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POISON DART FROGS

Amazonian Poison Frog

Ranitomeya ventrimaculata

Ranitomeya ventrimaculata is a small, diurnal poison frog of under 18 mm from the rainforest of eastern Ecuador, north-eastern Peru and south-eastern Colombia. In the strict sense it is black with thin pink stripes and a blue-grey net pattern on the legs and belly. The name has for decades covered other species in the hobby, so it is important to know what the animals actually are.

Family: Dendrobatidae Former name: *Dendrobates ventrimaculatus; Dendrobates minutus ventrimaculatus; Dendrobates duellmani; Ranitomeya duellmani*

KEY FACTS

THE ANIMAL

Adult size	**15-17 mm** snout-vent length
Lifespan	**5-10 years**
Active	**By day**
Lifestyle	**Arboreal and 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 2 adults
Temperature, day	**21-26 °C**
Temperature, night	**18-22 °C**
Humidity	**70-100%**
Water	**Water dish** depth 1-2 cm
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	**1-4**
Larval period	**60-80 days** from hatching to metamorphosis
Larval diet	**Complete diet and other tadpoles**
Parental care	**Carries the tadpoles**

PROTECTION AND PAPERWORK

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

About the species

Ranitomeya ventrimaculata is one of the smallest poison frogs. Adults reach at most about 17-18 mm from snout to vent, and females are larger than males. Species of the genus typically measure from about 15 mm.

In the strict sense the frog is black with thin pink to reddish stripes: one down the middle of the back and one on each side, which run through the eyes and meet at the tip of the snout. Between the stripes the black ground colour forms a U with its base towards the snout. The belly, flanks and legs have a fine, blue-grey to grey net pattern on black, and the throat is pink, at least at the front. Some populations at the Río Nanay and Río Momón near Iquitos lack the middle stripe, and a few animals from Ecuador have broad, red stripes and are easily mistaken for *R. reticulata*. The species name means "spotted belly".

The name has a messy history. The species was described in 1935 by Shreve as the subspecies *Dendrobates minutus ventrimaculatus* from Sarayacu in Ecuador. For many years the name was used for entirely different frogs, namely those that today are called *R. variabilis* and *R. amazonica*, and that is why so many animals in the hobby have been called "ventrimaculata". A locality form such as 'Borja Ridge' is today sold as *R. variabilis*. Only in 2011 did it become clear that the type specimens correspond to the species that in 1999 had been described as *Dendrobates duellmani*, and that name is now a synonym. The closest relative is *R. reticulata*, and the boundary between the two species is still not settled.

If you buy animals under the name *R. ventrimaculata*, ask for the locality and breeding papers, and expect that they may be *R. variabilis* or *R. amazonica*. Never keep animals of different origin together, and keep them separate from other Ranitomeya, because the species can hybridise.

Skin toxicity: Poison frogs do not produce their poison themselves. Wild animals have alkaloids in the skin, and they come from small arthropods in the diet, presumably mites. The poison is regarded as relatively weak. Captive-bred animals, which live on fruit flies and springtails, lack the poison or have very little. The field is therefore set to mild for wild animals and none in captivity. Do not handle the frogs, wash your hands after working in the enclosure, and do not touch your eyes and mouth afterwards.

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

Distribution and habitat

Ranitomeya ventrimaculata lives in the rainforests of the Amazon in eastern Ecuador (the provinces of Napo, Orellana, Pastaza and Sucumbíos), in Loreto in north-eastern Peru and in the department of Amazonas in south-eastern Colombia. It is known, among other places, from Yasuní National Park, Tiputini and Tamshiyacu-Tahuayo.

Older records from Brazil and French Guiana are based on the old, broad use of the name and concern frogs that are today regarded as *R. variabilis*. The two countries are therefore not included on the map.

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

HABITAT

Ranitomeya ventrimaculata lives in undisturbed primary rainforest with a deep leaf litter and low to medium-dense undergrowth, at about 200-500 metres altitude. The frog mostly forages in the leaf litter on the forest floor and only occasionally climbs tree trunks, up to a metre above the ground. It occurs sparsely: in Ecuador one to three frogs a day have been seen.

Where the species is found, there are few or no bromeliads on the forest floor, but large bromeliads up in the canopy. Males have been found with two or three tadpoles on the back down on the forest floor, so the eggs are presumably laid in the leaf litter, but neither eggs nor the places where the tadpoles are deposited have been found. The climate is warm and humid all year; actual measurements from the habitats do not exist.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

The species in the narrow sense is almost unknown in captivity, and there is no husbandry experience that applies specifically to it. The figures here are the same as for the other small Ranitomeya.

A pair or trio needs an enclosure of at least 40 × 40 × 40 cm, and each extra animal needs about 4 litres more space. Since the species lives mostly on the forest floor, a large floor area with a thick layer of leaf litter is more important than height.

Furnish it with a drainage layer, a moist substrate and plenty of leaf litter. Provide sturdy branches, vines, bromeliads and moss, and plant densely so that the frogs have cover. Film canisters with a little water can stand in place of bromeliads as breeding sites. Keep only one locality form in the enclosure, and start with at least four juveniles to be sure of both sexes. The enclosure needs air exchange, but not so much that the humidity drops.

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

TEMPERATURE

Keep the enclosure at 21-26 °C during the day and 18-22 °C at night. The temperature must never exceed 29 °C, and small enclosures quickly become too warm in summer.

