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ANGUIDS

Checkerboard Worm Lizard

Trogonophis wiegmanni

Trogonophis wiegmanni is a small, legless worm lizard from Morocco, Algeria and Tunisia that spends its whole life buried in sandy soil and under stones. The animal is 12-18 cm from snout to vent, has a short, conical tail and a chequerboard pattern. The species gives birth to live young and needs a deep, slightly moist substrate, even warmth from below and peace and quiet. Little is known about its husbandry.

Family: Trogonophidae

KEY FACTS

THE ANIMAL

Adult size	**12-18 cm** snout-vent length
Lifespan	**5-10 years**
Active	**By day**
Lifestyle	**Burrowing**
Habitat	**Semi-desert and temperate woodland and meadow**
Difficulty	**Expert**

CARE

Min. enclosure	**40 × 30 × 30 cm** L × W × H for 2 adults
Temperature, day	**20-25 °C**
Temperature, night	**15-20 °C**
Humidity	**50-70%**
Water	**No water dish**
UVB	**Not required**
Diet	**Insects and worms/snails**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Live-bearing**
Sexually mature	**30 months**
Litter size	**2-5 young**
Clutches per year	**1**
Gestation	**120-150 days**

PROTECTION AND PAPERWORK

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

About the species

Trogonophis wiegmanni is a worm lizard in the family Trogonophidae and the only living species in the genus *Trogonophis*. Worm lizards (Amphisbaenia) are legless, worm-shaped lizards adapted to life underground. The body is cylindrical, ringed, and short and thick compared with other legless lizards, with sunken lateral lines. The head is rounded and slightly flattened, the snout protrudes slightly, the nostrils face forward, and there are no external ears. The tail is short and conical and cannot be shed. Neither males nor females have preanal pores.

Adults are typically 12-18 cm from snout to vent, averaging about 14-15 cm, and the largest are reported at 24 cm. The tail is only about 1 cm. The sexes are the same size. Weight is not documented. The pattern is a chequerboard of dark and light squares. The nominate form *T. w. wiegmanni* has a pale yellow ground colour, while *T. w. elegans* has a grey-white or pinkish ground colour.

The genus is distinguished from the related genus *Blanus* by the lack of preanal pores, by having the nostril in a separate nasal shield, and by a short, conical tail, where *Blanus* has a longer tail that tapers only towards the tip. Genetic studies have revealed three cryptic species within *T. wiegmanni*, but they have not yet been described. The genus name comes from the Greek trogon, "gnawer", and ophis, "snake", and the species name honours the German zoologist Arend Friedrich August Wiegmann.

Distribution and habitat

Trogonophis wiegmanni is found in north-western Africa: in Morocco, northern Algeria and western and central Tunisia. The species also occurs on the Chafarinas Islands off the coast of Morocco, which belong politically to Spain. The subspecies *T. w. elegans* lives in Morocco, and *T. w. wiegmanni* in the rest of the range.

The species occurs from sea level up to about 1,900 m.

> **Native range:** Morocco, Algeria and Tunisia.

HABITAT

Trogonophis wiegmanni lives in a Mediterranean climate: in scrub, oak woodland and woodland of oak and juniper, in steppe, on sandy patches without vegetation, in grassland and on cultivated land. The animals live in the sand and loose soil under a layer of leaf litter and lie under stones where the soil is moist and prey is plentiful. The species lives underground all its life and only rarely comes to the surface.

The animals are often found in pairs or small family groups under the same stone. Two adults under the same stone are always a male and a female, and two animals of the same sex are never found together. The young are born in late summer or early autumn and then stay close to an adult, most often the female. In summer, when the soil dries out and becomes hot, the animals go deep into the ground and are almost inactive until the rain returns.

The diet is insects and other small, soil-dwelling invertebrates. Insect larvae and snails are preferred, while ants and woodlice are almost ignored, even though they are abundant. In dry years the number and diversity of prey fall, and the animals' condition deteriorates.

Care

THE ENCLOSURE

Little is known about the husbandry of *Trogonophis wiegmanni*. The species lives underground all its life and is almost never seen, so the recommendations are based on its habitat and on experience with the species and with *Blanus cinereus*, and several of the figures are estimates.

A pair or a small family group can be kept in an enclosure of at least 40 × 30 × 30 cm (length × width × height). The most important thing is the substrate: the animals lie buried almost all the time, so the substrate determines how they fare. Make a loose substrate of coconut fibre, ideally mixed with sand and fertiliser-free soil and with a layer of leaf litter on top. 5 cm of loose coconut fibre is enough for the animals to lie buried, but 10-15 cm lets them choose both warmth and moisture.

Place a flat tile or stone of about 20 × 20 cm on top of the substrate. It corresponds to the stone the animals lie under in the wild, and here they warm themselves and find food. Use only clean soil without fertiliser and pesticides, because residues of weedkillers and fertiliser can harm soil-dwelling animals. The enclosure needs a secure lid. There is no need for plants, branches or hides other than the tile. Remove visible droppings and food remains, and replace the substrate if it turns sour or becomes mouldy.

