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POISON DART FROGS

Three-striped Poison Frog

Ameerega trivittata

Ameerega trivittata is a large, diurnal poison frog of 4-6 cm from the forest floor of the Amazon. It is black with two pale green stripes along the flanks, and in a single trip the male often carries 15-30 tadpoles on his back to water. The frog needs a more spacious enclosure than the small poison frogs.

Family: Dendrobatidae Former name: *Epipedobates trivittatus; Dendrobates trivittatus; Phobobates trivittatus*

KEY FACTS

THE ANIMAL

Adult size	**4-6 cm** snout-vent length
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Rainforest and wetland**
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	**70 × 50 × 50 cm** L × W × H for 2 adults
Temperature, day	**23-25 °C**
Temperature, night	**19-22 °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**
Sexually mature	**12-24 months**
Eggs per clutch	**15-40**
Hatching	**15-22 days**
Larval period	**40-90 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	**Least Concern (LC)**

About the species

Ameerega trivittata is one of the large poison frogs. The male grows to about 4 cm and the female up to 6 cm, measured from snout to vent. The back and flanks are black, the belly is black with a bluish sheen towards the rear, and the legs are yellowish-green or light brown. Two yellowish-green side stripes run from the snout down towards the hind legs. The colour of the stripes varies between localities: most often they are green, but yellow and orange animals also occur. The skin on the back is finely granular, while the flanks and belly are smooth, and the toes have no webbing.

The species was described by Johann Baptist von Spix in 1824 and has since been placed in the genera *Epipedobates*, *Dendrobates* and *Phobobates* before it came to *Ameerega*.

Poison frogs do not produce their toxins themselves but take up alkaloids from the ants and other small animals they eat in the wild. In wild *A. trivittata* from several populations, alkaloids of the decahydroquinoline type have been found in the skin. How potent the poison is for humans is not documented, and wild animals are therefore regarded as only mildly poisonous. Animals bred on feeder insects such as fruit flies and springtails do not acquire toxins and are regarded as harmless. Wash your hands before and after contact all the same, and do not touch the frogs unnecessarily, because their skin is sensitive.

Lifespan and clutch size in captivity are not documented for the species itself. The lifespan is borrowed from poison frogs in general.

Read more: Feeder animals: keeping and breeding

Distribution and habitat

Ameerega trivittata lives in the northern and western Amazon and the adjoining lowlands: in northern Brazil, eastern Peru, Bolivia (including Pando), southern Colombia (Putumayo and Amazonas), Venezuela (the state of Bolívar), Guyana and Suriname. The species is probably also present in Ecuador and French Guiana, but this has not been confirmed, so the two countries are not included on the map.

The frog is found in the lowlands from about 40 m up to 500-600 m above sea level. The species is assessed as not threatened, but deforestation is a threat locally.

> **Native range:** Bolivia, Brazil, Colombia, Guyana, Peru, Suriname and Venezuela.

HABITAT

Ameerega trivittata lives on the floor of primary and secondary lowland rainforest, in the leaf litter and close to small bodies of water. It is also found at seasonal freshwater swamps and at forest edges where water stands in the rainy season. The frog is diurnal and lives mostly on the ground, but the males climb onto elevated spots to call, and the species can be seen up to 1 m up in bromeliads and trees.

In the wild the year alternates between a rainy season and a drier period. The males take and defend small territories in the rainy season, and this is when mating takes place. The females are not territorial. The eggs are laid in the leaf litter in the rainy season, and the male carries the tadpoles to water, which can lie several hundred metres from his territory. The main food is ants, which are plentiful on the forest floor.

Temperature and humidity in the forest are high and stable all year. It is not documented how cold the night gets at the individual localities.

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

Care

THE ENCLOSURE

An enclosure of at least 70 × 50 × 50 cm (length, width, height) suits two adult *Ameerega trivittata*. The species is large and active, the male wants space for a territory, and the frog likes to climb, so give it branches and raised perches. Bigger is better, especially if the animals are to breed. A rain system and a fogger are recommended. Glass holds the humidity and gives a clear view, but the lid must have large ventilation areas with mesh, so the air does not stand still.

