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POISON DART FROGS

Manu Poison Frog

Ameerega macero

Ameerega macero is a small, diurnal poison frog of 24-30 mm from the rainforests around Manu in south-eastern Peru and western Brazil. The head and back are bright red, the flanks black with a yellow stripe, and the belly is blue with a black net pattern. The species is rarely kept, and little is known about its care.

Family: Dendrobatidae Former name: *Epipedobates macero*

KEY FACTS

THE ANIMAL

Adult size	**2-3 cm** snout-vent length
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Rainforest and 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	**Intermediate**

CARE

Min. enclosure	**45 × 45 × 45 cm** L × W × H for 2 adults
Temperature, day	**25-28 °C**
Temperature, night	**21-25 °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	**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 macero is a small poison frog of 24-30 mm from snout to vent; adult males reach about 27 mm and females about 30 mm. The head and back are bright red and coarsely granular. The flanks are black with a distinct yellow stripe running obliquely from the groin up to a point above the shoulder without reaching the eye. A yellow lip stripe runs from below the eye back to the upper arm, and there is a yellow spot on the front of the thigh. The legs are black, often with green and bronze dots, and the underside is blue with a black net pattern that may be heavy or faint. Some animals lack the stripes.

The species was described in 1993 by Lily Rodríguez and Charles Myers as *Epipedobates macero*. The species name is the Machiguenga word for frog; the Machiguenga are one of the indigenous peoples of the Manu area. The species has been confused with *Ameerega petersi*, but it has a red back and shortened stripes, whereas *A. petersi* has a brown back and stripes that run all the way to the eye and snout. The male's call is a metallic-sounding series of short notes, about ten per second.

In the wild the skin contains a wealth of alkaloids, including histrionicotoxins, which the frog takes up from its food. Animals raised on ordinary feeder insects lack the poison. Wash your hands before and after working in the enclosure all the same.

Distribution and habitat

Ameerega macero is found in south-eastern and central Peru, in the river systems around Manu (Madre de Dios), Urubamba, Upper Purús and Ucayali, and in Brazil in the state of Acre. The type locality lies on the west side of the Río Manu opposite Cocha Cashu in Manu National Park, at about 380 m above sea level. The species is also known from Serra do Divisor and Alto Juruá in Brazil.

The IUCN assesses the species as Least Concern. Locally it is affected by forest clearance for agriculture, and animals are collected illegally for trade.

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

HABITAT

Ameerega macero lives in humid lowland rainforest and in montane forest, from about 150 to 1,450 m above sea level, including in bamboo forest. It is seen most often in little-disturbed forest and near small streams. The frog lives on the forest floor and sits no more than 40 cm up on fallen trunks. The males call mainly for a few hours after dawn and before dusk, and on rainy days the rest of the day as well. In the dry season the frogs stay along the streams, and in the rainy season they move further into the forest.

The male carries the tadpoles, two to four at a time, to shallow, slow-flowing streams with clear water, a sandy bottom and fallen leaves.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about keeping *Ameerega macero*. The species is kept like the equally large *Ameerega petersi*, with which it was long confused, and the figures for enclosure and climate are borrowed from that species. *Allobates femoralis* lives in the same forests around Manu.

An enclosure of at least 45 × 45 × 45 cm (length × width × height) suits a pair. The male needs room for a territory, and the frogs like to climb a little on roots and fallen branches. Bigger is better, especially if the animals are to breed. Glass holds the humidity, but the lid or front needs mesh panels so the air does not stand still.

Build the floor as a bioactive substrate: a drainage layer of clay balls or gravel at the bottom, a mesh as a divider, and above it a moist mixture of coconut fibre, orchid bark and sphagnum. Add a thick layer of leaf litter on top; it is the frog's natural habitat, holds the moisture and provides cover. Springtails and isopods eat waste and are also extra food. Furnish with ferns, moss, cork bark and roots so there are plenty of hiding places and broken lines of sight. This reduces conflict between the animals.

Read more: Humidity, misting and ventilation Read more: Terrarium construction and bioactive substrate Read more: Feeder animals: keeping and breeding

TEMPERATURE

The daytime temperature is 25-28 °C, and at night it is lowered by 3-4 degrees to 21-25 °C. Animals from the higher parts of the range tolerate cooler nights, and the low end of the range suits best. A winter rest is not necessary.

