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POISON DART FROGS

Silverstone's Poison Frog

Ameerega silverstonei

Ameerega silverstonei is an orange-red poison dart frog of about 4 cm, known only from the Cordillera Azul on the eastern slopes of the Andes in Peru. It lives in cool mountain forest at about 1,300-1,500 m, is threatened by habitat loss and is rarely kept. Its care requires a cool enclosure.

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

KEY FACTS

THE ANIMAL

Adult size	**4-5 cm** snout-vent length
Lifespan	**8-12 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	**50 × 50 × 50 cm** L × W × H for 2 adults
Temperature, day	**20-24 °C**
Temperature, night	**17-20 °C**
Humidity	**70-100%**
Water	**Water dish** depth 1-2 cm
UVB	**Optional** Ferguson zone 1
Diet	**Insects and 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**
Sexually mature	**15-16 months**
Eggs per clutch	**30-45**
Hatching	**30 days**
Larval period	**55-60 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	**Endangered (EN)**

About the species

Ameerega silverstonei is a relatively large poison dart frog. Males measure about 38 mm from snout to vent, females slightly more, up to 43-45 mm. The head and back are yellow, orange or orange-red, often with black spots or marbling, especially towards the rear. The hind legs are mostly black, while the forelegs and underside vary from black to orange. The tadpoles are grey to brownish-black and develop yellow areas with age. The young acquire their full adult colour after about 12 months.

The species was described in 1979 by Charles Myers and John Daly and has previously been placed in the genera *Dendrobates*, *Phyllobates*, *Epipedobates* and *Phobobates*. It is related to *Ameerega bassleri* and *Ameerega cainarachi*, which also live in Peru. Males call with a call reminiscent of a woodpecker tapping and are territorial in the breeding season. The species is shy.

The skin contains pumiliotoxin alkaloids, but not the far more potent batrachotoxins found in some other poison dart frogs. The toxins come from the diet in the wild, so skin toxicity is mild in wild-caught animals and essentially disappears in animals fed on cultured feeder insects. Always wash your hands after contact.

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

Distribution and habitat

Ameerega silverstonei is endemic to Peru and is known from the Cordillera Azul in the Huánuco region, where the type locality lies at 1,330 m, about 30 km north-east of Tingo María. The species occurs from about 1,300 m up to about 1,500 m. The range may be larger than the few known localities, and the species occurs in Cordillera Azul National Park. The species has been introduced near Tarapoto in San Martín, but it is not known whether the population has survived; it is not included in the range.

> **Native range:** Peru.

HABITAT

Ameerega silverstonei lives on the floor of humid mountain forest on the eastern slopes of the Andes, in the shade among moss, spikemoss (*Selaginella*) and leaf litter, preferably by small, cool, slow-flowing streams. In many places the forest has been cleared, and the species lives in small forest remnants along the streams. The climate is cool: even on sunny days it is about 20 °C in the middle of the day, and at night the temperature often falls to about 10 °C. The temperature varies only 1-2 °C between the seasons. The air is humid, often with mist in the morning and evening. The tadpoles grow up in temporary pools and water-filled crevices.

In the rainy season the species is also seen on open grassland, where the sun can produce 28-32 °C for short periods. This is not a temperature at which it can be kept.

The habitat is threatened by clearance for cattle farming, tea plantations and illegal cultivation, and the species has been collected illegally for the pet trade.

Care

THE ENCLOSURE

Little is known about the care of *Ameerega silverstonei*. What is known is based on the climate of the mountain forest at about 1,300-1,500 m: cool, humid and stable all year round. The daytime temperature should be 20-24 °C, so the species needs a cool room and does not tolerate living-room warmth. *Ameerega bassleri* lives in the same part of Peru and must also be kept cool.

A pair needs at least 50 × 50 × 50 cm; a group needs at least 100 × 50 × 50 cm. The species readily climbs, so set it up on several levels with branches and cork bark. Build the base with a drainage layer of expanded clay pebbles or gravel, a moisture barrier and a damp soil layer covered with a thick layer of leaf litter, moss and plants that thrive in cool conditions. Provide many hiding places, for example cork tubes and half coconut shells, so that the shy animals can retreat. Provide ventilation so that the air does not stand still, without losing the humidity.

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

TEMPERATURE

By day the temperature should be 20-24 °C, preferably at the cool end, and at night 17-20 °C. It must not rise above 25 °C. Cool air is not a problem as long as the fluctuations are small. A cool room, a cool position or a fan may be necessary in summer. There is no winter rest; the climate in the range varies only slightly over the year.

