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POISON DART FROGS

Samaná Poison Frog

Andinobates daleswansoni

Andinobates daleswansoni is a small, diurnal poison dart frog of 18-20 mm with a bright red head and forebody and a brown hind body. It occurs only in the cloud forest of the Cordillera Central in Caldas, Colombia. The species is threatened and hardly kept, so its care is based on the cool, wet mountain climate of its habitat.

Family: Dendrobatidae Former name: *Ranitomeya daleswansoni*

KEY FACTS

THE ANIMAL

Adult size	**18-20 mm** snout-vent length
Lifespan	**5-10 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**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	**Experienced**

CARE

Min. enclosure	**45 × 45 × 45 cm** L × W × H for 2 adults
Temperature, day	**18-22 °C**
Temperature, night	**14-17 °C**
Humidity	**85-100%**
Water	**No water dish**
UVB	**Optional** Ferguson zone 1
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	**1-2**
Hatching	**16-24 days**
Larval period	**108-152 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**Carries the tadpoles**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Endangered (EN)**

About the species

Andinobates daleswansoni is a small poison dart frog. Males measure about 18 mm and females 19-20 mm from snout to vent. The head and forebody are bright red, the rest of the body is brown with darker and paler markings, and some animals have yellow-orange spots towards the rear and on the hind limbs. The eyes are large with a black iris, and the toes have small adhesive discs, smallest on the hind feet. The first and second toes are partly fused, so the foot appears to have only four toes. This is very unusual in frogs, and among poison dart frogs the species shares the trait with *Andinobates dorisswansonae*, which is black or dark brown with red, orange or yellow spots. *Andinobates opisthomelas*, which lives alongside the species in the lower part of its altitudinal range, is red-orange without spots.

The species was described in 2006 and was formerly placed in *Ranitomeya daleswansoni*. The species name honours Dale Swanson, who worked to conserve nature in the Andes. Lifespan in captivity has not been documented; the figure in the box is borrowed from related, small poison dart frogs.

Skin toxicity: poison dart frogs do not produce their own toxins but take up alkaloids from small arthropods in their food, and captive-bred animals without toxic feeder insects are free of toxins. The potency of the toxins in *A. daleswansoni* has not been documented. The frogs should not be handled, and hands should be washed after working in the enclosure.

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

Distribution and habitat

Andinobates daleswansoni occurs only in Colombia, in the Cordillera Central in the department of Caldas, in the area around Selva de Florencia National Park. The range is very small, and most known animals live in the national park, which is the only protected area where the species occurs.

The species is assessed as Endangered (EN) on the IUCN Red List because the forest is being cleared for agriculture and cattle grazing.

> **Native range:** Colombia.

HABITAT

Andinobates daleswansoni lives in the wettest parts of the understorey in undisturbed and secondary cloud forest, at 1,800-2,500 m above sea level. It can also persist in partly logged forest when undisturbed forest is nearby. The frogs stay in the leaf litter and need holes and other hiding places on the forest floor. The female lays her eggs in the leaf litter, and the tadpoles live in water in the leaf axils of bromeliads. Tadpoles are seen all year round, so the species probably breeds throughout the year.

At about 1,800 m the species lives together with *Andinobates opisthomelas*. The temperature has not been measured in the species' habitat, but cloud forest at this altitude is cool and wet all year.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Andinobates daleswansoni*, and the species is hardly kept in captivity. The care is based on the habitat: cool, wet cloud forest with thick leaf litter, many hiding places and bromeliads. *Andinobates opisthomelas* lives in the same area. The closest species with captive experience is *Andinobates bombetes*, which also lives in cool mountain forest in Colombia; the figures for breeding and rearing are borrowed from it.

