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POISON DART FROGS

Summers' Poison Dart Frog

Ranitomeya summersi

Ranitomeya summersi is a small, diurnal poison frog of 16-21 mm from the Huallaga Valley in Peru, orange or copper-coloured with black marbling and a black mask over the eyes. The species is threatened in the wild, the eggs are hard to find, and the frogs are quick and shy, so it is best suited to a keeper with experience of poison frogs.

Family: Dendrobatidae

KEY FACTS

THE ANIMAL

Adult size	**16-21 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 3 adults
Temperature, day	**21-26 °C**
Temperature, night	**18-21 °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	**4-9**
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	**Endangered (EN)**

About the species

Ranitomeya summersi is among the smallest poison dart frogs, the so-called "thumbnails", but is large by the genus's standards. Adults measure 16-21 mm from snout to vent, and the largest females reach about 21 mm. There is no clear difference in length between the sexes, but females are rounder and broader because they lay eggs again and again.

The head, body and legs are orange, yellow-orange or copper-coloured with black marbling that can look like spots or bands on the back, head and legs. A black mark above the eyes continues past the eardrum and makes the animal look as if it is wearing a mask. The species does not vary much in colour.

The species was described in 2008 by Brown, Twomey, Pepper and Sanchez-Rodriguez and was before that regarded as a subspecies of *Ranitomeya fantastica*. The scientific name honours the herpetologist Kyle Summers. It has also been listed as *Dendrobates summersi*. The banded form of *R. imitator* mimics the species, so the two can look confusingly alike. The call reveals the difference: the male of *R. summersi* has a soft, buzzing call that can only be heard at under 1 m, whereas *R. imitator* calls so loudly that it can be heard at 5 m. The male likes to sit out in the open when calling and buzzes for up to 5 seconds at a time when looking for a female.

Skin toxicity: *R. summersi* does not make its own toxins. Wild poison dart frogs take up alkaloids from small arthropods in their diet and store them in the skin. For this particular species the toxicity in the wild is not documented, and the rating mild is borrowed from the genus, where the toxins are modest compared with the large poison dart frogs. Captive-bred animals given fruit flies and springtails lack the toxins. Even so, the frogs should not be handled, and you should wash your hands after working in the enclosure.

In captivity the species lives 5-10 years.

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

Distribution and habitat

Ranitomeya summersi is found only in central Peru, in the San Martín region, in the middle drainage area of the Huallaga River. It is fairly common around Sauce and Chazuta and is also found south-west of Callanayacu, but all known records lie within a small area in San Martín. The species has been seen from about 180 to 700 metres altitude. The range borders the Cordillera Azul National Park and the Cordillera Escalera regional conservation area, but the species has not been recorded in either of them, and no known populations lie in a protected area.

The range is small and fragmented. The species is assessed as Endangered (EN) on the IUCN Red List, because forests are cleared for smallholdings and larger farms, and because animals are collected for the pet trade. Almost all animals kept outside Peru come from collecting around 2001 or are descendants of such animals.

> **Native range:** Peru.

HABITAT

Ranitomeya summersi lives in dry primary and secondary forest at the foot of the mountains, at 180-700 metres altitude. The forests here are considerably drier than most other habitats of the genus in central Peru, and this is probably why the frog almost always stays down on the moist forest floor. It is diurnal and hunts small arthropods in the leaf litter and the low vegetation. It is often found near streams and ponds or right out to the edge of slow-flowing water, but swims poorly.

The eggs are laid in the leaf litter or between leaves that lie close together. When they have hatched, the tadpoles are carried to small pools of water, first and foremost holes in trees and the leaf axils of plants of the genus *Dieffenbachia*. Precise figures for temperature, humidity and dry season in the wild are not documented.

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

Care

THE ENCLOSURE

A pair or a small trio of *R. summersi* can be kept in an enclosure of at least 30 × 30 × 45 cm (length × width × height), and bigger is better. A single animal can be kept in a somewhat smaller enclosure, and young animals can be kept several together until they become sexually mature. The species lives mostly down on the ground, so floor area and a thick layer of leaf litter matter more than extra height.

