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POISON DART FROGS

Ecuador Poison Frog

Ameerega bilinguis

Ameerega bilinguis is a small, diurnal poison frog of 17-23 mm from the leaf litter of the rainforest in the north-western Amazon lowlands. The back is black with red granules, and the underside is pale blue with black markings. The species is rarely kept, and little is known about its care.

Family: Dendrobatidae Former name: *Epipedobates bilinguis*

KEY FACTS

THE ANIMAL

Adult size	**17-23 mm** snout-vent length
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**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 2 adults
Temperature, day	**25-26 °C**
Temperature, night	**20-22 °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 or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles carried to water**
Egg-laying site	**On the ground**
Eggs per clutch	**4-16**
Hatching	**10-22 days**
Larval period	**70-90 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 bilinguis is a small species in the genus *Ameerega*. The male measures 17-20 mm and the female 19-23 mm from snout to vent, so the frog is far smaller than large relatives such as *Ameerega trivittata*. The back is black with flat, red granules, the flanks are black with a pale blue stripe, and the underside is pale blue with black, indistinctly bordered markings that become bluer towards the vent. There are yellow spots where the fore and hind limbs meet the body. The eyes are black and relatively small, and the head is almost as wide as the body.

The species was described in 1989 by Karl-Heinz Jungfer and for a time stood in the genus *Epipedobates*. The species name *bilinguis* refers to the male's call, which consists of two pulses. The closely related *Ameerega parvula* lives further south.

The bright colours warn predators that the skin is toxic. Poison frogs do not make the toxin themselves but take up alkaloids from their food in the wild. How toxic *A. bilinguis* is has not been documented. Captive-bred animals that receive only springtails and fruit flies are not toxic, but wash your hands after working in the vivarium all the same.

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

Distribution and habitat

Ameerega bilinguis lives in the north-western Amazon lowlands: in Ecuador in the provinces east of the Andes (including Napo, Sucumbíos and Orellana), in south-western Colombia (Putumayo) and in northern Peru (Loreto). The species is found from about 100 to 800 m above sea level.

It occurs in several protected areas, including Yasuní National Park and Limoncocha Biological Reserve. In the northern Amazon lowlands of Ecuador, *A. bilinguis* replaces the closely related *Ameerega parvula*, which lives further south.

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

HABITAT

Ameerega bilinguis lives in the leaf litter on the forest floor in primary and secondary lowland rainforest, often close to brooks and small streams. It is also found in forest that is flooded for part of the year, but only when the ground is dry. The males call from slightly raised spots, and the female lays the eggs on the ground in the leaves. The male guards the eggs and later carries the tadpoles to a puddle or a slow-flowing brook.

The climate is warm and humid all year, and the nights are only a few degrees cooler than the days. Deforestation for agriculture and timber removes habitat locally, but the IUCN assesses the species as not threatened.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Ameerega bilinguis*, but the species is kept in small numbers, and the basic figures for the vivarium are known. It is kept like other small *Ameerega* species from the rainforest leaf litter. The closely related *Ameerega parvula* has the same requirements, and *Allobates femoralis* lives in the same forests.

A vivarium of at least 40 × 40 × 40 cm (length × width × height) suits a pair; if a group is to be kept, the vivarium must be larger. The species lives on the ground, so floor area is more important than height. A rain system and a fogger make it easier to maintain the climate. Glass retains humidity, and the lid or front must have mesh panels so that the air does not stand still.

Build the floor as a bioactive set-up: a drainage layer of expanded clay pebbles at the bottom, a mesh as a divider and above it a damp, open soil of coconut fibre, orchid bark and sphagnum. Put a thick layer of dried leaves on top, as this is the frog's natural habitat and provides cover. Add springtails and small isopods, which keep the substrate clean and are extra food. Furnish with ferns, moss, root pieces and cork bark so that there are many hides and broken lines of sight. Remove dead leaves and mould.

Read more: Humidity, misting and ventilation Read more: Terrarium construction and bioactive substrate

TEMPERATURE

The daytime temperature is 25-26 °C, and at night it is lowered by 4-5 degrees to 20-22 °C. The species is tied to the even climate of the forest floor and tolerates heat poorly; temperatures above 28 °C are a risk, especially if the air is also still.

The vivarium should not have a hot spot. If the room is too cold, gentle heating of the room or a heat mat on the side of the vivarium can help. Keep the vivarium out of direct sun, and check the temperature with a thermometer down at the floor. Winter rest is not relevant, because the climate has no cool season.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity should be close to 100 % morning and evening, ideally with mist, and may fall to 70-80 % during the day. Spray the leaf litter and plants thoroughly morning and evening, or use a rain system or a misting machine on a timer. Keep the leaf litter damp, but not waterlogged. Use rainwater, reverse-osmosis water or dechlorinated water with no additives.