An enclosure of 45 × 45 × 45 cm is enough for a pair. Use a drainage layer of expanded clay pebbles, a mesh separation layer and a substrate of coconut fibre, forest soil and sphagnum. Lay a thick layer of leaf litter on top, and make hiding places with cork tubes and pieces of bark. Plant moss, ferns and tillandsias, and add at least one bromeliad with water in the leaf axils for the tadpoles. A shallow dish of damp forest soil is a good place for the eggs. The air should move gently through a ventilation strip so that it does not stand still.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

The temperature has not been measured in the species' habitat. 18-22 °C by day and 14-17 °C at night suit cloud forest at 1,800-2,500 m. The species tolerates heat poorly, and prolonged periods above 25 °C stress the animals. There should be no basking spot. In a warm summer the enclosure must stand in a cool room or be given cooling. A winter rest period has not been documented and is not necessary.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity should be 85-100 %. Spray the leaf litter and plants thoroughly once or twice a day with rainwater or reverse osmosis water, or use a fogger on a timer. The substrate should be damp but not waterlogged. Small frogs dry out quickly in dry air, so check the humidity with a hygrometer near the substrate.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

The species does not need a water section. The animals get moisture from the leaf litter, plants and spraying. The tadpoles grow up in water in the leaf axils of bromeliads. Use rainwater or reverse osmosis water without additives, and never use soap or cleaning products in the enclosure, because amphibians absorb substances through the skin.

LIGHTING AND UVB

Provide 10-12 hours of LED light a day so that the plants thrive. The understorey of the cloud forest is shaded, so the light should not be strong, and the animals must be able to seek shade. A need for UVB has not been documented; a weak UVB bulb (Ferguson zone 1) is optional.

Read more: Lighting and UVB

FEEDING

Andinobates daleswansoni measures only 18-20 mm and eats small arthropods such as springtails and small fruit flies. Feed every other day, dust the feeder insects with calcium most of the time and with vitamins with D3 1 time a week. Keep your own cultures of springtails and fruit flies so that there is always food. What the species eats in the wild has not been documented; poison dart frogs take mainly ants and mites.

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

BEHAVIOUR AND HANDLING

The species is diurnal and lives on the ground in the leaf litter, where it uses holes and hiding places. Territorial behaviour and calling have not been documented. A pair can be kept together in an enclosure of 45 × 45 × 45 cm. The frogs should not be handled, because the skin is delicate. When cleaning, move the animal in a glass with damp moss.

Breeding

SEXUAL MATURITY AND SEXING

Females (19-20 mm) are slightly larger than males (about 18 mm). The age at sexual maturity has not been documented. A reliable pair is best obtained by raising a small group of young animals until pairs form.

MATING

Mating has not been documented. The species probably breeds throughout the year in the wild, so there is no fixed season or rest period. In *Andinobates bombetes* the male lures the female to the egg-laying site, and a group with slightly more females than males gives the most eggs. A pair can be kept together and left in peace in a densely planted enclosure.

EGGS AND TADPOLES

The female lays the eggs in the leaf litter, and the tadpoles live in water in the leaf axils of bromeliads. Which parent carries the tadpoles, and how many eggs the female lays, has not been documented. In *Andinobates bombetes* the female lays 1-2 eggs at a time, preferably on damp forest soil, and the male carries the tadpoles; those figures are used in the box.

The tadpoles can grow up in the bromeliads or be raised individually in small cups with clean water. They are fed fish flakes in small amounts so that the water does not become cloudy.

METAMORPHOSIS

The hatching time and larval period have not been documented for *Andinobates daleswansoni*. In *Andinobates bombetes* the eggs hatch after 16-24 days, and the larval period is about 110 days with fish flakes as food and up to 150 days or more on other food. When the front legs appear, lower the water to no more than the height of the tadpole so that the little frog can easily get onto land.

REARING THE YOUNG

The newly metamorphosed froglets measure about 12 mm (the figure is borrowed from *Andinobates bombetes*). Keep them in a small, humid box with kitchen paper or leaf litter, a piece of bark and a plant, spray twice a day, and ensure good air exchange. For the first couple of weeks they eat springtails; after that they can be given the smallest fruit flies. Dust the food with calcium. Only after several months can they be moved to a larger enclosure.

Health and common mistakes

There is no species-specific knowledge about diseases. The typical mistakes with small poison dart frogs from cool mountain forests are these:

- Too high a temperature: the animals sit passively, eat poorly and become susceptible to skin diseases. Cool the enclosure down.
- Air that is too dry: the skin becomes dull, and the frog loses weight. Spray more often, and check the substrate.
- Stagnant air and leaf litter that is too wet: mould and skin infections. Provide gentle ventilation.
- Thin animals that stop eating, or animals with skin changes: contact a vet with knowledge of amphibians.

The species is threatened and occurs only in a small area, so animals must never be taken from the wild.

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.