herpy

POISON DART FROGS

Brazilian Poison Frog

Ranitomeya vanzolinii

Ranitomeya vanzolinii is a small, diurnal poison frog of 17-19 mm from the western Amazon. It lives in the trees and rears its young in water that collects in bromeliads. The female feeds the tadpoles with unfertilised eggs.

Family: Dendrobatidae Former name: *Dendrobates vanzolinii*

KEY FACTS

THE ANIMAL

Adult size	**17-19 mm** snout-vent length
Lifespan	**5-6 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Rainforest and 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	**Intermediate**

CARE

Min. enclosure	**40 × 40 × 40 cm** L × W × H for 2 adults
Temperature, day	**23-26 °C**
Temperature, night	**19-23 °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	**In leaf axils (e.g. bromeliads)**
Eggs per clutch	**1-6**
Hatching	**10-14 days**
Larval period	**60-80 days** from hatching to metamorphosis
Larval diet	**Complete diet and unfertilised eggs from the female**
Parental care	**Carries the tadpoles and feeds the tadpoles with eggs**

PROTECTION AND PAPERWORK

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

About the species

Ranitomeya vanzolinii is one of the small poison frogs in the genus *Ranitomeya*. Adults measure 17-19 mm from snout to vent. The species was described in 1982 by Charles Myers, originally in the genus *Dendrobates*, and still appears in older literature as *Dendrobates vanzolinii*. The scientific name honours the Brazilian herpetologist Paulo Vanzolini.

Information on colours, local forms and sex differences is sparse. For the genus, females are usually slightly larger and more robust than males, but the sex is hard to determine from appearance alone. The male's call is a trilling, cricket-like sound that attracts the female in the breeding season.

The skin toxin of poison frogs comes from the diet: they take up toxins from small arthropods in the wild. Wild-caught animals of the genus secrete small amounts of toxins in the skin secretion and are regarded as mildly poisonous. Captive-bred animals do not get the toxic prey and are without poison. The toxicity has not been measured for this particular species, so the

assessment is based on the genus. Wash your hands after working in the terrarium.

The species is shy and hard to see in a sparsely furnished terrarium, but with dense planting and many hiding places it shows itself more often. It mates in monogamous pairs and looks after its young, which makes it an exciting species to breed.

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

Distribution and habitat

Ranitomeya vanzolinii lives in the western Amazon, in Brazil and Peru. In Brazil it is known from Acre and western Amazonas, including the catchment of the Juruá River with protected areas such as Serra do Divisor and Alto Juruá. The type locality is Pôrto Walter on the Rio Juruá in Acre. In Peru it occurs in the eastern part of the country along the border with Brazil. Almost all recorded finds lie in Brazil, the rest in Peru.

There are reports that the species may also occur in Bolivia, but this is not confirmed, and Bolivia is therefore not included on the map. The species has a large range, and a large part of it is still intact forest.

> **Native range:** Brazil and Peru.

HABITAT

Ranitomeya vanzolinii lives in humid lowland rainforest and in forest on the lower mountain slopes towards the cloud forest, from about 300 to 1,280 m above sea level. It prefers forest with bamboo and bromeliads, because they form small pools of water in the leaf axils, which the frog uses for its young.

Adults are mainly arboreal. They are most often found up to 2 m above the ground and more rarely higher up. The frog is diurnal. The species is tied to humid forest, and no winter rest has been documented. Precise figures for temperature and humidity in the wild have not been found for the species.

Threats are loss of habitat to agriculture, cattle farming and logging. The species is also collected from the wild for the international pet trade.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A pair of *Ranitomeya vanzolinii* needs an enclosure of at least 40 × 40 × 40 cm, preferably 50 × 50 × 50 cm. The frog is arboreal and uses the height, so a tall enclosure with many vertical surfaces is better than a low, wide one. If you have room, choose a larger one, because the species is shy and because a stable climate is easier to maintain in a larger enclosure.

Furnish the enclosure like a clearing in the rainforest. At the bottom goes a drainage layer of lava rock or expanded clay, on top of that a substrate of bark or a moist, non-rotting soil mix and a thick layer of leaf litter. Add sturdy branches, cork and moss mounds, so that the frogs have vertical surfaces to move on. Plant densely with vines, moss and bromeliads. The bromeliads work as natural breeding sites and provide cover. Dense planting is essential, because otherwise the frogs stay hidden.

