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GECKOS

South-western clawless gecko

Crenadactylus ocellatus

One of Australia's very smallest geckos: no more than 4 cm from snout to vent and entirely without claws on the toes. *Crenadactylus ocellatus* lives hidden under bark, fallen timber and stones in south-western Australia. Little is known about its care, and the species is almost unknown in enclosures outside Australia.

Family: Diplodactylidae Former name: *Diplodactylus ocellatus; Diplodactylus bilineatus*

KEY FACTS

THE ANIMAL

Adult size	**3-4 cm** snout-vent length
Lifespan	**5-8 years**
Active	**At night**
Lifestyle	**Terrestrial**
Habitat	**Semi-desert and temperate woodland and meadow**
Difficulty	**Experienced**

CARE

Min. enclosure	**30 × 20 × 20 cm** L × W × H for 2 adults
Temperature, day	**22-26 °C**
Basking spot	**28-30 °C**
Temperature, night	**14-18 °C**
Humidity	**30-50%**
UVB	**Optional**
Diet	**Insects and small invertebrates (springtails, fruit flies)**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Incubation	**55-75 days** at 27-29 °C

PROTECTION AND PAPERWORK

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

About the species

Crenadactylus ocellatus is a small, nocturnal gecko of 3-4 cm from snout to vent. It has a broad head, a short body between the fore and hind limbs, short legs and a relatively long tail ending in a fine point. The most distinctive feature is that the toes have no claws at all. Instead there are broad adhesive pads at the toe tips, and the terminal toe bone is cleft. The genus name *Crenadactylus* refers to exactly this: Latin *crena* means notch and Greek *daktylos* means finger.

The base colour is light brown and dark brown with indistinct light and dark stripes along the back and sides. On top of this lies a mixture of light and dark scales and 7-12 spots, each formed by 3-6 light scales. The spots, 'ocelli', gave the species its name. The pattern is more irregular than in the other species of the genus and camouflages the animal against bark, leaves and soil.

The species was described in 1845 as *Diplodactylus ocellatus*. For many years the forms of the genus were treated as subspecies of one species, but genetic studies in 2010 and a revision of the genus in 2016 showed that there are several species, which have been separate for 20-30 million years. The name *Crenadactylus ocellatus* now applies only to the south-western form. Older information about the species may therefore concern related species such as *Crenadactylus occidentalis* further north.

The genus contains Australia's smallest geckos, and *C. ocellatus* is one of the larger species in it. Within its range it is fairly common, but it lives so hidden that it is rarely seen.

Distribution and habitat

Crenadactylus ocellatus is found only in south-western Australia. The range runs from Waroona south of Perth eastwards through the Wheatbelt and Fitzgerald River National Park to Cape Arid and Balladonia on the edge of the Nullarbor Plain. To the north-east it reaches into the transition to the arid regions at Mount Manning and Bowgada, with an isolated record at Walganna Rock. The species is also found on most of the Houtman Abrolhos islands off Geraldton.

It is absent from the humid south-western corner of Australia. More northerly and easterly populations of the genus now belong to other species. Australia does not allow commercial export of live native reptiles, so the species is almost absent from enclosures outside the country.

> **Native range:** Australia.

HABITAT

The species lives in open woodland and scrub: areas with grass trees of the genus *Xanthorrhoea*, eucalypts such as jarrah, mallee, marri, tuart and wandoo, and spinifex grass of the genus *Triodia*. The ground can be sand, clay or hard, stony soil such as laterite.

It hides under fallen and rotting logs, in woodpiles, in leaf litter, under granite boulders and limestone slabs and under bark, even up to a metre above the ground, so it can climb a little. Near human settlement it is found under corrugated iron, railway sleepers and rubbish.

The climate is Mediterranean with mild, wet winters and hot, dry summers, and drier further inland. Under stones and wood, temperature and humidity are more stable than in the air above ground.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

Little is known about the care of *Crenadactylus ocellatus*, and the species is hardly kept outside Australia. The climate of the range is Mediterranean with mild, wet winters and hot, dry summers, and the animals live hidden under bark, stones and fallen timber. The figures here are borrowed from other small, ground-dwelling Australian geckos such as *Lucasium steindachneri*, *Rhynchoedura ornata* and *Lucasium damaeum*.

A pair needs an enclosure of at least 30 × 20 × 20 cm (length × width × height). Floor area matters more than height, and more space gives a better chance of a warm and a cool area.

Use a firm substrate of sand mixed with a little clay and fine gravel, and add flat stones, cork bark and pieces of rotten log for the animals to hide under. Hides should be placed in both the warm and the cool end, and one of them is kept slightly moist, so the animals have a humid hide and a place to lay eggs. Heavy stones must sit directly on the bottom of the enclosure, so they do not shift when the animals dig. The lid must be completely tight or of fine mesh, because the animals are so small that they can escape through small gaps.

