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POISON DART FROGS

Marbled Poison Frog

Epipedobates boulengeri

Epipedobates boulengeri is a small, diurnal poison dart frog of about 17-24 mm with a dark brown back and an unbroken, pale stripe along the side. It lives in the lowland rainforest along the Pacific coast from south-western Colombia to north-westernmost Ecuador. The species is hardly ever kept, and little is known about its care.

Family: Dendrobatidae Former name: *Dendrobates boulengeri; Phyllobates boulengeri*

KEY FACTS

THE ANIMAL

Adult size	**17-24 mm** snout-vent length
Lifespan	**8-10 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Rainforest**
Skin toxins in the wild	**Mild**
Skin toxins in captivity	**None** Captive-bred animals. Wild-caught animals can keep their toxins for a long time
Difficulty	**Experienced**

CARE

Min. enclosure	**40 × 40 × 40 cm** L × W × H for 3 adults
Temperature, day	**22-26 °C**
Temperature, night	**19-22 °C**
Humidity	**80-100%**
Water	**Water dish** depth 1-2 cm
UVB	**Optional** Ferguson zone 1
Diet	**Small invertebrates (springtails, fruit flies)**
Kept	**In pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles carried to water**
Egg-laying site	**On the ground**
Eggs per clutch	**10-30**
Hatching	**9-14 days**
Larval period	**42-70 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**Guards the eggs and carries the tadpoles**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Least Concern (LC)**

About the species

Epipedobates boulengeri is a very small, ground-dwelling frog in the genus *Epipedobates*. The back is dark brown, uniform or with darker, irregular spots or a black marbled pattern. The pale, oblique stripe along the side is unbroken, and the belly is bluish white with dark marbling. It lacks the pale stripe down the middle of the back that characterises *Epipedobates anthonyi* and *Epipedobates tricolor*, and it has no yellow spots in the groin. Exact measurements have not been documented; 17-24 mm is an estimate based on the closest relatives.

The name was given by Thomas Barbour in 1909 as a replacement for an older name from 1905, and the type locality is the island of Gorgona off the coast of Colombia. For a long time the species was understood broadly and included brown *Epipedobates* from large parts of western Ecuador and Colombia. A genetic study from 2024 showed that many of these populations belong to *Epipedobates espinosai* or to as yet undescribed species. In the narrow sense *E. boulengeri* is known only from a narrow coastal strip.

The genus has toxins in the skin, which the frogs obtain from their food in the wild; captive-bred animals are non-toxic. Whether *E. boulengeri* has toxins in the wild has not been documented. Wash your hands before and after contact.

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

Distribution and habitat

Epipedobates boulengeri lives on the Pacific coast from the island of Gorgona and Nariño in south-western Colombia to the province of Esmeraldas in north-westernmost Ecuador, from sea level up to about 150 m. The range may be larger, as south-western Colombia is poorly surveyed.

Many older records further inland and higher up the Andean slope, including in Pichincha, Santo Domingo de los Tsáchilas and Valle del Cauca, belong to other species. The records on the map therefore show too large an area. The IUCN regards the species as Least Concern (LC).

> **Native range:** Colombia and Ecuador.

HABITAT

Epipedobates boulengeri lives in humid rainforest and forest edges in the lowlands along the coast. The climate is warm and very rainy, with high humidity all year and no real winter. The species of the genus live on the forest floor, in the leaf litter and near small streams, where the males deposit the tadpoles. Microhabitat, call and breeding biology have not been documented specifically for the species.

Read more: Humidity, misting and ventilation Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Epipedobates boulengeri*, and the species is hardly ever kept. The care is based on the climate in the species' range and on the closely related *Epipedobates anthonyi* and *Epipedobates tricolor*, which are well known in captivity. The figures for enclosure, climate, eggs, hatching, larval period and lifespan are borrowed from *E. tricolor*. *Epipedobates espinosai* is a close relative from western Ecuador with the same requirements.

One male and two females need an enclosure of at least 40 × 40 × 40 cm, and a group of 5-10 animals at least 60 × 60 × 40 cm. Build up the floor with expanded clay balls as a drainage layer, a water-permeable screen and a loose substrate of soil, moss, coconut fibre and leaf litter. A thick layer of leaves, roots, cork and dense planting with bromeliads provides hides, egg-laying sites and many territories. Ventilation must keep the glass free of condensation, and the openings are covered with fine mesh.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

Keep 22-26 °C during the day with slightly cooler and slightly warmer spots in the enclosure, and 19-22 °C at night. This is normally achieved with room temperature and the lighting; heat mats are unnecessary. The species lives in warm lowlands, but the frogs of the genus tolerate heat poorly, so avoid more than 26-27 °C for long periods, direct sun and local heating. There is no hibernation, but a cooler and drier period in winter gives the animals a break from breeding.

