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POISON DART FROGS

Andinobates tolimensis

Andinobates tolimensis is a small, diurnal poison dart frog of 17-19 mm with a brown back and a metallic yellow-bronze head. It is known only from a small patch of cloud forest in northern Tolima in Colombia, was first described in 2007 and is hardly kept. Its care is therefore based on the cool, humid mountain climate of its habitat.

Family: Dendrobatidae Former name: *Ranitomeya tolimense; Ranitomeya tolimensis*

KEY FACTS

THE ANIMAL

Adult size	**17-19 mm** snout-vent length
Lifespan	**5-10 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Montane forest**
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 × 60 cm** L × W × H for 3 adults
Temperature, day	**19-23 °C**
Temperature, night	**15-19 °C**
Humidity	**85-100%**
Water	**No water dish**
UVB	**Optional**
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	**1-2**
Hatching	**16-24 days**
Larval period	**108-152 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**Carries the tadpoles**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Vulnerable (VU)**

About the species

Andinobates tolimensis is a small poison dart frog with a brown back, a head with a metallic yellow-bronze colour and a dark brown belly with or without blue-green spots. The upper arms have yellow spots, and in some animals the yellow continues forward to the lower lip. Adults measure 17-19 mm from snout to vent. The males are smaller than the females and have visible vocal slits, and the adhesive discs on the forefeet are larger than those on the hind feet. Longevity in captivity has not been documented, but small poison dart frogs live 5-10 years.

The species was described in 2007 by Manuel Hernando Bernal and colleagues, then as *Ranitomeya tolimensis*, and was later moved to *Andinobates*. It lives alongside the closely related *Andinobates dorisswansonae*, but can be told apart from it by the colour pattern and the shape of the foot. The call is a series of short, soft buzzing sounds reminiscent of a cricket, with a dominant frequency of about 5 kHz.

Skin toxins: poison dart frogs do not produce their poison themselves but take up alkaloids from small arthropods in their food. When *A. tolimensis* is caught, it releases a milky skin secretion, and the species is considered toxic. The potency has not been documented. The frogs should not be handled, and hands should be washed after working in the enclosure. Captive-bred animals that receive only fruit flies and springtails lack the poison.

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

Distribution and habitat

Andinobates tolimensis is endemic to Colombia and is known only from the vicinity of Falan in northern Tolima, in the Cordillera Central, the middle of the Andean ranges. The whole known range lies within a small nature reserve surrounded by farmland, so the species is hardly able to spread.

The species is assessed as Vulnerable (VU) on the IUCN Red List because the range is very small and the forest is being cleared for agriculture, especially coffee plantations.

> **Native range:** Colombia.

HABITAT

Andinobates tolimensis has been found in a small patch of secondary cloud forest at about 1,850 m. The forest has relatively low trees densely covered with epiphytes, and the forest floor has a thick layer of leaf litter, dead wood, moss and fungi. The canopy is dense, so little light reaches the ground, where the frog lives. It is diurnal and lives in holes between the roots of trees. A male has been seen with a single tadpole on his back near bromeliads and heliconias.

Andinobates dorisswansonae lives in the same area at about 1,780 m, where 2,500-3,000 mm of rain falls per year. The temperature has not been measured in the species' habitat, but cloud forest at this altitude is cool and humid, with mist or rain for most of the year.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Andinobates tolimensis*, and the species is hardly kept in captivity. The care is based on the habitat: cool, humid cloud forest with dense leaf litter, moss, dead wood and bromeliads. *Andinobates dorisswansonae* lives in the same forest and has the same requirements. The closest species with captive experience is *Andinobates bombetes*, which also lives in cool mountain forest in Colombia; the figures for breeding and rearing are borrowed from it. The better-known bromeliad dwellers *Ranitomeya variabilis* and *Ranitomeya imitator* come from warmer regions and need several degrees more.

An enclosure of 45 × 45 × 60 cm suits 3 animals. Set it up with a drainage layer, a moisture-retaining substrate of coconut fibre and forest soil, and a thick layer of leaf litter. Provide moss, dead wood, roots and hiding places of cork bark, and plant densely with small bromeliads and shade plants so that the light at the substrate is dim. Bromeliads with water in the leaf axils are places for the tadpoles, and a shallow dish of damp forest soil is a good place for the eggs. The ventilation must keep the air moving without losing the humidity.

