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POISON DART FROGS

Bocas Poison Frog

Andinobates claudiae

Andinobates claudiae was described as the smallest poison dart frog: adults measure only about 13 mm. It lives in the leaf litter of lowland forest in Bocas del Toro in north-western Panama, both on the islands and on the mainland. The species is threatened, and almost nothing is known about its care.

Family: Dendrobatidae Former name: *Ranitomeya claudiae*

KEY FACTS

THE ANIMAL

Adult size	**13 mm** snout-vent length
Lifespan	**5-10 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	**Expert**

CARE

Min. enclosure	**45 × 45 × 45 cm** L × W × H for 2 adults
Temperature, day	**22-25 °C**
Temperature, night	**19-22 °C**
Humidity	**80-100%**
Water	**No water dish**
UVB	**Optional** Ferguson zone 1
Diet	**Small invertebrates (springtails, fruit flies)**
Kept	**In pairs**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles carried to water**
Egg-laying site	**On the ground**
Eggs per clutch	**1-8**
Larval period	**60-80 days** from hatching to metamorphosis
Larval diet	**Complete diet**
Parental care	**Carries the tadpoles**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Endangered (EN)**

About the species

Andinobates claudiae was described in 2000 by Karl-Heinz Jungfer, Stefan Lötters and Dirk Jörgens as *Dendrobates claudiae* and was later placed in *Ranitomeya* until the genus *Andinobates* was established in 2011. The species is named after Claudia Noel Vlasimsky.

It was described as the smallest known poison dart frog. Adults measure about 13 mm from snout to vent, and females are no larger than males. The species is dark brown with a whitish line along the upper lip and narrow, cream-white lines along the sides. The belly is black with pale, greyish-white spots. The male's call is a faint buzzing.

The species belongs to the same group as *Andinobates minutus* and *Andinobates fulguritus* and was previously confused with *A. minutus*. Older records of *A. minutus* from Bocas del Toro belong to *A. claudiae*.

As in other poison dart frogs, the frog takes up alkaloids from its food in the wild. The skin toxicity has not been studied for the species. Captive-bred animals living on cultured feeder insects do not acquire the toxins. Animals from the wild should be treated as toxic, and hands should be washed after contact.

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

Distribution and habitat

Andinobates claudiae is endemic to Panama and occurs only in Bocas del Toro province in the north-western corner of the country, on the border with Costa Rica. It is known from the islands of Isla Colón, Isla Popa, Isla Bastimentos and Cayo Agua and from several places on the mainland, including the foothills in front of the Cordillera de Talamanca.

The species lives at 5-145 m above sea level. Bastimentos National Park is the only protected area within the range.

> **Native range:** Panama.

HABITAT

The habitat is humid lowland forest on Panama's Caribbean coast. The frog is terrestrial and diurnal and lives in the leaf litter, including in dense scrub with a layer of fallen leaves. It lives side by side with *Oophaga pumilio* and *Phyllobates lugubris*.

The eggs are laid on the ground, and when they hatch, one of the adults carries the tadpoles up to small pools of water in plants.

The species is threatened by deforestation for agriculture, especially on the mainland. It is probably also collected illegally for the pet trade, but the extent is not known.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Almost nothing is known about the care of *Andinobates claudiae*. The care is based on the habitat: warm, humid lowland forest with rain for most of the year and a thick layer of leaf litter. *Oophaga pumilio* and *Phyllobates lugubris* live in the same forests and have similar requirements, and *Andinobates minutus* is a close relative. The figures for care and breeding are borrowed from *Ranitomeya imitator*, a small and well-known poison dart frog from rainforest.

A pair can be kept in an enclosure of 45 × 45 × 45 cm. Build the base from a drainage layer of expanded clay pebbles, a mesh or fibre cloth over it and a layer of damp, free-draining soil. On top, add some moss and a thick layer of leaf litter, which is the species' natural habitat and provides cover. Live plants hold the humidity and help keep the enclosure clean, and bromeliads provide pools of water for the tadpoles. Springtails and isopods in the substrate eat leftovers and mould.

The frogs and their feeder insects are very small, so the lid and ventilation must be completely secure with fine mesh.

Read more: Humidity, misting and ventilation Read more: Terrarium construction and bioactive substrate Read more: Feeder animals: keeping and breeding

TEMPERATURE

The daytime temperature should be 22-25 °C and the night 19-22 °C. The temperature must not exceed 27 °C for long, and above 29 °C is dangerous, so the enclosure must not stand in sun or close to a heat source. There should be no basking spot.

