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Ringed wall gecko

Tarentola annularis

Tarentola annularis is a large, robust gecko from the dry regions of North Africa and the Sahel, with dark-edged white spots on the shoulders and a tail with distinct rings. It is nocturnal, climbs on rocks and house walls and reaches about 20 cm in length. Some of the care advice is based on the close relative *Tarentola mauritanica*.

Family: Phyllodactylidae Former name: *Gecko annularis*

KEY FACTS

THE ANIMAL

Adult size	**18-20 cm** total length incl. tail
Lifespan	**8-12 years**
Active	**At night**
Lifestyle	**Rock-dwelling**
Habitat	**Semi-desert and rocky terrain**
Difficulty	**Intermediate**

CARE

Min. enclosure	**100 × 50 × 70 cm** L × W × H for 2 adults
Temperature, day	**25-30 °C**
Basking spot	**30-35 °C**
Temperature, night	**18-20 °C**
Humidity	**40-60%**
UVB	**Optional**
Diet	**Insects**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Clutches per year	**2-8**
Incubation	**59-62 days** at 30 °C

PROTECTION AND PAPERWORK

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

About the species

Tarentola annularis is one of the largest species in the genus *Tarentola*. Adults typically reach 18-20 cm including the tail, but the largest can reach a body length of 14 cm from snout to vent and are then longer. The body is stout, the back is covered with rows of large, rough scales, and the long toes have adhesive pads. Only the third and fourth toes have claws. The ground colour is grey to light brown, and most adults have four white, dark-edged spots on the shoulders, which form half-rings. In the young the spots are often faint or missing altogether. The tail is divided into distinct rings, which gave the species the name *annularis*, meaning ringed. The male is larger than the female and has a broader head.

The species was described in 1827 as *Gecko annularis* by Geoffroy Saint-Hilaire from animals from Egypt. It belongs to the family Phyllodactylidae and has two subspecies: the nominate form *annularis* and *relicta*, which lives in South Sudan, north-western Cameroon and Uganda.

The gecko is quarrelsome, bites readily when grabbed, and squeaks when it feels threatened or fights over territory. It has become established outside its natural range: at Ein Gedi in Israel, where it probably arrived through the pet trade, and in Florida, California and Arizona. It must therefore be kept securely and must never escape.

In captivity the species lives 8-12 years. Care and breeding are only sparsely described, and several of the figures are borrowed from the close relative *Tarentola mauritanica*.

Distribution and habitat

The species has a large range in northern Africa. It is found from southern Morocco, Western Sahara and Algeria through Mauritania, Senegal, Mali, Burkina Faso and Niger to Libya, Chad, Egypt and Sudan. To the east and south it reaches South Sudan, Eritrea with the Dahlak Islands, Ethiopia, Djibouti and northern Somalia, as well as northern Cameroon and the Central African Republic. In 2010 the subspecies *relicta* was also found in Uganda. The type locality is in Egypt.

Reports from Sinai and the Arabian Peninsula are regarded as misidentifications, and the occurrence in Cape Verde is uncertain and is therefore not included on the map. The map shows only the natural range, not the introduced populations in Israel and the USA.

> **Native range:** Morocco, Western Sahara, Algeria, Libya, Egypt, Mauritania, Mali, Senegal, Burkina Faso, Niger, Chad, Sudan, South Sudan, Eritrea, Ethiopia, Djibouti, Somalia, Cameroon, Central African Republic and Uganda.

HABITAT

The gecko lives on vertical surfaces such as rock faces and walls. In southern Egypt it shares house walls with the smaller gecko *Hemidactylus turcicus*, and in the introduced populations in California it lives on buildings. By day it hides in crevices, and after sunset it comes out to hunt arthropods and occasionally small lizards.

The range stretches from the northern edge of the Sahara across the Sahel to north-eastern Africa, so the climate varies a great deal. In southern Egypt the males' testes grow again in late autumn and early winter, when temperature, day length and rainfall drop, and the females produce eggs from spring to summer. So there is a cooler season, and egg-laying belongs to the warm half of the year. Temperature and humidity in the places where it lives are not known precisely.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A pair needs a tall enclosure of at least 100 × 50 × 70 cm (length × width × height). The species is large and very active, so more space is always an advantage. Height is important because the gecko climbs.

Furnish the enclosure as a dry rocky landscape with a back wall of cork or stone, flat stones, cork tubes and deep crevices where the animal can squeeze in by day. The stones must be fixed so they cannot topple. Sand mixed with a little clay is a good substrate, and part of it must be deep enough for the female to bury her eggs.

Put a humid hide with slightly damp sphagnum or coconut fibre in the cool end. The enclosure needs good ventilation and a tight-fitting lid, because the animal is fast and strong.

TEMPERATURE

By day the enclosure should be 25-30 °C with a warm spot of 30-35 °C under a lamp, so the animal can choose how warm it wants to be. At night the temperature may fall to 18-20 °C, and room temperature is often enough.

Give breeding animals a cooler period with shorter days in winter, because the species also experiences a cooler season in the wild. How cool and how long the period should be is not documented, so lower the temperature carefully. Control the heat with a thermostat, and measure with digital thermometers at both ends. If the animal always lies close to the heat source, it is too cold, and if it lies flat in the coolest corner, it is too hot.