Ventilation must ensure fresh air without drying out the enclosure, so a narrow ventilation strip or a mesh opening is enough. An automatic rain system and a fogger are recommended. The enclosure must not stand in direct sunlight, because it can overheat in a short time. Juveniles under about six weeks old are fragile and do best in a small, simple rearing container with moist moss and a few leaves, so that they find the food more easily. Move them to the large enclosure when they eat well and grow.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

The daytime temperature should be 23-26 °C, and at night it is lowered by 3-4 °C to 19-23 °C. The variation over the year should be small, 1-2 °C. A basking spot is not necessary, and the species does not hibernate.

Ranitomeya vanzolinii tolerates heat poorly. Several hours above about 29 °C can be fatal for small poison dart frogs. The lighting warms the enclosure, so that it is often a few degrees warmer than the room, especially in summer. Check the temperature with a thermometer before the animals move in, and have a plan for cooling, for example a small fan. Use LED lighting, and avoid incandescent bulbs.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity should be 70-100 %. Morning and evening it should be close to 100 %, and at midday it may fall to 70-75 %. The terrarium is misted daily, preferably morning and evening, with reverse-osmosis or rain water. An automatic fogging system running a couple of times a day makes it easier to maintain a stable climate.

The frogs do not drink, but absorb water through the skin from droplets on the leaves and from moist surfaces, so a dry terrarium quickly stresses them. If humidity falls below 80 % for long, the frogs become more hidden and lose weight. At the same time the air must not be stagnant: there must be a light air circulation, so that no mould forms and the substrate does not turn sour.

WATER AND WATER QUALITY

A water dish is not necessary for the adults, but is an advantage, and it can be shallow with 1-2 cm of water. Small water reservoirs in the form of film canisters, small dishes or bromeliads are, however, important if you want young, because the pair lays eggs and deposits tadpoles there.

Use reverse-osmosis or rain water for misting and for the tadpoles' water. Ordinary tap water must be dechlorinated, and hard water causes deposits on plants and glass and can harm the tadpoles. Change the water in the dish every two to three days, and rinse it regularly, so that bacteria do not build up. Amphibians absorb substances through the skin, so never use cleaning products, soap or chemicals in the terrarium. Water conditioner for aquariums can be used according to the instructions. The water does not need to be warmer than the air.

Read more: Rearing tadpoles

LIGHTING AND UVB

The lighting requirement for *Ranitomeya vanzolinii* is modest. The frog needs enough light to see its food, and the plants need more. LED lighting for plants or a fluorescent tube, switched on 12-14 hours a day, is suitable. Provide enough light for bromeliads and moss to grow, but make sure there are shaded areas.

UVB is not documented as necessary for the species. A weak UVB source can be used as a supplement, as long as there is plenty of cover and shade, but it is an option and not a requirement. The terrarium must not stand in direct sunlight.

Read more: Lighting and UVB

FEEDING

Ranitomeya vanzolinii feeds on small, live arthropods: fruit flies, springtails, small tropical isopods and newly hatched crickets. Small animals require small feeder insects. The feeder insects must fit in the frog's mouth, and the small frogs need a constant supply of very small food. In the wild the species eats ants and mites, among other things.

Feed juveniles every day and adults every other day, or daily if they are shy. Give so much that it is eaten before the next feeding. The number of feeder insects depends on the size of the frog; a small frog should have many small animals rather than a few large ones. Dust the food with a calcium and vitamin supplement with D3 at every feeding, and use a multivitamin supplement once a week.

Start feeder cultures before the animals move in: fruit flies and springtails are easy to culture and require a few minutes of work every two weeks. Plant-dwelling small insects such as aphids can be a good supplement, but do not give ants from the garden, and never give insects that may have been sprayed. Beware of overfeeding: a slightly round belly is good, a very swollen one is not.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Ranitomeya vanzolinii is diurnal, but shy. In a densely planted terrarium with many hiding places it shows itself more often than in a sparsely furnished one. The frog has a trilling call, which is mostly heard in the morning and evening. The male calls to the female, who follows him around.

A pair is the safest way to keep it, because the species forms monogamous pairs and defends its territory. A pair or a trio of 1 male and 2 females can work in a 40 × 40 × 40 cm terrarium. If you start with juveniles, buy at least 4 to be sure of getting both sexes. Do not keep the species together with other *Ranitomeya*, because the species can hybridise. Keep only one variant at a time.

