herpy

GECKOS

Variable fat-tailed gecko

Diplodactylus conspicillatus

Diplodactylus conspicillatus is a small, sturdily built desert gecko from inland Australia with a broad, flat tail and a distinct dark stripe from the snout to the eye. It is nocturnal, hides in holes in the ground during the day and in the wild feeds almost exclusively on termites, which makes feeding a challenge.

Family: Diplodactylidae

KEY FACTS

THE ANIMAL

Adult size	**6-7 cm** snout-vent length
Lifespan	**5-8 years**
Active	**At night**
Lifestyle	**Terrestrial**
Habitat	**Desert and semi-desert**
Difficulty	**Experienced**

CARE

Min. enclosure	**40 × 30 × 25 cm** L × W × H for 2 adults
Temperature, day	**22-26 °C**
Basking spot	**28-30 °C**
Temperature, night	**16-20 °C**
Humidity	**30-50%**
UVB	**Optional**
Diet	**Insects**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**12-18 months**
Clutch size	**1-2 eggs**
Incubation	**59-65 days** at 27-30 °C

PROTECTION AND PAPERWORK

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

About the species

Diplodactylus conspicillatus is a small, compact gecko with short legs, large eyes and a short, broad, flat tail about the size of the head. The base colour is pale yellowish brown to reddish brown with a darker net pattern and pale dots, and many animals have dark spots that stand out clearly against the base colour. The legs, lips and belly are paler. A distinct dark stripe runs from the snout to the eye and often further back, and the first upper labial scale is unusually large. The tail is spade-shaped and covered with transverse rows of large and small scales. The scientific name means "spectacled" in Latin.

The body measures about 6 cm from snout to vent and at most 62-65 mm, which makes the species one of the largest in its species group. The tail is about 40 % of the body length, so the total length is about 8-9 cm. The weight has not been documented for the species; a *Diplodactylus* of 5 cm snout-vent length typically weighs 3-5 g. Newly hatched young measure 24-27 mm from snout to vent.

The species was described in 1897 by Lucas and Frost. Since then, several forms that were formerly counted as part of the species have been separated as independent species, including *Diplodactylus hillii*, *Diplodactylus platyurus* and *Diplodactylus laevis*, and the populations in New South Wales and part of Queensland now belong to *Diplodactylus ameyi*. Older information on the species may therefore cover several species.

The species is secretive and lives hidden during the day. It is better suited to being watched in the evening than to being handled.

Distribution and habitat

Diplodactylus conspicillatus occurs only in Australia, in the dry and semi-arid interior of the country. The range covers large parts of Western Australia, the Northern Territory and South Australia and the far west of Queensland, and the species reaches the coast in north-western Western Australia. The type locality is Charlotte Waters in the southern Northern Territory.

The species is common within its range. Records from New South Wales and central Queensland belong to *Diplodactylus ameyi*, and the map is drawn without them.

> **Native range:** Australia.

HABITAT

Diplodactylus conspicillatus lives in desert and semi-desert, especially in sandy desert with spinifex, but also on open grassland, in scrub and on stony rises. During the day the animals hide in holes in the ground, often abandoned spider and lizard burrows, in soil cracks, under stones and in fallen timber. At night they hunt on open ground.

The climate is a desert climate with very hot summers, cool winter nights and little rainfall; the animals probably get most of their water from dew. The species is a termite specialist, and in the wild its diet consists almost entirely of termites, supplemented with ants, spiders and other small insects. This explains why it is hard to switch to other food. The breeding season falls in the Australian spring and summer.

Care

THE ENCLOSURE

The care of *Diplodactylus conspicillatus* is similar to that of the other ground-dwelling species in the genus, for example *Diplodactylus galeatus* and *Diplodactylus vittatus*; only the food is different. A small glass terrarium or a plastic box with a tight-fitting lid is enough. One gecko or a pair needs at least 40 × 30 × 25 cm (length × width × height), and a male with up to three females needs correspondingly more floor area. Floor area matters more than height, because the animal stays on the ground, but it can climb smooth surfaces, so the lid must fit tightly.

Use 1-5 cm of sandy loam as substrate. Provide two or three hides, for example upturned clay saucers, pieces of bark, flat stones or halved plastic pipes pressed down into the sand as artificial spider burrows. One of the hides must be damp. Plants are unnecessary. Clean the substrate often.

TEMPERATURE

The terrarium must have a warm side and a cool side. A heat mat or heat tape under one end, controlled by a thermostat, should give 28-30 °C on part of the floor. The rest is kept at 22-26 °C during the day. At night the heating can be switched off, so that the temperature drops to 16-20 °C. Do not heat the whole terrarium, and measure with a thermometer at both ends.

In winter the temperature can be lower for a period, down to 15-20 °C. This matches the annual rhythm of inland Australia and is usually enough for the animals to breed again.

