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POISON DART FROGS

Red-headed Poison Frog

Ranitomeya fantastica

Ranitomeya fantastica is a diurnal poison frog of 20-25 mm from northern Peru and one of the largest in the genus. It is unusually variable, and many forms have a bright orange, red or yellow head above a black body with light markings. The frogs are lightning-fast and often shy, the eggs are hard to find, and the species is best suited to a keeper who already has experience with poison frogs.

Family: Dendrobatidae Former name: *Dendrobates fantasticus*

KEY FACTS

THE ANIMAL

Adult size	**20-25 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	**Intermediate**

CARE

Min. enclosure	**40 × 40 × 40 cm** L × W × H for 3 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	**3-8**
Hatching	**10-14 days**
Larval period	**60-80 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**Guards the eggs and carries the tadpoles**

PROTECTION AND PAPERWORK

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

About the species

Ranitomeya fantastica is one of the largest species in the genus *Ranitomeya*, but is still only the size of a thumbnail. Adults measure about 20-25 mm from snout to vent, and males are typically slightly smaller than females. Females lay eggs again and again and are therefore clearly broader and rounder than males.

The species is highly variable, and the name *fantastica* is well deserved. The forebody and head are yellow, orange or red, while the hind body is black with grey, blue-green or yellow markings. The animals from Varadero have a bright orange head, and the original animals from Yurimaguas have an orange head with a cream-coloured band at the nape. 'Caynarachi' has an

orange head that shades into blue-green and yellow on the back and legs with black spots or stripes on top. The pattern also varies within each form, and the forms are kept separate in captivity.

The species was described by George Albert Boulenger in 1884 as *Dendrobates fantasticus* from animals from Yurimaguas on the Huallaga River and has since been moved to *Ranitomeya*. In a revision of the species complex in 2008 *R. benedicta*, which until then had been regarded as a subspecies, was split off as a separate species. At Varadero *R. fantastica* is mimicked by *R. imitator*, so the two look very alike. It is Müllerian mimicry: toxic species with the same warning colours protect each other, because predators only have to learn one pattern.

Skin toxicity: *R. fantastica* does not make its own poison. Wild animals take up alkaloids from small arthropods in their diet, probably mainly ants and mites, and store them in the skin glands. At Varadero wild animals have slightly more alkaloids in the skin than the *R. imitator* that mimic them, but the toxicity is still modest compared with the large poison dart frogs. Captive-bred animals that live on fruit flies and springtails lack the poison, while wild-caught animals can retain it for a long time. Do not handle the frogs, and wash your hands after working in the enclosure.

The male's call is a high, buzzing trill that is repeated for 5-10 seconds and can be clearly heard outside the enclosure. In captivity the frogs live 5-10 years, a few longer.

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

Distribution and habitat

Ranitomeya fantastica is found only in northern Peru, in the regions of San Martín and Loreto east of the Andes. The species is known from, among others, the areas around Yurimaguas, where the first animals were collected, from the Cainarachi Valley and from Varadero. It has been seen from about 180 to 1,200 metres altitude. Many local forms are known, which differ distinctly in colour and pattern.

The species is assessed as vulnerable (VU) on the IUCN Red List. The threats are collection for the pet trade and loss of habitat, including for the cultivation of bananas and coffee. Buy only captive-bred animals.

> **Native range:** Peru.

HABITAT

Ranitomeya fantastica lives in humid tropical forest, preferably undisturbed forest or older secondary forest. It stays in the low vegetation above the forest floor and hunts small arthropods on the plants. Some populations are distinctly arboreal, others far less so. The eggs are laid on leaves or in the leaf litter, and the tadpoles grow up in small pools of water in plants such as bromeliads. The species depends on such pools of water and is often found near streams and ponds, but it swims poorly.

The climate in the range is warm and humid all year. Precise figures for temperature, humidity and any dry season in the wild are not documented.

Read more: Humidity, misting and ventilation Read more: Rearing tadpoles

Care

THE ENCLOSURE

A pair or trio of *R. fantastica* can be kept in an enclosure of 40 × 40 × 40 cm. Bigger is better. Many forms are arboreal and use the height.

Set up with a drainage layer, a substrate that holds moisture and a thick layer of dead leaves. Line the back wall with cork or similar, and plant densely with climbing plants and small bromeliads. Provide many laying sites, because the species is fussy and prefers to lay on horizontal surfaces such as overlapping leaves on low plants or in the leaf litter. Black film canisters lying on their side at the rear of the enclosure with the opening facing the back wall and only a narrow gap between are well suited. Springtails and small woodlice in the substrate clean up and are food at the same time.

The adults are usually not aggressive, and the species is most often kept as a pair or trio. This can, however, change from animal to animal when they become sexually mature. If you want to keep a group, allow at least 4 litres of extra space per extra animal, and be ready to remove an animal if fights break out. Groups can with advantage have more males than females. Keep only one form in the enclosure, and never put different species together, so you avoid crossbreeding.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

Keep the enclosure at 21-26 °C by day and 18-22 °C at night. The temperature must not exceed 27 °C for long periods, and above 29 °C can be fatal. Heat is more dangerous than cold.