In an ordinary heated room extra heat is rarely necessary. There is no winter rest period, because the climate in the species' range is uniform all year. A digital thermometer with max and min display shows whether the temperature fluctuates too much.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity should be 80-100 %. Spray the enclosure 1-2 times a day with rainwater or reverse osmosis water so that the leaf litter is kept damp, or use a rain system on a timer. The substrate should be damp but never standing in water.

Low humidity is quickly dangerous for such a small frog, especially if it cannot retreat into damp leaf litter. At the same time provide a little air exchange, because stagnant, saturated air causes mould.

WATER AND WATER QUALITY

The adult frogs do not need a water bowl; they take up water through the skin from spraying and the damp leaf litter. For breeding there must be small pools of water to which the tadpoles can be carried: bromeliads with water in the leaf axils or small containers with 1-3 cm of water.

Use rainwater, reverse osmosis water or dechlorinated tap water. Amphibians absorb substances through the skin, so keep soap, cleaning products and chlorine away from the enclosure.

LIGHTING AND UVB

The species is diurnal and lives in shade on the forest floor. LED lighting for about 12 hours a day is enough for the plants. UVB is not necessary; a weak UVB light in Ferguson zone 1 can be used if there is plenty of shade.

The light must not heat up the enclosure, and LED gives off the least heat. The plants must have enough light to grow, so that the leaf litter and moss stay healthy.

Read more: Lighting and UVB

FEEDING

Andinobates claudiae is so small that the feeder insects must be the smallest available: springtails, small wingless fruit flies (*Drosophila melanogaster*) and small isopods. Even ordinary fruit flies can be too large. In the wild poison dart frogs live on small ants and mites.

Feed daily with a small amount, so that most of it is eaten within a few hours. Dust the feeder insects with calcium and vitamins; a supplement at every feeding is usual for poison dart frogs. The feeder cultures must be up and running before the frogs arrive, because such small frogs cannot tolerate going hungry.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

The species is diurnal and stays in the leaf litter and by the hiding places. The males call from fixed spots and defend their territory, so a pair is the way to keep them. Several males in the same enclosure cause stress and fighting.

The frogs should not be handled. The skin is thin and sensitive, and soap or cream on the hands can harm them. If they have to be moved, use a small container with damp moss.

Breeding

SEXUAL MATURITY AND SEXING

The sexes are the same size and look alike. Males have slits in the floor of the mouth leading to the vocal sac, which females lack, and only the male calls. A female with eggs is distinctly rounder. The age at sexual maturity has not been documented; *Ranitomeya imitator* becomes sexually mature at 5-8 months.

MATING

Mating has not been described for the species. In the closest relatives the male finds a suitable site for the eggs and leads the female there, and the eggs are laid in the leaf litter. A pair in a stable, humid enclosure with plenty of food and peace is the best setting. Rain from a rain system can trigger calling.

EGGS AND TADPOLES

The eggs are laid on the ground. When they hatch, one of the adults carries the tadpoles up to small collections of water in plants, e.g. bromeliads.

The number of eggs has not been documented, and 1-8 eggs is probably on the high side for such a small frog. If the tadpoles are removed, they are kept individually in small containers, because otherwise they may eat each other. They are fed fine tadpole food in small portions, and the water is changed regularly.

METAMORPHOSIS

The hatching and larval periods have not been documented for the species. In *Ranitomeya imitator* the eggs hatch after 1-2 weeks, and the tadpoles metamorphose after 60-80 days depending on temperature and food.

When the front legs appear, the tadpole stops eating. Place a piece of cork on the water or lower the water level so that the little frog can climb out, and move it to a container with damp moss and leaf litter.

REARING THE YOUNG

The newly metamorphosed froglets are only a few millimetres long and need the smallest springtails and newly hatched fruit flies every day, dusted with calcium and vitamins. Keep them in a small container with damp moss, leaf litter and many hiding places, so that the food is easy to find. Rearing has not been documented for the species, so the advice is the same as for other small poison dart frogs.

Health and common mistakes

The species has not been documented in captivity. Typical problems in small poison dart frogs are:

- Overheating: lethargy and death, especially above 29 °C.
- Dehydration, because small frogs lose water quickly.
- A lack of calcium and vitamins on a one-sided diet; use supplements.
- Starvation, if the feeder insects are too large or the cultures fail.
- Fungal and bacterial infections in a wet enclosure without air exchange.
- Parasites in wild-caught animals.

A frog that sits still during the day, loses weight or develops reddish skin should be seen by a vet with knowledge of amphibians.

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.