herpy

POISON DART FROGS

Yellow-bellied Poison Frog

Andinobates fulguritus

Andinobates fulguritus is one of the smallest poison dart frogs: only 14-17 mm, black with yellow or greenish-yellow stripes and a yellow, black-marbled belly. It lives in the leaf litter of humid lowland forest in north-western Colombia and central and eastern Panama. The species is hardly kept, and little is known about its care.

Family: Dendrobatidae Former name: *Ranitomeya fulgurita; Dendrobates fulguritus; Minyobates fulguritus*

KEY FACTS

THE ANIMAL

Adult size	**14-17 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	**Experienced**

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	**Guards the eggs and carries the tadpoles**

PROTECTION AND PAPERWORK

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

About the species

Andinobates fulguritus was described in 1975 by Philip Silverstone as *Dendrobates fulguritus*. It was later placed in *Minyobates* and *Ranitomeya* until the genus *Andinobates* was established in 2011. The species name *fulguritus* means "struck by lightning".

The species is tiny: males measure 14-15 mm and females 14-17 mm from snout to vent. The back is black with golden, yellow or greenish-yellow stripes along the edges of the back and along the flanks; only the uppermost stripes are complete. At the front of the back there is an incomplete central stripe. The belly is golden or yellow with black marbling or black spots, and the iris is black. The skin is slightly granular on the back and more granular on the belly.

As in other poison dart frogs, the colours are a warning. The skin contains alkaloids, which the frog takes up from its food in the wild, especially small ants and mites. 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.

A. fulguritus is locally common, but it is not collected for the pet trade and is almost unknown in terrariums.

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

Distribution and habitat

Andinobates fulguritus occurs in north-western Colombia, in the department of Chocó and the westernmost parts of Antioquia and Risaralda, and in central and eastern Panama. In Panama it is known from, among other places, Chagres National Park and Nusagandi in Guna Yala. West of the Panama Canal the species has not been found.

In Colombia it lives at 160-900 m above sea level. In Panama it possibly goes higher. The range overlaps with *Andinobates minutus*, and the two species occur side by side in several places.

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

HABITAT

The habitat is humid tropical lowland forest. The frog is terrestrial and diurnal and lives in the leaf litter on the forest floor. It occurs in intact forest and in older secondary forest, but not in cleared land.

The eggs are laid in the leaf litter, and the male returns to them regularly. When they hatch, one of the adults carries the tadpoles up to small pools of water in leaf axils, most often in bromeliads, where they complete their development without further care.

The threats are deforestation for settlements, timber and illegal crops, as well as pesticides and fertiliser from the illegal fields. The range includes several protected areas.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Andinobates fulguritus*. 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. *Andinobates minutus* lives in the same area and has the same requirements. 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 leaf axils 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 male can carry the tadpoles: 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

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

Feed daily or every other day with a small amount, so that most of it is eaten within a few hours. Dust the feeder insects with calcium and vitamins at every feeding. 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 look alike. Females grow slightly larger than males, up to 17 mm, and a female with eggs is distinctly rounder. Only the male calls. The age at sexual maturity has not been documented; *Ranitomeya imitator* becomes sexually mature at 5-8 months. A pair is easiest to obtain by letting several young grow up together.

MATING

The male finds a suitable site for the eggs and leads the female there. He deposits the sperm first, and the female lays the eggs on top. Mating in captivity has not been documented, but 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 in the leaf litter. The male returns to them regularly, and when they hatch, the tadpoles are carried up into leaf axils, most often of bromeliads, where they complete their development without further care.

The number of eggs has not been documented; 1-8 eggs per clutch 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. The eggs probably 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.