TEMPERATURE

By day the enclosure should be 22-26 °C, and a small area at one end may reach 28-30 °C. At night the temperature may fall to 14-18 °C. The temperature should not exceed 30 °C for long, because such small animals dry out easily. Measure the temperature at both ends with a digital thermometer.

In winter the nights in the wild are cool. A rest period of a few weeks with 16-20 °C by day, slightly lower at night and shorter days suits the annual cycle and can promote breeding.

A heat mat or heat tape under one end, controlled by a thermostat, is better than a lamp, which dries out the small enclosure too quickly.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be low to moderate: 30-50 %. The enclosure should be mostly dry, but the humid hide is kept slightly moist with sphagnum or soil, so the animals can seek moisture and shedding goes smoothly. Mist the humid hide and a little on the wall and the stones 2 times a week.

The animals drink water droplets from the misting. A water dish is not necessary; if you want one, it must be very shallow and contain small stones, so the animals do not drown. Ensure good ventilation, so the moisture does not linger and mould does not form.

LIGHTING AND UVB

The species is nocturnal and lives hidden by day, so UVB is not necessary. A weak UVB light for shade-dwelling species (Ferguson zone 1) can be mounted over one half of the enclosure, but there must always be large shaded areas and cover. It is not documented how much UVB the species receives in the wild.

Use a day length of 11-13 hours in summer and 9-10 hours in winter, preferably controlled by a timer. Use soft light, and avoid strong spotlights, which heat the small space. At night it must be dark.

Read more: Lighting and UVB

FEEDING

The diet in the wild is not documented. Small arthropods suit the size: springtails, fruit flies, small termites, newly hatched crickets and small cockroaches. Prey must not be larger than the distance between the animal's eyes.

Adults are fed 2-3 times a week. Such small animals use up their reserves quickly, so keep an eye on the thickness of the tail. Dust the food with calcium with D3 at every second feeding and with a multivitamin once a week. Gut-load the feeder insects with greens and moist food before they are given to the geckos. Remove prey that has not been eaten after a couple of hours, as live insects can gnaw at such small animals.

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

BEHAVIOUR AND HANDLING

Crenadactylus ocellatus is quick, shy and hard to see, because it hides by day and is active in the dark. It is suited to being watched, not to being picked up: the animal is so fragile that handling easily injures it or makes it shed its tail. Never grab the tail.

How the species behaves towards its own kind is not documented. Keep it singly or in pairs in an enclosure with many hides, so that no animal can be chased around. Never keep two males together, and separate the animals if there is unrest, bite wounds or missing tails.

Breeding

SEXUAL MATURITY AND SEXING

The sex is hard to see. Pores in front of the vent are usually absent, and only a few males have two. The sex can therefore only be determined in fully grown animals and requires a careful examination. Age and size at sexual maturity are not documented for the species.

MATING

Mating in captivity is not documented. In other small Australian geckos from the same climate, breeding follows the seasons: a short, cool winter period followed by rising temperature and longer days in spring. Put the male with the female, and watch them for the first few days. Separate them at once if the female is chased or bitten.

EGG-LAYING AND CLUTCHES

The species lays eggs. Clutch size, number of clutches per year and laying site are not documented, but related geckos in the family Diplodactylidae lay 1-2 eggs per clutch, hidden under stones, bark or in moist soil. The female probably uses the humid hide. Check for eggs under the hides every week, and move them carefully to the incubator.

Read more: Incubating eggs

INCUBATION

There are no figures for the species. The figures are borrowed from related Australian geckos, whose eggs hatch after about 55-75 days at 27-29 °C. Place the eggs half-buried in moist vermiculite in a small box with a couple of small air holes, and do not turn them. The vermiculite is mixed with water 1:1 by weight and must not be wet. Use an incubator with a thermostat. It is not documented whether the sex depends on temperature.

REARING THE YOUNG

Rearing is not documented for the species. The young are extremely small and are reared in a small, tight box with moist kitchen roll or sphagnum and a flat stone as a hide. Give springtails and newly hatched fruit flies every other day, dusted with calcium, and mist lightly daily. Keep the young separately until the sex is known.

Health and common mistakes

Nothing is known about diseases in the species in captivity. The most important thing is to avoid the mistakes that affect small geckos from dry regions in general:

- Desiccation, because the animal is so small. Keep the humid hide moist, and mist so the animals can drink droplets.
- Overheating, if the enclosure stands in the sun or has a hot lamp.
- Calcium deficiency. Dust the food with calcium and vitamin D3.
- Stuck shed on toes and the tail tip. Provide a humid hide, and loosen it carefully with lukewarm water.
- A shed tail after handling or fighting. It is not dangerous in itself, but the tail is an important fat store, and the new tail does not get the same shape and pattern.

A healthy animal has a plump tail and clear eyes. See a reptile-experienced vet if the animal loses weight, does not eat for several weeks or is 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.