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CAECILIANS

Taita African Caecilian

Boulengerula taitana

Boulengerula taitana is a small, limbless caecilian found only in the Taita Hills of south-eastern Kenya. The female lays a few eggs in a chamber in the soil and stays with them, and the newly hatched young feed on her outer layer of skin. The species is threatened, and almost nothing is known about keeping it in captivity.

Family: Herpelidae Former name: *Boulengerula taitanus; Afrocaecilia taitana*

KEY FACTS

THE ANIMAL

Adult size	**24-30 cm** total length incl. tail
Lifespan	**5-10 years**
Active	**At night**
Lifestyle	**Burrowing**
Habitat	**Montane forest**
Skin toxins	**None known**
Difficulty	**Experienced**

CARE

Min. enclosure	**40 × 30 × 30 cm** L × W × H for 1 adult
Temperature, day	**21-24 °C**
Temperature, night	**19-22 °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**
Sexually mature	**24 months**
Eggs per season	**5**
Parental care	**Guards the eggs**

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Endangered (EN)**

About the species

Boulengerula taitana is a limbless, burrowing amphibian that looks like an earthworm: the body is long and cylindrical and divided by ring-shaped grooves. The eye sockets are covered by bone. Animals over 24 cm are regarded as adults, and the males grow longer than the females. The maximum length is not documented; the upper limit of 30 cm in the specification box is an estimate. The species belongs to the family Herpelidae.

The species is known for its unusual parental care: in females that are tending young, the skin changes, becoming paler and rich in nutrients, and the young have special teeth that they use to peel off and eat her outer layer of skin. The female loses condition during this period.

Skin toxicity: no toxic effect has been documented in the species, but caecilians have skin glands, so do not touch your eyes or mucous membranes after handling. Wash your hands before and after, and handle the animal as little as possible. Lifespan and weight are not documented; the lifespan in the specification box is an estimate.

Distribution and habitat

Boulengerula taitana is found only in the Taita Hills of south-eastern Kenya. The species is listed as endangered (EN) on the IUCN Red List. It is common in smallholder farmland in the hills, but its range is small.

> **Native range:** Kenya.

HABITAT

The Taita Hills were originally covered in forest, but today most of the land is smallholder farmland with patches of remaining forest in between. *B. taitana* lives in both forest and cultivated fields and is usually found a few centimetres below the surface, under rotting logs and in soil that collects around stones. The soil must not dry out: in dry periods the animals move towards moister or deeper soil and are harder to find. The hills have two rainy seasons, a long one from March to May and a short one from October to December. The diet consists mainly of termites and earthworms, as well as fly larvae and other small soil animals.

Care

THE ENCLOSURE

Little is known about keeping *Boulengerula taitana*. The climate in the Taita Hills is tropical but mild because of the altitude, with two rainy seasons, and the species lives in moist, loose soil. The care described here is based on that and on experience with other terrestrial caecilians; the best-known relative in captivity is *Herpele squalostoma* from the same family.

An adult is kept in a tight-fitting, thick-walled plastic box of at least 40 × 30 × 30 cm with 15-20 cm of loose, moist substrate. The lid must close tightly and have a weight on top, because caecilians will find every gap. Use unbleached paper fibre (paper-based bedding) or sterilised topsoil without fertiliser; coconut fibre alone can compact in the gut. The substrate must be moist, but not so wet that water can be squeezed out of a handful, and there must be no standing water at the bottom. A flat piece of bark or wood on the surface provides a hide just under the surface and makes it easy to check on the animal. Small ventilation holes in the sides, covered with fine mesh, provide ventilation and keep the feeder insects in; the lid must have no holes. Replace the substrate every 4-5 months.

TEMPERATURE

The soil temperature has not been measured for the species. 21-24 °C by day and 19-22 °C at night is an estimate that suits terrestrial caecilians and a mild mountain climate. The temperature must be stable, and rapid or large fluctuations must be avoided. If the box is kept in a room with an even temperature, heating is usually not needed. An animal that lies on the surface instead of burrowing is too warm, too cold, too wet or too dry.

HUMIDITY AND MISTING

The substrate must be evenly moist, and the air in the box is almost saturated, at 90-100 %. Mist the substrate with bottled water, rainwater or dechlorinated tap water, and turn over the top few centimetres now and then so that the moisture is distributed. Leave one end slightly drier than the other so that the animal can choose, and never let water collect at the bottom.

WATER AND WATER QUALITY

The species does not need a water bowl or a water area. Condensation on the walls of the box is enough to drink from, and the water is used only to keep the substrate moist. 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 any other lighting. The ordinary day-night rhythm of the room, with 10-14 hours of light, is enough. The box is kept dark and should not stand in direct sunlight.

Read more: Lighting and UVB

FEEDING

In the wild, *Boulengerula taitana* eats mainly termites and earthworms; the young take mostly earthworms. In captivity, small earthworms are the most realistic staple food. Use small worms, such as compost worms, and cut them into pieces that fit the animal's small mouth. Termites can be given as a supplement if they can be obtained.

An adult is fed 5-10 small 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 species eats slowly and 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

Boulengerula taitana lives hidden underground, and a healthy animal lies buried most of the time. The species is kept singly, so that weight and health are easy to monitor. Females with eggs often lie close to other breeding females, but whether the species can be kept in groups is not documented. The animal is handled only when necessary, with clean, moist hands.

Breeding

SEXUAL MATURITY AND SEXING

The young become half-grown about a year after hatching and adult, over 24 cm, after a further year. Sexual maturity is therefore set at about 2 years. The males grow longer than the females, but the sexes cannot be told apart reliably from the outside. Females that are tending young are distinctly paler in the skin. Breeding in captivity has not been described.

MATING

Fertilisation is internal, and mating takes place in the soil before egg-laying, at the start of the short rainy season. A female can have young by more than one male in the same clutch. The conditions that trigger mating in captivity are not documented; a moister period that imitates the rainy season is a natural starting point.

EGGS AND LARVAE

The female digs a chamber in the soil, lays the eggs there and stays with them while they develop, and after hatching. A clutch averages about 5 eggs, and the young hatch as small caecilians with no aquatic larval stage. The young peel and eat the mother's fat-rich outer layer of skin with their special teeth, and she loses condition while they feed. Young are sometimes tended by a female other than the mother.

METAMORPHOSIS

There are no larvae and no metamorphosis: the young hatch as small, weakly developed versions of the adults, about 3 cm long. The development time of the eggs is not documented. The young live on the mother's skin until they are about 12 cm, and then switch to teeth that can take prey. The female must have complete peace while she is with eggs or young.

Read more: Rearing tadpoles

REARING THE YOUNG

Young are not moved away from the female until they are digging and eating on their own. They are then kept in a small, deep box with the same substrate as the adults and fed very small earthworms or pieces of worm. Keep the substrate evenly moist and the temperature stable. There is no rearing guide for the species.

Health and common mistakes

The health notes are 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, or there is no hide near the surface. Correct the conditions and replace the substrate.
- Constipation: coconut fibre can compact into a plug in the gut. Use paper fibre or sterile soil.
- Escapes: the lid must close tightly and have a weight on top.
- Skin infection 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 experience of 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.