Frogs should as far as possible not be handled, because the skin is thin and sensitive, and handling stresses them. If an animal has to be caught, use a clean, transparent tub, and wash your hands afterwards. Also wash your hands before and after working in the terrarium.

Breeding

SEXUAL MATURITY AND SEXING

The sex is hard to determine in *Ranitomeya vanzolinii*. The female is usually slightly larger and more robust than the male, and the male calls. The surest sign is therefore that the male calls and that two animals stay together and follow each other. Age and size at sexual maturity are not documented for the species. For the genus it typically happens during the first to second year of life.

Make sure you get a pair by starting with several juveniles and letting them grow up together. When two animals stay together and breed, the others can be moved.

MATING

Mating is triggered by stable conditions: high humidity, regular misting and plenty of food. The male calls, and the female follows him around, nudging and pushing him towards a suitable breeding site. Poison frogs do not have true amplexus. If you see two animals clinging to each other, it is most often two of the same sex in a territorial fight.

The species forms a monogamous pair during the breeding season. Put the animals together in a terrarium with several breeding sites, and leave them in peace. Humid periods with daily misting act like a rainy season and often produce more clutches.

EGGS AND TADPOLES

The eggs are laid in the leaf cups of bromeliads or in small water-filled containers. In the terrarium film canisters, small dishes or bromeliads are offered as breeding sites. The canisters are placed upright or slightly tilted, so that they hold a little water. Typically 1-6 eggs are laid per clutch, and the eggs hatch after 10-14 days.

When the eggs hatch, the male carries the tadpoles to a small water reservoir, where they develop separately. The female then lays unfertilised eggs in the same water, which the tadpole eats. The water in a bromeliad holds almost no food, so the feeder eggs are the tadpole's most important source in the wild.

In the terrarium the tadpoles can also manage on prepared food: a fine powder food for aquarium fish, algae tablets or a gel for tadpoles, in small amounts. Keep them separately in small containers with a few centimetres of reverse-osmosis water, a leaf from a tropical almond tree and a plant stalk. Remove food remains, and change two thirds of the water every two to three days. The water should be kept at about 22-26 °C.

METAMORPHOSIS

The eggs hatch after 10-14 days at about 24 °C and high humidity. The larval period is not documented for *Ranitomeya vanzolinii*; allow about 60-80 days, as for the close relative *Ranitomeya variabilis*.

When the forelimbs appear, the tadpole must be able to get onto land. Lower the water level to a few cm, place a stone or a leaf as a ramp, and provide moist hiding places, e.g. moss. The newly metamorphosed frog lives off the remains of its tail for a few days and does not eat at first, so leave it alone, and wait to feed it for the first few days.

REARING THE YOUNG

The newly metamorphosed juveniles are very small. They need a small, simple container with moist moss, leaves and very high humidity, where the food is concentrated, so that they find it more easily. Feed them daily with the smallest feeder insects: springtails and newly hatched fruit flies. Add calcium and vitamins.

Juveniles can be moved to a larger terrarium when they are about six weeks old and eating well. Do not put too many juveniles together in a small terrarium. Keep an eye on growth, and sort the animals if some fall behind. Once pairs have formed, they should be moved separately.

Health and common mistakes

Typical problems and care mistakes:

- Humidity that is too low: the skin becomes dull and dry, and the frogs hide. Mist more often and check humidity with a hygrometer.
- Overheating: temperatures above about 29 °C for several hours can be fatal. Move the terrarium, and cool it.
- Poor nutrition: without calcium and vitamins, bone damage and poor growth occur. Dust the food.
- Skin problems: red, irritated or cottony areas, especially around the vent and on the inside of the hind legs, are signs of infection.
- Frequent shedding, a balloon-like body, lethargy, hyperactivity, loss of appetite or emaciation are signs of illness. Isolate the animal.

A healthy frog has intact skin and a slightly round belly. Species in the genus live up to 5-6 years in captivity; for the species itself life expectancy is not documented. If the animal is ill, isolate it and contact a vet with amphibian experience.

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.

The full guide with map and updates: herpy.org/en/poison-dart-frogs/ranitomeya-vanzolinii