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POISON DART FROGS

Red-backed Poison Frog

Ranitomeya reticulata

Ranitomeya reticulata is one of the smallest poison frogs: only 13-17 mm, with a coppery red to orange back and blue-grey legs with a black net pattern. It lives in the lowland forest of the Amazon in north-eastern Peru and eastern Ecuador. In the terrarium it is bold and lively, but demanding, because the eggs are hard to find and the juveniles are hard to raise.

Family: Dendrobatidae Former name: *Dendrobates reticulatus*

KEY FACTS

THE ANIMAL

Adult size	**13-17 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	**30 × 30 × 45 cm** L × W × H for 2 adults
Temperature, day	**22-26 °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**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles carried to water**
Egg-laying site	**On the ground**
Eggs per clutch	**1-8**
Hatching	**10-14 days**
Larval period	**60-80 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**Carries the tadpoles**

PROTECTION AND PAPERWORK

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

About the species

Ranitomeya reticulata is a small, slender poison dart frog. Males measure 13-15 mm from snout to vent and females 14-17 mm, and females are usually rounder than males. The head and back are metallic copper-red, reddish brown, orange or yellow-orange, and the back may be entirely without black or have scattered black spots. The legs, flanks and belly are grey or bluish grey with irregular black spots and a net-like pattern. The species is more slenderly built than most poison dart frogs and can squeeze into very small hiding places.

The species was described by George Albert Boulenger in 1884 as *Dendrobates reticulatus* and has since been moved to the genus *Ranitomeya*, where it has given its name to the *reticulata* group. The species name means net-shaped and refers to the pattern on the legs.

Skin toxicity: *R. reticulata* does not make its own toxins. Wild animals take up alkaloids from small arthropods in their diet, probably mainly ants, mites and beetles, and store them in the skin glands. The species is regarded as one of the more toxic in the genus, but its toxicity is still modest compared with the large poison dart frogs. Captive-bred animals fed on fruit flies and springtails lack the toxins, whereas wild-caught animals can retain them for a long time. Do not handle the frogs, and wash your hands after working in the enclosure.

The temperament is bold and lightning fast. Males like to sit out in the open and call with a high, short buzz that can last up to 5 seconds. The frogs can live 5-10 years in captivity.

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

Distribution and habitat

Ranitomeya reticulata lives in the lowland forest of the western Amazon. By far the most records are from Loreto in north-eastern Peru, especially around Iquitos, at 150-200 m above sea level. The species is also found in the province of Pastaza in Ecuador, at 200-340 m above sea level, but there are far fewer records from there. It occurs, among other places, in the Allpahuayo Mishana nature reserve.

The species is assessed as Least Concern (LC) on the IUCN Red List because of its wide distribution. Deforestation, among other things for charcoal, and collection for the pet trade are the threats mentioned.

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

HABITAT

Ranitomeya reticulata lives in primary and secondary rainforest and climbs in the low vegetation. Around Iquitos it occurs in varillales, an open forest of low, scattered trees on sandy soil, together with *R. amazonica*. Here *R. reticulata* keeps mostly to the dry parts while *R. amazonica* prefers the damp ones, and it sits in the vegetation up to 2 m above the ground. It stays near streams and ponds and uses bromeliads, but the eggs are laid on the ground.

The climate is warm and uniform: the mean annual temperature in the range is about 25 °C, with an average of approx. 22 °C in the coldest month and approx. 28 °C in the warmest. The species probably lives in small groups of five or six animals, which gather to breed at the end of the rainy season. Humidity in the wild is not documented.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A pair of *R. reticulata* needs an enclosure of at least 30 × 30 × 45 cm, preferably 40 × 40 × 45 cm or larger. The frogs like to climb, so the height is used.

Furnish it with a drainage layer, a substrate that holds moisture and a thick layer of leaf litter. Cover the back and side walls with cork and plant densely with climbers such as *Ficus pumila* and *Scindapsus* as well as small bromeliads that form pools of water. The species is fussy about its egg-laying site, and the eggs are notoriously hard to find, so place film canisters (35 mm) across the whole floor, both on top of and inside the leaf litter. Springtails and small isopods in the substrate clean up and are food at the same time.

Keep only one pair. Adult females are extremely aggressive towards each other and should never be kept together, and fights between animals of the same sex are common in small enclosures. An extra male may occasionally work, but it is not recommended. Groups are only an option in very large enclosures of 200 litres or more. Juveniles can be kept together in a small group but must be split up when they reach sexual maturity. Never house different species or forms together, so that you avoid hybrids.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

Keep the enclosure at 22-26 °C during the day and 18-22 °C at night. The temperature must not exceed 27 °C for any length of time, and above 29 °C can be fatal. Heat is always more dangerous than cold.

Extra heat is rarely necessary in a heated living room; the light for the plants often gives enough. Never place the enclosure in direct sunlight, because it quickly becomes fatally hot behind the glass. Measure with a digital thermometer both low down and high up. A cool resting period is not documented for the species.

HUMIDITY AND MISTING

Humidity should be 70-100 %. A good rhythm is almost 100 % morning and evening and 70-75 % in the middle of the day, so the enclosure dries out a little between sprayings. The species can cope briefly down to 50 % if it has clean water to sit in, but this is an emergency measure.

Mist daily with reverse-osmosis water or rain water. A fogging system can with advantage run three times a day for two minutes at a time, split into short bursts of ten seconds with equally long pauses. Provide a little air exchange, so there is no stagnant air, which causes mould.

