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CAECILIANS

Boettger's Caecilian

Siphonops paulensis

Siphonops paulensis is a legless, burrowing caecilian from Brazil, Paraguay, Bolivia and northern Argentina. It lives underground in open country, forest and gardens, and the female guards her few eggs, which hatch directly into small young. The skin releases a secretion that dissolves red blood cells.

Family: Siphonopidae

Mild skin toxins

KEY FACTS

THE ANIMAL

Adult size	**30-35 cm** total length incl. tail
Lifespan	**5-10 years**
Active	**At night**
Lifestyle	**Burrowing**
Habitat	**Savanna, dry forest and rainforest**
Skin toxins	**Mild** Wash your hands after contact and keep your fingers away from your eyes and mouth
Difficulty	**Experienced**

CARE

Min. enclosure	**50 × 30 × 35 cm** L × W × H for 1 adult
Temperature, day	**22-26 °C**
Temperature, night	**20-24 °C**
Humidity	**90-100%**
Water	**No water dish**
UVB	**Not required**
Diet	**Insects and worms/snails**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Development	**Direct development (no larvae)**
Egg-laying site	**On the ground**
Eggs per season	**4-6**
Parental care	**Guards the eggs**

PROTECTION AND PAPERWORK

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

About the species

Siphonops paulensis is a caecilian: a legless, burrowing amphibian that looks like a large earthworm. The body is cylindrical and divided by annular grooves, and the head is strongly ossified and is used to bore through the soil. An adult of 32 cm weighs about 26 g, and the 30-35 cm in the box is based on this; the size corresponds roughly to the close relative *Siphonops annulatus*. Lifespan and reliable external sex differences are not documented, and the lifespan in the box is an estimate.

Skin toxicity: the skin secretion dissolves red blood cells, including human ones, and can stop the heart in toads in laboratory experiments; the effect on the heart is caused by potassium released from the destroyed blood cells. The effect on humans with ordinary handling is not documented. Wash your hands before and after handling, and do not touch your eyes or mouth afterwards.

The species lays eggs in the soil, and the young develop directly without a larval stage in water. In *S. annulatus* the young eat the female's outer skin layer; whether the same applies to *S. paulensis* is not documented.

Distribution and habitat

Siphonops paulensis is widespread in South America: Brazil from the north-east to the south, Paraguay, eastern Bolivia and northern Argentina. Most records are from Brazil, and new records are still extending the known range. The species is locally common and is not regarded as threatened.

> **Native range:** Brazil, Paraguay, Bolivia and Argentina.

HABITAT

Siphonops paulensis lives underground in forest, savanna, scrub and grassland, preferably in open country and in forest along watercourses. The species tolerates human influence and is also found in gardens and inside towns. It is rarely seen on the surface. What the species eats in the wild is poorly known.

Care

THE ENCLOSURE

Little is known about the care of *Siphonops paulensis*. The close relative *Siphonops annulatus* is better known in captivity, and the care is based on it and on experience with other terrestrial caecilians.

An adult is kept in a tight, thick-walled plastic box of at least 50 × 30 × 35 cm with 20-25 cm of loose, damp substrate. The lid must fit tightly and have a weight on top, because caecilians find every gap. Use unbleached paper fibre (paper-based bedding) or sterilised topsoil without fertiliser; coconut fibre alone can pack together in the gut. The substrate should be damp, but not so wet that you can squeeze water out of a handful, and there must be no standing water at the bottom. A flat piece of bark or wood on the surface gives a hide just under the surface and makes it easy to check on the animal. Small air holes in the sides, covered with fine mesh, provide ventilation and keep the feeder worms in; the lid must have no holes. The substrate is replaced every 4-5 months.

TEMPERATURE

Siphonops paulensis is kept at 22-26 °C by day and 20-24 °C at night; the figures are borrowed from *S. annulatus*, which does poorly without heating. A heat mat under one end of the box gives a warmer and drier zone, so that the animal can choose for itself. The temperature must be stable, and rapid swings should be avoided. An animal that lies on the surface instead of burrowing is too warm, too cold, too wet or too dry.