Set up the enclosure like a clearing in the rainforest. Lay a drainage layer at the bottom, then a moisture-retaining base and a thick layer of dead leaves. Cover the back wall with cork or similar, and plant densely with climbers and small bromeliads, which provide both cover and pools of water. The species is particular about the egg-laying site and prefers leaves that lie close together, so provide many horizontal surfaces and hiding places. Black film canisters lying on their side with a narrow gap can be used as an egg-laying site. Springtails and small woodlice in the substrate keep the floor clean and are food at the same time. A bioactive enclosure is therefore a good choice.

Adults are generally not aggressive, and a mixed group is possible, but this can change from animal to animal. The group should have more males than females. If you want to keep more than three, allow at least 4 litres of extra space per animal, and be ready to take an animal out if fights break out. Keep only one form of the species in the enclosure, and never put different species of *Ranitomeya* together, so you avoid hybrids.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

Keep the enclosure at 21-26 °C during the day and 18-21 °C at night. The temperature must not exceed 27 °C for any length of time, and above 29 °C is life-threatening. The species tolerates heat worse than cold.

Extra heat is rarely necessary, and the light for the plants often gives enough. Never place the enclosure in direct sunlight, because the temperature behind the glass becomes life-threatening in a short time. Watch out for air conditioning and radiators in the room, and 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 close to 100 % morning and evening and 70-75 % in the middle of the day, so the enclosure can dry out a little between mistings. The frogs can briefly cope with about 50 %, but only if they have clean water to sit in.

Mist daily, preferably morning and evening, with reverse-osmosis water or rain water. Ensure a gentle air exchange, so the air does not become stagnant and mouldy, but without a draught, because dry room air stresses the frogs. 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 hot water instead.

Tadpoles that are taken from the parents are kept separately in small containers of clean water at the same temperature as the enclosure, because tadpoles of the genus *Ranitomeya* can eat each other. The depth is given here as for the genus in general and is not documented separately for the species.

LIGHTING AND UVB

R. summersi is diurnal, and the light 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 all the same, ensure plenty of shade, so the frogs can choose for themselves. High-output lighting can raise the temperature, so use a fan or a timer if the enclosure becomes too hot.

Read more: Lighting and UVB

FEEDING

The staple food is small live arthropods. Juveniles and young animals take wingless fruit flies (*Drosophila melanogaster*), and large adults can also take the larger *D. hydei*. Springtails are a good supplement and especially a help to the small juveniles, and small woodlice can also be given. Feed daily with exactly so much that it is eaten up by the next feeding. The frogs are shy and hard to feed, so the feeder insects must be present all the time. A fresh and stable supply is more important than large quantities.

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. Local ants are not suitable as food.

BEHAVIOUR AND HANDLING

R. summersi is diurnal, quick and often shy, but can become bolder once it has got used to the enclosure. They are seen most in a densely planted enclosure with hiding places. The male calls from an open spot with a soft, buzzing call. Pairs find each other without real amplexus. What looks like mating is often two animals of the same sex in a dispute.

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 within a short time. Watch for 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 rounder and broader than the males, and only the male calls. Sexing small animals is difficult, and juveniles cannot be sexed. Age and size at sexual maturity are not documented for the species. The surest way to a pair is to start with at least four juveniles and let them find each other.

MATING

The male sits out in the open and calls with a soft, short buzz that is repeated for up to 5 seconds when he is looking for a female. If the female is interested, she follows him around the enclosure, and the pair withdraw together to a quiet spot, often in a bromeliad. The species is regarded as difficult to breed, and it is particular about the egg-laying site.

Stable temperature, high humidity and plenty of food are the most important things. A triggering factor such as winter rest is not documented for the species.

EGGS AND TADPOLES

The female lays 4-9 eggs at a time in the leaf litter or between leaves lying close together. The eggs are very hard to find. The male cleans and guards them until they hatch.

When the eggs have hatched, the adults return, and the male carries the tadpoles on his back to a shallow pool of water, e.g. the centre of a moist bromeliad, a small water hole in the plants or a film canister with water. It is not documented that the female feeds the tadpoles with eggs in this species. The tadpoles can grow up in the enclosure, but it is safest to remove them once the male has delivered them.

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

METAMORPHOSIS

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

REARING THE YOUNG

The newly metamorphosed frogs are tiny. 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 lightly dust the food with vitamins and minerals. Springtails are a great help in the first weeks.

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

Health and common mistakes

R. summersi is sensitive to the wrong climate, 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 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 many eggs.
- 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 arises.

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.