WATER AND WATER QUALITY

A shallow water dish or a bromeliad with water in the leaf axils is enough. The species swims poorly, so the water must not be deeper than that the smallest frog can sit in it with its head and upper body above the water. 1-2 cm is a suitable level, and the dish should have an easy way up. Change the water when it becomes cloudy, and use reverse-osmosis water, rain water 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.

Tadpoles are kept separately in small plastic containers of about 10 × 10 × 10 cm with reverse-osmosis water, a couple of oak leaves and a stalk of hornwort. Change two thirds of the water every second to third day.

Read more: Rearing tadpoles

LIGHTING AND UVB

R. reticulata is diurnal, and the lighting is first and foremost for the plants. Give 12-14 hours of light a day, e.g. LED from 8 to 20 hrs, and darkness at night. It is not documented that the species needs UVB. If you choose a weak UVB source anyway, make sure there is plenty of shade, so the frogs can choose for themselves.

Read more: Lighting and UVB

FEEDING

The staple diet is small arthropods. Juveniles and most adults take flightless fruit flies (*Drosophila melanogaster*), and large adults can also take the larger *D. hydei*. Springtails are a suitable intermediate meal, and small isopods can also be used. Adults are fed every day or every other day with so much that it is eaten up by the next feeding. Juveniles need food every day.

Fruit flies and springtails are not a complete diet on their own, so dust the feeders with a mineral powder containing D3 and a multivitamin. Some vitamins are harmful in large doses, so follow the manufacturer's instructions. Start the feeder cultures before the frogs move in: the species is so small that it depends entirely on a stable supply of fruit flies and springtails.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

R. reticulata is lightning fast and bold and is often seen out in the open, as if it has no idea how small it is. Males call from fixed spots with a high, short buzz. Poison frogs do not have true amplexus; if you see two frogs in what looks like one, it is often two animals of the same sex in a dispute. Therefore watch for aggression, especially between females.

The frogs should not be handled. The skin is thin and permeable, and residues of soap, cream and oil from the hands can harm them. If a frog has to be moved, lure it into a transparent tub, or use powder-free gloves. If a frog escapes, it must be caught quickly, because it hides and dries out fast.

Breeding

SEXUAL MATURITY AND SEXING

Females are slightly larger and rounder than males, and only the male calls. Juveniles cannot be sexed. Age at sexual maturity is not documented for the species; poison frogs typically become sexually mature at around one year of age. The surest way to a pair is to start with at least four juveniles and let them pair up, but remember to split them up before the females begin to

fight.

MATING

The species is hard to breed and is regarded as at least moderately difficult: the animals are small, the eggs tiny, and the female is fussy about the egg-laying site. The male calls with a short buzz for up to 5 seconds and approaches the female, strokes her and licks her. If she is interested, she stamps with her hind feet, and they go together to a quiet spot where the eggs are laid and fertilised.

Give the pair many film canisters and bromeliads to choose from, both in the leaf litter and higher up. Stable temperature, high humidity and plenty of food are the most important. A particular triggering signal in captivity is not documented.

EGGS AND TADPOLES

The eggs are laid in the leaf litter, in a film canister or in a bromeliad, preferably in a dark, horizontal spot. The female lays 1-8 eggs at a time, and clutches can be infrequent.

In the wild the male carries the tadpoles up into the vegetation and places them in the small pools of water in the leaf axils of bromeliads. The female possibly feeds the tadpoles with unfertilised eggs. In the enclosure the adults do not always look after the eggs, and you must expect to keep them moist and feed the tadpoles yourself.

Move the eggs with a little water and a pipette to a Petri dish and keep them moist at approx. 24 °C by moistening them every other day. The tadpoles are kept individually in small containers and fed finely ground algae and fish food.

METAMORPHOSIS

The eggs hatch after approx. 10-14 days, and the tadpoles have normally metamorphosed after 60-80 days. Metamorphosis is the difficult part, though: at a constant 24 °C the tadpoles can develop forelimb buds after 42-63 days and still die without completing the transformation. Get clean water, varied food and stable temperature in order before you take eggs.

When the forelimbs appear, the tadpole stops eating. Place a piece of cork on the water surface so that it can climb up, and move it to a container with a large land area, many dead leaves and a small water dish when the tail is nearly absorbed.

REARING THE YOUNG

Newly metamorphosed frogs are very small and require tiny feeder insects. Keep them in a small, moist container with dried leaves, cork and a shallow water dish. Feed daily with springtails and the smallest fruit flies, and lightly dust the food with vitamins and minerals. The juveniles are hard to raise, and this is one of the reasons the species is regarded as demanding.

Juveniles can go together in a small group of animals of equal size. As they approach sexual maturity, watch for aggression and split them up into pairs.

Health and common mistakes

R. reticulata is more sensitive than most species in the genus, and most problems are caused by husbandry:

- Heat above about 27 °C, e.g. from sun through a window, causes stress, loss of appetite and, in the worst case, death. Above 29 °C is life-threatening.
- An enclosure that is too dry, or too wet and stagnant, causes dried-out animals, skin infections and mould.
- Feeder insects without a vitamin and mineral supplement cause weakened bones, especially in females that lay eggs.
- A thin frog without a round belly can be due to too little or too much food, parasites or competition. Check that all animals get food.
- Fights between animals of the same sex, especially between females. Keep only one pair in the enclosure.

A healthy frog has intact skin without sores or red, cottony areas, especially around the vent and on the inside of the hind legs. Isolate the animal, and seek a vet with amphibian experience quickly if it stops eating, becomes lethargic or develops sores or swellings.

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-reticulata