Read more: Heat and temperature

HUMIDITY AND WATER

Diplodactylus conspicillatus comes from dry regions and does not need high humidity. Ordinary room air at 30-50 % is enough. A shallow dish of fresh water at the cool end is fine. Fill one of the hides with slightly damp sphagnum or damp sand so that the animal can shed. Check it every week so that it neither dries out nor goes mouldy. The rest of the substrate must be dry. Young dry out quickly and must have a damp hide at all times.

Do not spray the whole terrarium. It is unnecessary and causes more problems with parasites and bacteria.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

Diplodactylus conspicillatus is nocturnal and needs no UVB or other special lighting, so UVB is optional. Let the daylight in the room set the daily rhythm, or use a timer of 10-12 hours in summer and shorter days in winter. The night must be dark. If you choose UVB anyway, it must be weak, and the animal must always be able to retreat into a dark hide.

Read more: Lighting and UVB

FEEDING

Diplodactylus conspicillatus is a termite specialist, and that makes the food the biggest challenge. Live termites are the best food and are eaten greedily. They dry out within a day in the terrarium, so you must feed at least twice a week when using termites.

Switching to other prey does not always succeed. Some animals take small waxworm larvae and newly hatched crickets straight away, which resemble termites in size and colour. Others follow the prey and sniff at it without striking; here it helps to give the new prey the scent of crushed termites and then slowly phase that out. Crickets with the hind legs pinched off are often taken more readily. Captive-bred animals learn it faster than wild-caught ones.

The prey should be about 60 % as large as the animal's head. Adults are fed every 4-7 days in summer and every 7-10 days in winter, when short periods without appetite are normal. Young are fed every 2-4 days all year round. Dust the food lightly with calcium at every second feeding and with a vitamin supplement once a week. Remove prey that is not eaten after a couple of hours.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements Read more: Buying animals: captive-bred, wild-caught and transport

BEHAVIOUR AND HANDLING

Diplodactylus conspicillatus is quiet and withdrawn. During the day it sleeps in its hide and becomes active when the lights go out. Handling is unnecessary and should be rare and brief. Never grab the tail, as it can be dropped, and it is the animal's fat store.

The species can be kept singly, as a pair or as one male with up to three females, but two males must never be kept together. Watch for biting and for animals that withdraw, and separate them if there is unrest.

Breeding

SEXUAL MATURITY AND SEXING

Males are recognised by a distinct bulge under the base of the tail and by a group of enlarged, spiny scales, the vent spurs, by the bulge. Females may have a slight bulge, but it is smooth and without a depression, and their spurs are small. The young can be sexed at 60-70 % of adult body length. In the wild, animals hatched in summer may be sexually mature the following year, and in captivity the animals are fully grown and can breed after 12-18 months. Wait until the female has reached full size before she breeds.

MATING

The breeding season runs from October to March. A male and a female, or a male and up to three females, can be kept together all year. A cool winter at 15-20 °C is enough to start breeding, and it is not necessary to separate the sexes. The first eggs come 4-8 weeks after the temperature rises above 25 °C again.

EGG-LAYING AND CLUTCHES

The female usually lays two eggs at a time, sometimes only one. The eggs measure about 9 × 16 mm. There are at least 25 days between two clutches, and the female can lay several clutches in a season. She often digs a shallow pit in damp sand, but in captivity she often lays on open substrate, where the eggs quickly dry out. Eggs that have collapsed and are less than a day old can recover if they are placed on vermiculite and covered with wet paper.

An upturned plastic tub with a 1 cm hole in the rim, filled two thirds with damp peat moss and buried slightly, makes a suitable laying box. Give the female extra calcium during the season, and separate her from the male after 3-4 months of breeding so that she can rest.

INCUBATION

The eggs are carefully moved to a box with a tight-fitting lid and a mixture of vermiculite and water in a ratio of 1:1 by weight. At 27-30 °C they hatch after 59-65 days. The eggs grow considerably during incubation and may get an almost transparent shell just before hatching. They "sweat" about a day before.

Read more: Incubating eggs

REARING THE YOUNG

The young are taken out of the hatching box after a day and placed in a small box with the same substrate as the adults, where they are calmer than on kitchen paper. They measure 24-27 mm from snout to vent and must have a damp hide. Termites are the best food for young, because they are easy to catch. Feed every 2-4 days.

Health and common mistakes

No particular diseases have been described in *Diplodactylus conspicillatus*, but the usual risks with small desert geckos apply:

- Feeding problems. Animals that will eat nothing but termites may lose weight. Monitor the weight and the thickness of the tail.
- Dehydration, especially in young. Always provide a damp hide.
- Too little calcium and vitamin D3, especially in breeding females. This causes soft bones and problems with egg laying.
- Fine sand that is inhaled or swallowed. Use coarse sand, and clean the substrate often.
- Spraying the whole terrarium, which spreads bacteria and parasites.
- Stress from handling or fighting between males, which can make the animal drop its tail.

A healthy animal is active in the evening and has a plump tail. Seek a vet with experience in reptiles if the gecko loses weight, does not eat or seems limp.

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.