TEMPERATURE

The animals warm themselves by lying buried in heated soil, not in the warmth of a lamp. Heat the substrate from below with a heating cable or heat mat under one end of the enclosure, controlled by a thermostat, so that the substrate at the warm end is 24-25 °C and the rest about 20-22 °C. The animals choose a body temperature of around 22 °C. Make sure the substrate never becomes warmer than 25-26 °C. Measure the temperature of the substrate with a probe in the soil, not the air temperature.

A heat lamp from above dries out the substrate and is not used. Night temperatures can be slightly cooler, around 15-20 °C; this is an estimate. Overheating is more dangerous than cold: in the wild the animals move deeper down when the soil becomes warm and dry. Whether a cool winter period is necessary is not documented.

Read more: Heat and temperature

HUMIDITY AND WATER

It is the moisture of the substrate that counts, not that of the air. The substrate should be slightly moist all the way down: it should hold its shape when pressed in the hand, but not drip. Mist the substrate with water every day. This keeps the soil moist and gives the animals drinking water, which they absorb from the soil. Create a gradient so that one end is slightly damper than the other and the animals can choose for themselves. A water bowl is not necessary.

A substrate that dries out completely causes poor condition and stress. A substrate that is always wet causes mould and skin problems. The humidity of the air in the enclosure is not documented; 50-70 % is an estimate.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The animals lie buried and are not seen in the light. UVB is not necessary. The enclosure should stand in a room with a natural day-night rhythm, either with daylight from a window (not in direct sun, where it quickly becomes too hot) or with lighting on a timer for 10-14 hours a day according to the season. The animals' own daily rhythm is not documented.

Read more: Lighting and UVB

FEEDING

Trogonophis wiegmanni is a carnivore that eats insects and other small, soil-dwelling invertebrates. In the wild, insect larvae and snails are the preferred prey, while ants and woodlice are almost ignored.

Mealworm larvae and pupae, small snails and freshly killed crickets, dusted with a multivitamin powder, are suitable food. Place food under the tile three times a week; it is eaten within a few hours. Remove untouched food after a day so that it does not go mouldy. The amount to feed is not documented; adjust the quantity according to whether the animals maintain their weight.

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

BEHAVIOUR AND HANDLING

Trogonophis wiegmanni is seldom seen. The animals lie buried and emerge only under the tile. This is normal. Do not dig for the animals to check on them, because disturbance and stress make them less active. Lift the tile carefully to see whether food has been eaten and that the animals are present. The species is not an animal for handling.

In the wild the animals are found in pairs and family groups, and animals of the same sex are never found together. Keep them, therefore, singly, as a male-female pair or as a family group of a pair and their young, and never put two adults of the same sex together. The animals recognise their partner, themselves and the young by scent. In summer the animals are less active, also in the enclosure, and they withdraw down into the substrate.

Breeding

SEXUAL MATURITY AND SEXING

The species reaches sexual maturity at about 2½ years of age. The sexes are the same size and cannot be told apart externally. Sex is determined reliably by everting the hemipenis at the vent, which requires experience and should be done by a vet experienced with reptiles.

MATING

Mating takes place in spring, and the young are not born until late summer, so the female carries them all summer. Mating in captivity has not been described. A male-female pair can be kept together all year, as in the wild, where the animals are found together under the same stone. Never keep two males together, and check for wounds after mating.

EGG-LAYING AND CLUTCHES

The species gives birth to live young in late summer or early autumn, after the dry summer. A litter is 2-5 young. The young are very large, about half as long as the mother from snout to vent, and the whole litter can weigh as much as the female. A gravid female needs a deep, slightly moist substrate, warmth from below, plenty of food and peace and quiet. Do not dig for her.

INCUBATION

There are no eggs to incubate. Gestation extends from mating in spring to birth in late summer. Its length has not been measured, and 120-150 days is an estimate based on the seasons.

REARING THE YOUNG

Rearing in captivity has not been described. Newborn young measure about 7 cm from snout to vent. In the wild they stay close to an adult, most often the mother, and the young can remain in the family group. They need the same substrate, moisture and warmth as the adults and small prey such as small mealworms, small snails and small crickets.

Health and common mistakes

Almost nothing is known about diseases in the species in captivity. The problems that can be expected are almost always caused by the set-up:

- Dehydration and stress in a substrate that is too dry or too hot.
- Mould and skin problems in a substrate that is always wet.
- Injuries from soil with residues of fertiliser or pesticides.
- Lack of food: the animals do not gain weight if they do not find food under the tile.

The animals are difficult to observe. Watch whether the food is eaten and whether the animals emerge under the tile. An animal that lies on the surface for a long time is sick or unwell. Consult a vet experienced with reptiles.

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.