Read more: Heat and temperature

HUMIDITY AND WATER

Keep the enclosure dry with a humidity of 40-60%. The lower part of the range suits best, also for breeding animals, because the species comes from dry regions. Avoid misting the whole enclosure. Instead dampen the damp hide once a week, so there is a place with higher humidity for shedding and for the female.

Provide a shallow dish of fresh water, and change the water regularly. You can also drip a little water on a stone in the evening, so the animal can lick the droplets. If shed skin sticks to the toes and tail, the damp hide must be dampened more often.

LIGHTING AND UVB

The species is nocturnal and can live without UVB when it gets calcium and vitamin D3 through the food. UVB is therefore optional. If you want to provide it, use a weak tube for shade-dwelling animals (Ferguson zone 1) over part of the enclosure, so there is shade in the rest.

Let day length follow the season, with about 12 hours of light in summer and shorter days in winter, controlled by a timer. It must be dark at night, with no coloured night light.

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

FEEDING

In the wild the species eats arthropods and occasionally small lizards. In captivity insects are enough: crickets, grasshoppers, cockroaches and now and then waxworms. The insects must be smaller than the distance between the animal's eyes. Feed in the evening, and remove leftovers the next morning. Do not use wild insects, which can carry parasites and pesticides.

Feed adults every second day and young daily, and adjust by the tail: if it is thin, the animal needs more, and if it is very thick, less. Dust the insects with calcium, and give calcium with vitamin D3 once or twice a week. Females that lay many eggs need extra calcium.

The species is predatory and takes smaller lizards, so it must never be kept with small geckos or other smaller reptiles.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

The gecko is robust and pugnacious and not an animal for handling. It readily bites if grabbed, and squeaks when it feels threatened. Never grab the tail, and give new animals a couple of weeks in peace to settle in.

Males must not be kept together. The male calls with long series of calls, and the females answer with short single sounds. A male can live with one or more females, and the females defend their egg-laying site. How well this works in the long term is not known, so provide plenty of hides, watch for bites and scratches, and be ready to separate the animals.

Breeding

SEXUAL MATURITY AND SEXING

The male is larger than the female and has a broader head, and all body measurements are larger in males. As in most geckos, the male's hemipenal pouches show as two bulges under the base of the tail. The age at sexual maturity in captivity is not known.

The female's size matters for the clutch: females under 9 cm from snout to vent lay only one egg at a time, while larger females often lay two. Wait, therefore, until the female is fully grown and in good condition before she is bred, because the eggs require a lot of calcium.

MATING

In natural daylight the females lay eggs from the end of March to the end of August. Give breeding animals a cooler winter period with shorter days (see Temperature).

The male calls, approaches the female and bites onto the scales near her ear. He then lays his body over hers and brings his tail under hers. Mating lasts 20-60 seconds, after which he switches side and mates again. A receptive female raises her tail. Watch the first encounters, and remove the male if the female gets scratches.

EGG-LAYING AND CLUTCHES

The female lays 1-2 eggs at a time, on average 1.67. In the enclosure she lays 2-8 clutches in a season at intervals of 18-29 days, on average 23 days. The eggs are among the largest in the genus *Tarentola*, about 18 × 16 mm. The female buries them in the sand and defends the spot.

Give the female a deep, slightly damp laying site with sand she can dig in, and plenty of food and calcium throughout the season. Carefully remove the eggs without turning them, and stop breeding if the female loses significant weight.

INCUBATION

In perlite in plastic boxes at 30 °C and 85-90% humidity the eggs hatch after 59-62 days. At 27-30 °C development takes longer than in the other *Tarentola* species, so at a lower temperature expect more than two months. The eggs develop in dry substrate, but not in wet, so keep the substrate relatively dry and the box closed with small air holes, so the air inside becomes humid.

Temperature can affect the sex. In several *Tarentola* species 27-30 °C gives only females. Temperature-dependent sex determination has not been proven for this species, so you cannot count on an even sex ratio.

Read more: Incubating eggs

REARING THE YOUNG

The young measure 3-4 cm from snout to vent and have a tail of 3 cm. They weigh 1.1-1.5 g at hatching. Keep them in small boxes with kitchen roll, a couple of hides and a humid hide, and give small crickets dusted with calcium.

The juveniles' growth, and when they can be kept together, is not known. Weigh them regularly, and separate them if one lags behind or is bitten.

Health and common mistakes

The typical mistakes in care are:

- Too little calcium and vitamin D3, especially in females that lay many eggs. This causes soft bones and tremors. Dust the food, and give extra calcium in the season.
- Bites and scratches when animals are kept together. The species is quarrelsome, so separate the animals at any sign of unrest.
- Shed skin stuck on the toes and tail, because a damp hide is missing.
- Persistently wet substrate and poor ventilation, which cause mould and skin problems.
- Escape. An animal that gets out can be injured, and in several countries the species has become established in the wild.

A healthy animal has clear eyes and a plump tail. Seek a vet with reptile experience if the animal loses weight, does not eat for several weeks 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.