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POISON DART FROGS

Sanguine Poison Frog

Allobates zaparo

Allobates zaparo is a small, diurnal frog of about 3 cm from the rainforest at the foot of the Andes in Ecuador and northern Peru. Adults have a red back, black flanks, a blue belly and yellow spots at the limbs and mimic the poisonous *Ameerega bilinguis* and *Ameerega parvula*, but are not poisonous themselves. The species is only rarely kept, so the care is based on the climate and on its relative *Allobates femoralis*.

Family: Aromobatidae Former name: *Epipedobates zaparo; Phyllobates zaparo; Dendrobates zaparo*

KEY FACTS

THE ANIMAL

Adult size	**3 cm** snout-vent length
Lifespan	**5-10 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Rainforest**
Skin toxins	**None known**
Difficulty	**Experienced**

CARE

Min. enclosure	**60 × 40 × 40 cm** L × W × H for 2 adults
Temperature, day	**24-27 °C**
Temperature, night	**21-23 °C**
Humidity	**70-100%**
Water	**Water dish** depth 1-2 cm
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	**8-20**
Hatching	**15-20 days**
Larval period	**40-50 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

Allobates zaparo is 26-30 mm from snout to vent, i.e. about 3 cm, and males and females are about the same size. Adults are red or brick-coloured on the back with pale brown to copper-coloured stripes from the snout. The sides of the head and body are black, bordered by a brown stripe above and a white one below, and the white stripe can turn blue towards the hindquarters. The forelimbs are pale brown on top with black or dark brown spots, and in the axilla there is yellow or orange. The hind limbs are black with blue-grey markings on top and blue with black spots underneath. The throat and chest are black, and the belly is blue with black spots.

The juveniles look completely different: they are brownish and blend in with the leaf litter. During growth the pattern gradually changes through copper-orange to red, and finally the red colour spreads from the snout over the whole back. This is the frog's defence, because the adults mimic the brightly coloured, poisonous poison frogs *Ameerega bilinguis* and *Ameerega parvula*, which live in the same place.

The species is one of the few non-poisonous mimics among the poison frogs. The skin contains no poison, and the frog is therefore harmless to touch. It was described in 1976 by Silverstone as *Phyllobates zaparo*, has been placed in the genus *Epipedobates* and is now counted in the genus *Allobates* in the family *Aromobatidae*. The name was given after the Sapara people of eastern Ecuador.

Distribution and habitat

Allobates zaparo is found in eastern Ecuador and northern Peru. It is known from Yasuní National Park, Sangay National Park, the Yachana Reserve and Jatun Sacha, among others. By far most records are in Ecuador, while only a few come from Peru. The range is limited compared with the large Amazonian species. Locally the species is threatened by forest clearance for agriculture and cattle ranching, road building in connection with oil extraction and pollution.

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

HABITAT

Allobates zaparo lives in rainforest in the lowlands and on low hills at 200-1,000 m, mostly in primary forest, but also in secondary forest and along streams near fields. The frog is diurnal and moves in the leaf litter on the forest floor. The males sit on top of the leaves and call to the females. Its food is varied, but ants make up a large part.

The climate at the foot of the Andes in eastern Ecuador is warm and very humid all year. The female lays the eggs in the leaf litter, and after hatching the adults carry the tadpoles to water.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Allobates zaparo*. The species is only rarely kept, and captive breeding is not described. The recommendations are based on the climate at the foot of the Andes, on the habitat in the leaf litter and on its relative *Allobates femoralis*, which is better known in captivity. The figures for breeding are borrowed from there.

A pair can be kept in an enclosure of at least 60 × 40 × 40 cm. The species lives on the ground, so floor area is more important than height. Build the base bioactive with a drainage layer of clay pebbles, a mesh as a separating layer and moist potting soil, and lay a thick layer of clean leaf litter on top, where the frogs hide and lay eggs. Add springtails and small isopods, which eat waste and provide extra food.

Furnish with cork bark, root pieces, moss and ferns, and a branch or a piece of bark as a lookout for the male. The lid should have large ventilation areas with mesh. *Ameerega picta* and *Ameerega trivittata* are other ground-living poison frogs from the Amazon and have almost the same requirements for the furnishings. The species must not be kept together.

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

TEMPERATURE

Keep the terrarium at 24-27 °C by day and 21-23 °C at night. The figures follow the climate of Ecuador's lowlands at the foot of the Andes. The variation over the year should be small, 1-2 °C. There is no winter rest.