Make sure the air does not stand still: good ventilation panels prevent mould and bacteria. If it gets too dry, the frogs hide and stop eating. A hygrometer down near the floor shows whether the level holds.

WATER AND WATER QUALITY

A shallow water bowl with 1-2 cm of water lets the frogs drink and is necessary if breeding is to take place, because the male deposits the tadpoles there. The bowl must have a slope or stones so that a frog can climb out again. Use rainwater, reverse osmosis water or dechlorinated tap water without additives. Change the water often, preferably every day or every second day, and scrub the bowl so that no coatings form. Amphibians absorb substances through the skin, so cleaning agents, soap and chemicals must not come near the water or the vivarium.

LIGHTING AND UVB

The light should first and foremost give the plants a day-night rhythm of about 12 hours, and an LED plant lamp is enough for that. UVB is not necessary for poison frogs, so it is optional. If UVB is chosen, a weak lamp corresponding to Ferguson zone 1 suits, with plenty of shade and hides to retreat into. The frog lives in the half-light of the forest floor, so the light must not be harsh.

Read more: Lighting and UVB

FEEDING

The food is small, live arthropods: springtails and fruit flies (*Drosophila melanogaster*), micro crickets, sieved meadow plankton and small isopods. The frog is small, so larger feeder insects such as *Drosophila hydei* suit only the adults. Feed young animals daily and adults three to four times a week, and offer as much as the frogs eat in a short time. Dust the feeder insects with calcium at every meal and with a vitamin and mineral supplement once or twice a week.

Springtails and fruit flies can be kept in their own cultures so that there is always food.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

The species is diurnal and lives mostly on the ground, but the males readily climb onto slightly raised spots to call. It can be kept in pairs or in a group if the vivarium is large enough for the males to keep their distance. The frog is not an animal for handling: the skin is sensitive, and stress makes the animal susceptible to disease. Move it with a clean, damp cup when cleaning.

Breeding

SEXUAL MATURITY AND SEXING

The female is slightly larger than the male (19-23 mm against 17-20 mm), and the male calls with a two-pulse call. The age at sexual maturity is not documented. A pair is best secured by keeping a group of young animals together and waiting until two animals pair up, or by choosing a calling male and a clearly larger female.

MATING

The male calls from a slightly raised spot, and the female follows to a hidden spot in the leaves. Heavier misting, a slightly cooler night and fresh water changes can set breeding behaviour going. The details of mating have not been described for the species.

EGGS AND TADPOLES

A clutch is 4-16 eggs of about 2 mm, most often about 6 in the terrarium. The female lays them in the leaf litter, in the terrarium preferably in a film canister or a Petri dish under half a coconut shell. The male stays with the eggs and guards them. Once they have hatched, he carries the tadpoles on his back to water.

The tadpoles can be raised in small containers with rainwater or reverse-osmosis water at 24-26 °C. They are fed flake food, algae and softened plant food, and the water must be clean. Clean the containers often.

METAMORPHOSIS

The eggs hatch after 10-15 days in the vivarium; in the wild it takes 18-22 days. The tadpoles take 70-90 days to reach metamorphosis. When the forelegs have appeared, the tadpole must be able to get out of the water: lower the water level, and put an island of sphagnum or a piece of bark in the container. After metamorphosis the little frog stays mostly on land, and the tail shrinks over a few days. Keep the animal damp and undisturbed, and feed once the tail is gone.

REARING THE YOUNG

The newly metamorphosed froglets are very small and take only the smallest feeder insects: newly hatched springtails and wingless fruit flies of the species *Drosophila melanogaster*. Rearing takes place in a small vivarium with damp leaves, moss and hides, and the food is dusted daily with calcium. The froglets can be kept in a group as long as there is enough room for them to go their separate ways.

Health and common mistakes

No species-specific knowledge of diseases in *Ameerega bilinguis* exists. The usual problems for poison frogs in vivaria apply here too:

- Low humidity and still air cause dry, stressed animals that stop eating.
- Mould, bacteria and dirt in the vivarium cause skin problems and infections. Remove mould and dead plants, and change water often.
- Lack of calcium and vitamins causes bone disease (swellings, crooked legs, spasms).
- Parasites (for example roundworms and flagellates) show as weight loss despite a good appetite.
- Temperatures above 28 °C are dangerous.

See a vet with amphibian expertise if the frog is thin, sits apathetically or has sores on the skin.

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.