Build the floor bioactive: a drainage layer of expanded clay pellets or gravel at the bottom, a mesh as a separating layer and above it a moist planting soil, for example a mixture of coconut fibre, orchid bark and sphagnum. Lay a thick layer of leaf litter on top. The leaf litter is the frog's natural habitat, holds the moisture and provides cover. Add springtails and isopods, which eat waste and are extra food at the same time.

Furnish with bromeliads, ferns, moss, root pieces and cork bark, so there are many hiding places and sight lines are broken up. This reduces strife between the animals. Juveniles can be kept together in a group as long as there is space. Clean the water dish often, and remove dead leaves and mould.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

Keep the daytime temperature at 23-25 °C, and lower it at night by 3-4 °C to about 19-22 °C. The variation over the year should be small, 1-2 °C. Frogs are sensitive to heat: temperatures above about 29 °C are dangerous, and a steady temperature is more important than the exact figure.

Place the enclosure so that it is not in direct sunlight, and use a thermostat if the room is too cool. If the enclosure cannot be kept below 26 °C in summer, it must be moved to a cooler room. Measure the temperature with a digital thermometer down in the enclosure.

The species has no winter rest in captivity. Many poison frogs are given a short, drier period with less misting to get breeding started; see the section on mating.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity should be 80-90 % for most of the day, close to 100 % morning and evening, and it may fall to about 70 % in the middle of the day. A longer time below 70 % is dangerous, especially if the frog has no access to water. Mist with reverse-osmosis or rain water two to three times a day for 10-20 seconds, or use a fogging system or rain system with a timer. A last misting in the evening gets hidden feeder insects moving, so the frogs find them.

Keep the air moving with good ventilation, so that no mould or stagnant air develops. If it becomes too dry, the frogs withdraw into hiding and the skin dries out. This can become dangerous within a few days.

WATER AND WATER QUALITY

A shallow water dish with 1-2 cm of water is enough. The dish must be shallow enough for a young frog to climb out, with stones or moss at the edge. The dish and water are changed often, and the dish is cleaned with hot water without soap.

Use reverse-osmosis water, rainwater or dechlorinated tap water. Amphibians absorb water and substances through the skin, so avoid soap, cleaning products and chlorine in the terrarium. The water dish is important if you want offspring, and gives extra security if humidity falls. Avoid waterfalls with a pump, which can fail and contaminate the water.

LIGHTING AND UVB

UVB is not documented as necessary for poison frogs in general, and for this particular species there is no information. A weak UVB light (Ferguson zone 1) is optional. The most important thing is an LED light with a plant-suitable spectrum for 10-12 hours a day.

Give the frogs shade and cover, so they can withdraw from the light if they wish. Choose lighting that does not heat the enclosure appreciably.

Read more: Lighting and UVB

FEEDING

The diet consists of small live arthropods. In the wild it is mainly ants, but in captivity wingless fruit flies (*Drosophila melanogaster* and *D. hydei*), springtails, small isopods, sifted meadow plankton and occasionally newly hatched crickets are used. Springtails and isopods in the enclosure give the frogs something to hunt all the time. Because the species is large, adults can take *D. hydei* and small crickets.

Juveniles are fed every day, adults three to four times a week with 20-50 flies per frog depending on size and appetite. Dust the food with a calcium preparation with D3 at every meal and with a multivitamin preparation once or twice a week. Alternate between the supplements, so there is neither too little nor too much. Let the frogs decide: leftovers suggest too much food, and eager hunting is a good sign.

Fruit flies are easy to culture yourself on a nutrient medium. Start new cultures before the old ones are used up.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

The males call loudly and defend small territories, while the females are calm. It is not documented how the species behaves in groups in captivity, so pairs are the safest way to keep them. Juveniles can be kept together until they become sexually mature, after which conflicts can arise, especially if there are two males.

