexual maturity are not documented for *Eurydactylodes occidentalis*. The male has a distinct hemipenal bulge at the base of the tail and many pores in front of the vent; the female lacks both. In juveniles the sex is harder to see. The animals must be fully grown and in good condition before they are bred, and the female must have good calcium reserves.

MATING

As in *Eurydactylodes vieillardi* and *Eurydactylodes agricolae*, a rest period of 2-3 months with shorter days (under 12 hours of light) and 20-22 °C by day pauses egg laying. Afterwards the light and temperature are raised again, and this triggers mating. Pairs and trios with one male and two females can live together all year, but more than two females per male gives fewer eggs.

EGG-LAYING AND CLUTCHES

Eurydactylodes occidentalis is egg-laying. The species of the genus lay 1-2 eggs at a time at intervals of three to four weeks, and the same probably applies to this species. Give the female a laying box at least 10 cm deep, filled with a moist mixture of half peat moss and half vermiculite, so she can bury the eggs deep. Keep an eye out for eggs outside the box; they are usually infertile or poor. Give the female plenty of calcium and insects throughout the season.

INCUBATION

Move the eggs carefully, without turning them, to a small box of moist vermiculite, and open the lid every four to seven days so the air is changed. At 22-26 °C the eggs hatch after 50-90 days, most often after 70-90 days.

REARING THE YOUNG

The young get the same care as the adults, but with heavy daily misting so they can drink the droplets. Lack of water is the most common reason why young animals fail to thrive. Too humid with no airflow causes respiratory infections just as easily, so good ventilation is essential. Keep each juvenile in a small, simple box with kitchen paper, thin branches and artificial plants, and give them fresh paste every other day and small insects dusted with calcium.

Health and common mistakes

Diseases in *Eurydactylodes occidentalis* have not been described. In the genus, the typical problems are caused by husbandry:

- Constantly too high or too low humidity, which causes skin and respiratory problems. Keep the humidity at 60-80%, and let the terrarium dry out during the day.
- Too much heat. Keep the temperature below 30 °C.
- Lack of calcium and vitamin D3, especially in breeding females. Dust the insects with calcium, and provide weak UVB light.
- Loss of the tail. Never grab the tail.
- Dehydration in juveniles if misting is too sparse.

See a vet with reptile experience if the animal loses weight, does not eat for several weeks or seems lethargic.

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.