HUMIDITY AND MISTING

Humidity should be 70-100 %: about 70 % in the middle of the day and close to 100 % in the morning and evening. Spray 1-3 times a day with rainwater or reverse osmosis water, or use a rain system and possibly a fogger. The leaf litter and moss should be damp but not waterlogged, and excess water must be able to drain into the drainage layer. Dry leaves and dry moss are signs that the humidity is too low.

WATER AND WATER QUALITY

A shallow water bowl with 1-2 cm of water is enough. Use rainwater, reverse osmosis water or dechlorinated water, and change it often. The water should be cool, like the air. Place stones or branches in the bowl so that the young can climb out. Amphibians absorb substances through the skin, so never use cleaning products in the enclosure.

LIGHTING AND UVB

The species lives on the shaded forest floor, so the light should be moderate, with shade available. Fluorescent tubes or LEDs with a plant-friendly spectrum for 10-12 hours a day are enough. The need for UVB has not been documented, but a weak UVB source (Ferguson zone 1) can be used. Take care that the lighting does not heat up the enclosure.

Read more: Lighting and UVB

FEEDING

Ameerega silverstonei takes small to large feeder insects: large fruit flies (*Drosophila hydei*), newly hatched crickets, the smallest waxworms and small insects swept from meadows. Springtails and small isopods supplement the diet. Feed every day or every other day with as much as the animals eat in an hour. Dust the food with calcium at every second feeding and with vitamins 1-2 times a week. Young animals get the smallest feeder insects, for example springtails and small fruit flies, until they are about 3 months old.

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

BEHAVIOUR AND HANDLING

The species is shy and often retreats under leaf litter or cork bark. It can be kept in groups, but the males are territorial, so keep a pair or a group with more females than males. The enclosure should be large enough, and rich enough in hiding places, that the weaker animals can avoid the stronger ones. Frogs should not be handled: the skin is delicate, and handling stresses the animals. When cleaning, move them with a plastic cup.

Breeding

SEXUAL MATURITY AND SEXING

Males are slightly smaller than females, and only the males call. The animals become sexually mature after 15-16 months. The first clutches are often of poor quality and are easily attacked by fungus. A reliable pair is obtained by raising several young together and letting them pair up on their own.

MATING

The male courts intensively and calls with his woodpecker-like call. Stable, humid conditions and spraying that imitates rain can probably trigger mating; a distinct breeding season in the enclosure has not been documented. Keep the pair in an enclosure with many hiding places so that the female can retreat.

EGGS AND TADPOLES

The female lays 30-45 eggs in a tightly packed, single layer under a leaf or other hiding place on the ground. The male guards the eggs until they hatch and then carries the tadpoles on his back to a temporary pool. The tadpoles must be kept cool. Tadpole care is borrowed from *Ameerega hahneli*: cool water at about 19 °C, a weekly change of half the water and algae tablets as food.

METAMORPHOSIS

The eggs hatch after about 30 days. The larval period has not been documented for the species; 55-60 days is borrowed from *Ameerega bassleri* and *Ameerega hahneli*. Keep the water cool so that the tadpoles do not grow too fast. When the front legs appear, lower the water, and provide easy access to damp land so that the newly metamorphosed froglet can climb out.

REARING THE YOUNG

The newly metamorphosed froglets do not yet have their full colour and acquire it after about 12 months. Keep them in a small enclosure of 20 × 20 × 20 cm with damp leaf litter and moss. Give them the smallest feeder insects, for example springtails and small fruit flies, and dust with calcium. After about 3 months they can take larger fruit flies and be moved to a larger enclosure.

Health and common mistakes

No diseases specific to *Ameerega silverstonei* are documented. Typical husbandry mistakes are:

- Too high a temperature. Above 25 °C stresses the species, so provide a cool room.
- Too little humidity, which dries out the skin.
- A lack of calcium and vitamins, which causes weak bones and poor growth.
- Fungus on the first clutches; remove affected eggs quickly.
- Chytrid fungus (*Batrachochytrium dendrobatidis*). New animals are quarantined for at least six weeks.

Lifespan in captivity is not documented; related species live 8-12 years. See a vet with amphibian expertise if a frog becomes lethargic, loses weight or stops eating.

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.

The full guide with map and updates: herpy.org/en/poison-dart-frogs/ameerega-silverstonei