Frogs are sensitive to heat: sustained temperatures above 28 °C are dangerous, and a steady temperature matters more than the exact figure. Place the enclosure out of direct sun, use a thermostat if the room is too cold, and move it to a cooler room if it cannot be kept below 28 °C in summer. Measure the temperature with a digital thermometer down in the enclosure.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity should be 70-100 %: close to 100 % in the morning and evening, preferably with mist, and about 70-80 % in the middle of the day. Spray with reverse osmosis or rain water morning and evening, or use a misting or rain system on a timer. A last spray in the evening gets hidden feeder insects moving.

Keep the air moving with good ventilation so that mould does not develop. If it gets too dry, the frogs withdraw into hiding and the skin dries out. This can become dangerous within a few days, so raise the humidity at once.

WATER AND WATER QUALITY

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

Use reverse osmosis water, rain water or dechlorinated tap water. Amphibians absorb water and substances through the skin, so avoid soap, cleaning products and chlorine in the enclosure. Avoid waterfalls with a pump, which can fail and contaminate the water.

LIGHTING AND UVB

Provide an LED light with a plant-suitable spectrum for 10-12 hours a day. UVB is not necessary for poison frogs; a weak UVB light (Ferguson zone 1) is optional.

Give the frogs shade and cover so they can retreat from the light. Choose a light that does not noticeably heat the enclosure.

Read more: Lighting and UVB

FEEDING

In the wild the frog eats ants, beetles and small larvae of 2-7 mm. In the enclosure use wingless fruit flies (*Drosophila melanogaster* and *D. hydei*), springtails, small isopods, micro crickets and sifted meadow plankton. Springtails and isopods in the enclosure give the frogs something to hunt at all times. The species is not among the smallest poison frogs, so adults take *D. hydei* easily.

Feed juveniles every day and adults three to four times a week with as many flies as they eat in a short time. Dust the food with calcium at every meal and with a multivitamin supplement once or twice a week.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

The males call from the ground or from low trunks and probably defend small territories, as their relatives do. In the wild, about ten adults per 1,000 m² may live along a stream. How *Ameerega macero* behaves in groups in the enclosure has not been described, so a pair is the safest way to keep them. Juveniles can be kept together until they reach sexual maturity.

Poison frogs should be handled as little as possible: the skin is thin and sensitive, and stress weakens them. When cleaning, move the animals in a moistened, clean container, and wash your hands before and after. Never mix species or forms, as this can spread disease and cause stress.

Breeding

SEXUAL MATURITY AND SEXING

The female grows larger, about 30 mm against about 27 mm in the male, and the male is recognised by his call. The sex can only be determined when the animals approach sexual maturity, and the age at sexual maturity is not documented. Keep four to five juveniles so that there is very likely a pair among them.

MATING

Mating has not been described for *Ameerega macero*. The males call for most of the year, and males carry tadpoles around October at the end of the dry season, among other times. In the enclosure, a short period of less spraying, with the humidity falling to about 70 %, followed by heavy spraying may trigger egg laying.

EGGS AND TADPOLES

The female lays the eggs on the ground in the leaf litter, under leaves and in small hiding places; a film canister or a Petri dish under half a coconut shell can be used as a laying site. The number of eggs and the developmental times are not documented for the species; the figures are borrowed from the slightly smaller *Ameerega bilinguis*: 4-16 eggs per clutch. The male carries two to four tadpoles at a time to water.

In the enclosure the tadpoles are moved to small containers with reverse osmosis or rain water at 24-26 °C, preferably one tadpole per container, with a few fallen leaves on the bottom. They are fed on algae, plant food and prepared tadpole food.

METAMORPHOSIS

The eggs hatch after 10-22 days, and the tadpoles reach metamorphosis after 70-90 days (borrowed from *Ameerega bilinguis*). During metamorphosis the young are at first completely black; then the pale side stripes, the thigh spot and the blue belly appear, and finally the stripes become yellow-green and the back red. When the front legs appear, keep the water shallow, and provide easy access to land and moist hiding places so that the little frogs do not drown.

REARING THE YOUNG

The newly metamorphosed young measure 10-13 mm and are fed the smallest feeder insects, for example fruit flies of the species *Drosophila melanogaster* and springtails, and later *D. hydei*. Feed them daily, and dust with calcium and vitamins. Keep them humid, and give them plenty of leaf litter and small hiding places. Juveniles can be kept together as long as there is enough space and food; as they approach sexual maturity, they should be split up into pairs.

Health and common mistakes

The husbandry mistakes are the same as in other poison frogs:

- Desiccation: too low humidity causes lethargy and dry skin. Raise the humidity and spray at once.
- Overheating: sustained temperatures above 28 °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 there are swellings, redness or sores on the skin, it needs a vet with amphibian expertise.
- Poor hygiene: clean the water dish and remove mould regularly, and quarantine new animals before they join 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.