Poison dart frogs tolerate heat poorly: temperatures above about 28 °C are dangerous. Place the terrarium out of direct sun, and measure the temperature with a digital thermometer low down in the terrarium. If the room cannot be kept below 26 °C in summer, the terrarium must be moved to a cooler room.

HUMIDITY AND MISTING

Humidity should be 70-80 % in the middle of the day and close to 100 % in the morning and evening. A rain system with a timer that gives two short showers a day keeps the leaf litter moist and the frogs active; a fogger helps in the morning and evening hours. Use reverse-osmosis water or rain water. The leaf litter may dry out a little between mistings, so that mould and stagnant air do not develop. If the leaves become dry, the frogs dry out quickly.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

Provide a shallow glass dish with 1-2 cm of water that the frogs can easily climb out of. The dish is used by the adults when the tadpoles are to be deposited. Use rain water, reverse-osmosis water or dechlorinated tap water, and change it often.

Amphibians absorb water and substances through the skin, so soap, cleaning products, chlorine and cream must not come near the enclosure. Scrub the dish with hot water without soap.

LIGHTING AND UVB

The light is first and foremost for the plants: 10-12 hours a day with LED light with a plant-suitable spectrum. It is not documented that *Allobates zaparo* needs UVB. If you choose a weak UVB source anyway (Ferguson zone 1), the frogs must have dense leaf litter to withdraw under. The light must not heat the enclosure.

Read more: Lighting and UVB

FEEDING

In the wild ants are an important part of the diet. In the enclosure the staple food consists of wingless fruit flies (*Drosophila melanogaster*), springtails and sieved meadow plankton, supplemented with tiny crickets and small isopods. The species is small, so *D. hydei* is suitable only for large adults.

Juveniles are fed daily, adults two to three times a week. Dust the feeder insects with calcium with D3 at every meal and with a multivitamin once or twice a week. Keep your own cultures of fruit flies and springtails.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Allobates zaparo is diurnal and lives in the leaf litter. Males call from the top of the leaves to attract females. The males are probably territorial as in *Allobates femoralis* and can fight, so keep one pair or one male with two females and never several males in a small terrarium. Adults are more cautious than juveniles and explore less in new surroundings.

The frogs should not be handled. The skin is thin and does not tolerate soap, salt and cream. If a frog has to be moved, coax it into a clean, dampened plastic tub.

Breeding

SEXUAL MATURITY AND SEXING

Males and females are about the same size and cannot be reliably told apart by appearance; only the males call. Age and size at sexual maturity are not documented. The easiest way to a pair is to start with several juveniles and let them pair up. The juveniles change colour to red as they approach adult size.

MATING

Breeding is not described in captivity. The male calls from the top of the leaf litter, and the female lays the eggs in the leaves. A period of less misting followed by heavy misting can get breeding going. Provide the frogs with a thick, clean layer of leaf litter and a hiding place on the ground.

EGGS AND TADPOLES

The eggs are laid in the leaf litter on the forest floor. A clutch is 8-20 eggs. After hatching, the adults carry the tadpoles to water; in *Allobates femoralis* it is the male.

In the terrarium the tadpoles can be removed and raised in small, clean containers with rainwater or osmosis water. Give fine tadpole food and algae, and change the water regularly.

METAMORPHOSIS

The eggs hatch after 15-20 days, and the tadpoles have metamorphosed after 40-50 days.

When the front legs appear, the tadpole must be able to climb out of the water: lower the water level, and add a piece of cork or bark so it can climb out. Move the little frog to a damp rearing terrarium when the tail is almost absorbed.

REARING THE YOUNG

The newly metamorphosed frogs are small and need springtails and the smallest fruit flies. Furnish the rearing enclosure like the adults' with leaf litter, hiding places and a shallow water dish, and keep the temperature stable. Feed daily, and lightly dust the food with calcium and vitamins. Growth and age at moving to the adults are not documented.

Health and common mistakes

Poison frogs are sensitive to heat, dryness and poor hygiene. The most important mistakes are:

- An enclosure that is too hot or too dry. The frogs become lethargic, lose weight and lose colour.
- Dirty water in the tadpole containers, which causes fungus and disease.
- Food without vitamin and mineral supplements, which causes bone problems and weak juveniles.
- New animals that bring infection with them. Keep newly bought frogs in quarantine for a period.

A healthy frog has intact skin without sores or red, irritated areas, especially around the vent and on the inside of the hind legs, and a clearly round belly. Signs of illness are frequent shedding, a bloated body, lethargy, loss of appetite and dull, dry skin. Isolate a sick animal, and quickly see a vet with amphibian experience.

Read more: Quarantine and hygiene

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.