Extra heat is rarely necessary in a heated living room; the light for the plants often provides enough. Never put the enclosure in direct sunlight, because the temperature behind the glass quickly becomes lethal. Watch out for air conditioning and radiators in the room, and measure with a digital thermometer both at the bottom and at the top. A cool rest 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 is allowed to dry out a little between mistings. The frogs tolerate down to 50 % briefly, but only if they have clean water to sit in.

Mist daily, preferably morning and evening, with reverse-osmosis water or rain water. Provide a little air exchange, so there is no still air that causes mould. If the enclosure is too dry, the frogs hide and lose weight.

WATER AND WATER QUALITY

A shallow water dish or a bromeliad with water in the leaf axils is enough. The frogs swim 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 must 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 warm water instead.

Tadpoles that are removed from the parents are kept separately in small containers with clean water at the same temperature as the enclosure, because *Ranitomeya* tadpoles eat each other.

LIGHTING AND UVB

R. fantastica is diurnal, and the lighting is first and foremost for the plants. Give 12-14 hours of light a day 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 food is small arthropods. Juveniles and adults take wingless fruit flies (*Drosophila melanogaster*), and large adults can also take the larger *D. hydei*. Springtails and small woodlice are suitable, and newly hatched crickets and aphids can be used for variety. Springtails are especially a help for the small juveniles. Feed both adults and juveniles daily with exactly so much that it is eaten up by the next feeding.

Fruit flies and springtails are not a complete diet on their own, so dust the feeder insects with a vitamin and mineral supplement. Follow the manufacturer's instructions, because certain vitamins are harmful in large doses. Start the feeder cultures before the frogs move in: the species depends on a stable, daily supply of small feeder insects.

BEHAVIOUR AND HANDLING

R. fantastica is diurnal, lightning-fast and often shy, but many animals become bolder when they breed. You see most of them in a densely planted enclosure with hiding places. The male calls from fixed spots, and the call is louder than in many other small poison frogs. Two animals of the same sex can end up in a fight, and what looks like mating is often two animals in a dispute, because poison frogs do not have true amplexus.

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. Keep an eye on animals that hide all the time, lose weight or are chased, and move them in good time.

Breeding

SEXUAL MATURITY AND SEXING

The sexes look alike, but adult females are distinctly broader and rounder than the males, and only the male calls. Juveniles cannot be sexed. Age at sexual maturity is not documented for the species; poison frogs typically 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.

MATING

The male begins with a high, buzzing trill repeated for 5-10 seconds. If the female is interested, she follows him around the enclosure with a jerky gait and strokes him over the back, and they go together to a quiet spot where the eggs are laid and fertilised. The species is regarded as easy to moderately difficult to breed.

Stable temperature, high humidity and plenty of food are the most important. A short period of less misting followed by heavy misting and a couple of large feedings can get the animals going. After some months of breeding it is wise to give the female a break, e.g. by removing the egg-laying sites for a while, so she can regain her strength.

EGGS AND TADPOLES

The female lays pale grey eggs on a horizontal surface, often between overlapping leaves, in the leaf litter or in a film canister. Each clutch is 3-8 eggs. A pair can lay eggs every 10-14 days, and the eggs are notoriously hard to find. The male keeps the eggs clean and guards them until they hatch.

When the eggs hatch, the male carries the tadpoles on his back, often 2-3 at a time, to several different pools of water, e.g. bromeliads or film canisters. After that there is no parental care, and it is not documented that the female feeds the tadpoles with eggs. The tadpoles can grow up in a shallow pool of water in the enclosure, but it is safest to remove them once the male has deposited them. If the eggs are hard to find, provide many laying sites, and take the tadpoles instead.

Keep the tadpoles separately in small containers with clean water and a little leaf litter. Feed with fine tadpole food, crushed dry food for aquarium fish and algae.

METAMORPHOSIS

The eggs hatch after about 10-14 days. From hatching to metamorphosis takes about 60-80 days. When the forelegs appear, the tadpole stops eating. Lower the water level, place a piece of cork on the water surface so it can climb out, and move it to a container with a good land area when the tail is almost absorbed.

REARING THE YOUNG

The newly metamorphosed frogs are small to medium-sized by the genus's standards. Keep them in a small, moist rearing container with dead leaves, cork and a shallow water dish. Feed daily with springtails and the smallest fruit flies, and dust the food lightly with vitamins and minerals. Springtails are a great help in the first weeks.

Juveniles can go together in a small group of similarly sized animals. As they approach sexual maturity, watch for aggression and divide them into pairs or trios.

Health and common mistakes

R. fantastica is fairly robust when temperature and humidity are right, and most problems are caused by the care:

- Heat above about 27 °C, e.g. from sun through a window, causes stress, loss of appetite and, at worst, death. Above 29 °C is life-threatening.
- An enclosure that is too dry or too wet and stagnant causes dehydrated animals, skin infections and mould.
- Feeder insects without a vitamin and mineral supplement cause weakened bones, especially in females that lay many eggs.
- Females that breed continuously lose weight. Give them a break after some months.
- A thin frog without a round belly can be due to too little food, parasites or competition. Check that all animals get food.
- Fights between animals of the same sex. Remove an animal if aggression breaks out.

A healthy frog has intact skin without sores or red, cottony areas, particularly 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.