Extra heat is rarely necessary, because the light for the plants often gives enough. Never place the enclosure in direct sunlight or in a window, where the glass can quickly overheat the animals. There is no known cool resting period.

HUMIDITY AND MISTING

Humidity should be 70-100 %: close to 100 % morning and evening and 70-75 % in the middle of the day. Small poison frogs can cope with a brief drop to 50 % if they have clean water to sit in, but this is an emergency measure.

Mist daily, preferably morning and evening, or use a fogging or rain system. Use reverse-osmosis water or rain water. Let the leaves dry out a little between sprayings, and provide air exchange, so that no mould forms. If it becomes too dry, the frogs become lethargic and hide.

WATER AND WATER QUALITY

Give the frogs a shallow water dish or a small water feature with 1-2 cm of water, so the smallest frog can sit with its head and upper body above the water; the small poison frogs swim poorly. Water features with a pump are not necessary and quickly become dirty if the pump stops.

The leaf axils of the bromeliads and the film canisters are just as important, because they can be used for eggs and tadpoles. Use reverse-osmosis water, rain water or dechlorinated tap water, change the water regularly, and never use soap or cleaning products in the enclosure, because the frogs absorb substances through the skin.

LIGHTING AND UVB

The frogs are diurnal and live in the shade of the forest. The lighting is first and foremost for the plants: 12-14 hours a day with LED light is common. It is not documented that *Ranitomeya ventrimaculata* needs UVB, and poison frogs normally manage without. If you choose a weak UVB source anyway, make sure of dense planting and shade. The lighting must not heat up the enclosure.

Read more: Lighting and UVB

FEEDING

Ranitomeya ventrimaculata is so small that it can only take small feeders: springtails, flightless fruit flies (*Drosophila melanogaster*), small tropical isopods and newly hatched crickets. Large adults can take *D. hydei*. Aphids and other wild food of a suitable size can also be used, but local ants cannot. In the wild the small poison dart frogs live on ants, mites and other small arthropods.

The frogs are often shy and therefore hard to feed. Adults are fed three to four times a week and juveniles every day. Give so much that it is eaten up by the next feeding. Dust the feeders with calcium at every feeding and with a vitamin supplement once or twice a week, and follow the manufacturer's instructions, because too much of some vitamins can be harmful. Keep your own cultures of fruit flies and springtails, so that the supply is stable.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Ranitomeya ventrimaculata is diurnal and lives mostly in the leaf litter on the forest floor. Males call with a rapid buzz. Small Ranitomeya are often shy, but in a densely planted enclosure you typically see more of them. They are kept in pairs or in a trio with one male and two females. If there are several males in an enclosure that is too small, they can fight over territory; remove an animal that chases the others.

The frogs should not be handled. The skin is thin and delicate, and residues of soap, cream and salts from the hands can harm them. If a frog has to be moved, lure it into a transparent tub.

Breeding

SEXUAL MATURITY AND SEXING

Females are larger and often rounder than males, and only the males call, but sexing the small Ranitomeya is generally difficult. The age at sexual maturity is not documented for the species. The easiest way to get a pair is to start with at least four juveniles and let them find each other.

MATING

Breeding of the species in the strict sense has not been described. In the small Ranitomeya there is no true amplexus: the male calls to the female, who follows him around the enclosure and nudges and pushes him to a suitable egg-laying site. If you see frogs that look like amplexus, it is typically two animals of the same sex fighting over territory. Give the frogs bromeliads or film canisters with clean water, stable warmth and high humidity. A period of somewhat less misting followed by heavy misting can get breeding going.

EGGS AND TADPOLES

Where and how many eggs the species lays is not documented. The closest relative, *R. reticulata*, lays 1-4 eggs in the leaf litter, and that is also the figure the box shows.

In the wild the male carries one to three tadpoles at a time. In the enclosure each tadpole should have its own water, because the tadpoles of the small Ranitomeya are cannibals. Rear them on fine tadpole food, crushed dry food for aquarium fish or small pieces of earthworm, keep the water clean and change it regularly.

METAMORPHOSIS

Hatching time and larval period are not documented for the species. In the small Ranitomeya the eggs typically hatch after 10-14 days, and the tadpoles take 60-80 days to metamorphose; that is the figure in the box.

When the forelimbs appear, the tadpole must be able to get out of the water: place a piece of cork on the water, or tilt the cup. Move the little frog to a moist rearing enclosure when the tail is almost absorbed.

REARING THE YOUNG

Newly metamorphosed frogs are very small. Give them springtails and the smallest fruit flies, and gradually move on to slightly larger feeder insects. The rearing enclosure is set up like the adults' with plants, leaf litter, cover and a shallow water dish, and the temperature is kept stable. Feed daily, and lightly dust the food with calcium and vitamins. Growth and the age at which the juveniles can be moved in with the adults are not documented.

Health and common mistakes

Poison frogs are sensitive to heat, drought and poor hygiene. The most important mistakes are:

- An enclosure that is too hot or too dry. The frogs become lethargic, lose weight and lose colour.
- Dirty water in the tadpole containers, which causes fungi and disease.
- Food without a vitamin and mineral supplement, which causes bone problems and weak juveniles.
- New animals that bring infection with them. Keep newly bought frogs in quarantine for a period.

A healthy frog has intact skin without sores or red, irritated areas, especially around the vent and on the inside of the hind legs, and a clearly round belly. Signs of illness are frequent shedding, a bloated body, lethargy or restlessness, lack of appetite and dull, dry skin. Isolate a sick animal, and seek a vet with amphibian experience quickly.

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.