Read more: Brumation and the seasons

HUMIDITY AND MISTING

Humidity should be 80-100 %. Spray several times a day or use a rain system, for example three times a day for 20-60 seconds, preferably supplemented with a fogger. Leaves and furnishings should be dry again about an hour after spraying, and the substrate must not become waterlogged. Use rainwater or reverse osmosis water in the systems. In winter spraying can be

shorter and less frequent.

WATER AND WATER QUALITY

A shallow water bowl with 1-2 cm of water, for example a low saucer or half a Brazil nut shell, gives the frogs a place to drink and bathe and is a breeding site when the male is to deposit tadpoles. The bowl must be easy to climb out of. Use rainwater, reverse osmosis water or dechlorinated tap water, change the water often, and scrub the bowl with hot water without soap. Amphibians absorb water and substances through the skin, so soap, cleaning products and hand cream must not come near.

LIGHTING AND UVB

The light is for the plants: fluorescent tubes or LED bars for about 12 hours a day. The closely related species thrive without UVB, so it is optional. If you wish to provide it, stick to Ferguson zone 1 with plenty of shade and dense foliage.

Read more: Lighting and UVB

FEEDING

The frogs are given live, small prey: springtails and fruit flies (*Drosophila melanogaster*), and adults also take the larger *Drosophila hydei* and newly hatched crickets. Feed adults 2-3 times a week, slightly more often in a rainy season with young, and only as much as they eat in a few minutes. Dust the feeder insects with vitamin and mineral powder for amphibians, and give them good food themselves. Your own cultures of springtails and fruit flies ensure a steady supply. Do not catch feeder insects in the wild; they can carry parasites and pesticides.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

The species of the genus are diurnal, ground-dwelling and territorial, and the males call from fixed spots. The call has not been described in more detail for *E. boulengeri* in the narrow sense. Keep a pair, one male and two females or a larger group in an enclosure with many visual barriers and hiding places, and separate the animals if one is persistently chased. Frogs should be handled as little as possible, because their thin, moist skin is damaged by salt, grease and cream from the hands. If a frog has to be moved, let it run into a damp plastic tub.

Breeding

SEXUAL MATURITY AND SEXING

In the closely related species, females are slightly larger and broader than males, and the males call and have a swollen third finger. In *Epipedobates tricolor* breeding begins 6-10 months after metamorphosis; the age at sexual maturity has not been documented for *E. boulengeri*. The surest approach is to keep a small group and see who calls.

MATING

Mating has not been documented for *E. boulengeri*. In the genus the males call with a soft trill, mostly in the morning and after spraying. The male lures the female to a hidden egg-laying site, and mating takes place in head amplexus. Breeding follows the rainy season: a cooler and slightly drier period of about three months in winter, followed by more frequent spraying, gives the animals a break and then sets breeding going.

EGGS AND TADPOLES

Egg laying has not been documented for *E. boulengeri*. In the genus the eggs are laid in the leaf litter or on leaves, and in the enclosure preferably in half a coconut shell over a saucer or in the corner of a bromeliad leaf. The male guards the eggs and moistens them with water from his bladder, and when the tadpoles hatch he carries them on his back to water. A clutch is 10-30 eggs.

If you wish to rear the tadpoles yourself, the clutch is moved after a few days to a small, closed container at 22-24 °C with a little rainwater or reverse osmosis water in the bottom, so that the eggs are moist but not covered. The tadpoles are reared singly or together in 1-2 cm of soft, slightly acidic water (pH 6-7), later deeper, and are fed fish flakes, spirulina and daphnia every day.

METAMORPHOSIS

The eggs hatch after 9-14 days, and the tadpoles take 6-10 weeks (42-70 days) to become small frogs, depending on temperature and food. When the front legs appear, there must be a gentle transition from water to land with stones, cork or plants, otherwise the small frogs drown.

REARING THE YOUNG

The newly metamorphosed froglets are very small and are moved to a small enclosure with the same climate, damp moss, leaf litter and small hiding places. Offer springtails and the smallest fruit flies daily, dusted with vitamin and mineral powder. Growth and age at transfer have not been documented for the species.

Health and common mistakes

Diseases have not been documented specifically for the species. What applies to the genus probably applies here too:

- Chytrid fungus (*Batrachochytrium dendrobatidis*), which can wipe out entire populations. Quarantine new animals, have them tested, and disinfect furnishings.
- Spindly leg syndrome in young that develop weak or no front legs. The cause has not been established; the food and too many tadpoles in the same water are suspected.
- Heat above 26-27 °C for long periods, which causes lethargy and loss of appetite.
- Dehydration at low humidity without access to water.

Contact a vet with knowledge of amphibians if an animal is lethargic, emaciated 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.