Read more: Humidity, misting and ventilation Read more: Terrarium construction and bioactive substrate

TEMPERATURE

Keep 19-23 °C by day and 15-19 °C at night, which suits cloud forest at about 1,800 m. Frogs from cool mountain forest tolerate heat poorly, so the enclosure must stand cool, without sun from windows and without heat lamps. If the room becomes warmer than 24 °C, the enclosure must be cooled, e.g. with a fan or by standing it in a cooler room. Winter rest has not been documented.

HUMIDITY AND MISTING

Humidity should be 85-100 % all year, and the leaf litter should be constantly damp. Spray at least twice a day or use a fogger, and let the surfaces dry a little between sprayings so that mould does not develop. Use reverse osmosis water, rainwater or dechlorinated water. The forest receives a lot of rain all year, so drying out is the greatest danger.

WATER AND WATER QUALITY

The species does not need a water section. The water is found in the leaf axils of the bromeliads, where the tadpoles grow up, and it must be changed regularly so that it does not become cloudy. Use reverse osmosis water, rainwater or dechlorinated tap water. Amphibians absorb substances through the skin, so never use soap or cleaning products in the enclosure; rinse with hot water instead.

LIGHTING AND UVB

A. tolimensis lives in a dense forest with little light at ground level, so the light is primarily for the plants. Provide 10-12 hours of light a day with LED or fluorescent tubes and darkness at night. It has not been documented that the species needs UVB. If a weak UVB source is chosen, there must be plenty of shade.

Read more: Lighting and UVB

FEEDING

The food is small arthropods: the smallest springtails and fruit flies (*Drosophila*) and small woodlice. Feed 3-4 times a week, and always leave live feeder insects in the enclosure. Dust the food with calcium most of the time and with a vitamin powder 1 time a week. In the wild poison dart frogs live mainly on mites and ants, so varied food with many small species is best. The young get the same feeder insects in the very smallest size.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Behaviour in captivity has not been documented. The frog lives on the forest floor in shade and hides in holes between the roots, in leaf litter and in moss. The male calls from the ground. The frogs should not be handled, because the skin is sensitive and absorbs substances; when cleaning, move the animals to a clean, damp container. A pair or a small group is the most cautious option until the behaviour is better known.

Breeding

SEXUAL MATURITY AND SEXING

The age and size at sexual maturity have not been documented. Males are smaller than females, have visible vocal slits and are recognised by their call, a series of short, soft buzzing sounds.

MATING

Mating has not been documented for *Andinobates tolimensis*, and it is not known whether the species has a fixed breeding season. The males call from the forest floor. The male probably lures the female to the egg-laying site. A group with slightly more females than males, e.g. 2 males and 3 females in a larger enclosure, gives the most eggs.

EGGS AND TADPOLES

A male has been seen with 1 tadpole on his back near bromeliads, so the tadpoles probably grow up in water in the leaf axils of the bromeliads. The female probably lays 1-2 eggs at a time, preferably on moist forest soil.

The tadpoles can grow up in the bromeliads or be raised individually in small cups of clean, dechlorinated water. They are fed fish flakes in small amounts, so that the water does not become cloudy.

METAMORPHOSIS

The eggs probably hatch after 16-24 days, and the larval period is about 110 days on fish flakes and up to 150 days on other food. When the front legs appear, the water is lowered to no more than the height of the tadpole, so that the little frog can easily climb onto land.

REARING THE YOUNG

The newly metamorphosed young probably measure about 12 mm. Keep them in a small, damp box with kitchen paper or leaf litter, a piece of bark and a plant, mist twice a day, and ensure good air exchange. For the first few weeks they eat springtails; after that they can have the smallest fruit flies. Dust the food with calcium. Only after several months can they be moved to a larger enclosure.

Health and common mistakes

Andinobates tolimensis probably gets the same problems as other small poison dart frogs from cool regions:

- Heat above 25 °C causes stress and can be fatal. Do not place the enclosure in sun or near heat sources.
- Stagnant air and leaf litter that is too wet cause mould and skin infections. Ensure ventilation, and let the enclosure dry out a little.
- Feeder insects without calcium and vitamins weaken the bones, especially in females.
- An animal that stops eating, becomes sluggish or gets red, cottony areas of skin must see a vet with amphibian expertise.

The species is vulnerable and occurs only in a small area, so animals must never be taken from the wild.

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.