Read more: Heat and temperature

HUMIDITY AND MISTING

The substrate should be evenly damp, and the air in the box is almost saturated, 90-100 %. Mist the substrate with bottled water, rainwater or dechlorinated tap water, and turn the top few centimetres now and then so that the moisture is distributed. Do not let water collect at the bottom. Condensation on the walls is normal.

WATER AND WATER QUALITY

The species does not need a water bowl or an aquatic area. Condensation on the walls of the box is enough to drink from, and water is used only to keep the substrate damp. Never use tap water containing chlorine or chloramine, and avoid soap, cleaning products and hand cream on hands and equipment, because amphibians absorb substances through the skin.

LIGHTING AND UVB

The species lives underground and does not need UVB or other lighting. The room's ordinary daily rhythm with 10-14 hours of light is enough. The box should not stand in direct sun.

Read more: Lighting and UVB

FEEDING

Earthworms are the staple and are taken by almost all terrestrial caecilians. Use earthworms of suitable size, e.g. compost worms, and cut them into pieces for small animals. In a paper substrate the worms can live for a long time without dying and rotting.

An adult is given 10-15 worms every other week. Dig through the substrate at least every other week: many worms left over mean overfeeding or an animal that is not eating. The worms can be gut-loaded with calcium and vitamins in their soil a few days before feeding. The animal is rarely seen eating, so count the worms in during the first month.

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

BEHAVIOUR AND HANDLING

Siphonops paulensis lives hidden underground, and a healthy animal lies buried most of the time. If the animal is often on the surface, the substrate is too wet, too dry, too cold, too warm or chemically unsuitable, or a hide near the surface is missing. The species is kept singly, so that weight and health are easy to follow. Handling should be avoided because of the skin secretion; if the animal has to be moved, use clean, damp hands or gloves.

Breeding

SEXUAL MATURITY AND SEXING

Age and size at sexual maturity are not documented, and the sexes cannot be told apart reliably from the outside. An animal's sex is therefore unknown until it possibly breeds.

MATING

Fertilisation is internal. How mating takes place, and which conditions trigger mating and egg-laying, is not documented. Captive breeding has not been described.

Read more: Buying animals: captive-bred, wild-caught and transport

EGGS AND LARVAE

Siphonops paulensis lays 4-6 eggs in the soil, and the female stays with the eggs and guards them. The young develop directly without a larval stage in water. In *Siphonops annulatus* the newly hatched young stay with the female, eat her outer skin layer and gather around her cloaca; whether *S. paulensis* does the same is not documented. Young must therefore be allowed to stay with the female until they dig and eat on their own.

METAMORPHOSIS

There are no larvae and no metamorphosis: the young hatch as small versions of the adults. How long the eggs take to hatch, and when the young leave the female, is not documented. The female needs peace while she lies with eggs or young.

Read more: Rearing tadpoles

REARING THE YOUNG

Young are not moved from the female until they dig and eat on their own. After that they are kept in a small, deep box with the same substrate as the adults and given small earthworms or worm pieces. Keep the substrate evenly damp and the temperature stable. There is no rearing guide for the species.

Health and common mistakes

The health picture is based on experience with other terrestrial caecilians. The most common problems are:

- The animal lies on the surface: the substrate is too wet, too dry, too warm, too cold or chemically unsuitable. Correct the conditions, and replace the substrate.
- Constipation: coconut fibre can pack together into a plug in the gut. Use paper fibre or sterile soil.
- Escapes: the lid must fit tightly and have a weight on top.
- Skin inflammation is the most common known cause of death in caecilians in captivity. Keep the substrate clean, and look at the skin at every check.
- Chytrid fungus (Bd) has been detected in caecilians. New animals are quarantined, and hands and equipment are washed between boxes.

See a vet with expertise in amphibians if the animal does not eat for several weeks, loses weight or develops sores on the skin.

Read more: Quarantine and hygiene

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.