Poison frogs should not be handled if possible: the skin is thin and sensitive, and stress weakens them. When cleaning, move the animals with a moistened, clean container, and wash your hands before and after. Never mix species or forms, as this can spread disease and cause stress.

A. trivittata is diurnal and visible. In the wild the males carry tadpoles several hundred metres from their territory and find their way home again, even when moved to entirely unfamiliar places, so the species has a good sense of place. This argues for a spacious, varied enclosure.

Breeding

SEXUAL MATURITY AND SEXING

The female is the largest and plumpest. The males call loudly and defend a small territory, and this is the surest sign. Sex can only be determined once the animals approach sexual maturity. In captivity the animals reach sexual maturity after one to two years. Keep four to five young animals, so that there is very likely a pair among them.

The method is borrowed from poison frogs in general: it is better to raise the animals yourself than to buy sexed adults, because then you have time to get to know them and to make sure they are well nourished.

MATING

Mating takes place in the rainy season, when the male calls from his territory and lures the female in. To imitate nature you can turn down the misting and feeding for several weeks: humidity may fall to about 70 %, but the frogs must always have access to water, and the food is halved. Afterwards you return to normal misting, which often triggers egg-laying. The pause gives the female time to build up fat reserves and can give larger clutches and healthier offspring.

Take a break if the female seems exhausted: remove the male for a couple of months. Neither the dry period nor the break is documented for the species itself; the approach is borrowed from poison frogs in general.

EGGS AND TADPOLES

The eggs are laid in the leaf litter on the ground under leaves and small hiding places, and in the terrarium a film canister or a Petri dish under a coconut hut can serve as a laying site. A clutch is 15-40 eggs, and the male carries 15-32 tadpoles at a time, 22 on average.

The male tends the eggs until they hatch after about 15-22 days. He then carries the tadpoles on his back to water: in the wild, still pools in a partly dried-out stream or a flooded meadow at the forest edge, sometimes several hundred metres away. The tadpoles are omnivorous, and in the wild several hundred can lie in the same pool. It is not documented how many can be kept together in captivity. The most cautious approach is to move them to small containers with clean, soft water, singly or a few together, and give them fine plant food and algae. Change part of the water regularly, and keep the water at room temperature.

METAMORPHOSIS

The eggs hatch after about 15-22 days. The tadpoles take 40-90 days to reach metamorphosis in captivity, and the time depends on temperature and food. In the wild it takes 41-54 days.

Once the front legs appear, keep the water shallow, and there must be easy access to land and damp hiding places so the little frogs do not drown. Once the tail has been absorbed, the metamorphosed young are moved to a damp terrarium without deep water.

REARING THE YOUNG

The newly metamorphosed juveniles are fed the smallest feeder insects, such as fruit flies of the species *D. melanogaster* and springtails, and later *D. hydei*. The size of the first food is not documented for the species. Feed them daily, and dust with calcium and vitamins. Keep them moist, and give them plenty of leaf litter and small hiding places. Growth is not documented for the species, but young animals grow fast and become sexually mature after one to two years.

Juveniles can be kept together in a group as long as there is enough space and food. As they approach sexual maturity, you should divide them into pairs.

Health and common mistakes

Poison frogs are hardy when conditions are stable, but certain mistakes recur:

- Desiccation: too low humidity causes a flattened appearance, passivity and dry skin. Raise the humidity and mist at once.
- Overheating: temperatures above about 29 °C are dangerous. Move the enclosure or cool it down.
- Deficiencies: too little calcium, D3 or vitamins causes deformed bones and weak animals. Use supplements at every meal.
- Parasites and fungi: if a frog loses weight despite a good appetite, or if there are swellings, redness or sores on the skin, it must go to a vet with amphibian experience.
- Poor hygiene: clean the water dish and mould regularly, and keep new animals in quarantine before they go in with the others.

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.