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POISON DART FROGS

Trinidad Poison Frog

Mannophryne trinitatis

Mannophryne trinitatis is a small, brown, diurnal frog of 25-28 mm that occurs only on Trinidad, where it lives by clear, stony streams in humid forest. The male can turn jet black when calling, and the female has a clear yellow throat. The species is hardly ever kept, and little is known about its care.

Family: Aromobatidae Former name: *Phyllobates trinitatis*

KEY FACTS

THE ANIMAL

Adult size	**25-28 mm** snout-vent length
Lifespan	**5-10 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Rainforest and wetland**
Skin toxins	**None known**
Difficulty	**Experienced**

CARE

Min. enclosure	**60 × 40 × 45 cm** L × W × H for 2 adults
Temperature, day	**23-27 °C**
Temperature, night	**20-22 °C**
Humidity	**80-100%**
Water	**Water section** depth 3-5 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	**6-13**
Hatching	**21 days**
Larval period	**40-50 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	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Mannophryne trinitatis is a small, brown frog. Males measure on average 25 mm from snout to vent and females 28 mm. The back is uniformly brown, the flanks are marbled, and a pale stripe runs along each side of the back and a pale stripe in the groin. The species has a sharply defined, dark collar on the throat. The throat shows the sex: grey in the male, clear yellow in the female. The male can change from pale brown to jet black when calling. The tadpoles measure 14-16 mm at hatching and grow to about 37 mm.

Mannophryne trinitatis was described by Samuel Garman in 1888 as *Phyllobates trinitatis*. It belongs to the family Aromobatidae, not to the true poison frogs (Dendrobatidae). The population on the Paria Peninsula in Venezuela was formerly counted as part of the species but is now treated as *Mannophryne venezuelensis*.

Skin toxicity: the species is not known to be toxic, and the toxicity is therefore listed as none. The skin is thin and sensitive all the same, so the frogs should not be handled.

Read more: Rearing tadpoles

Distribution and habitat

Mannophryne trinitatis occurs only on Trinidad (Trinidad and Tobago), in the island's northern mountain range, the Northern Range, and in the hills of the Central Range, including near the Tamana caves.

The species is listed as Least Concern (LC) on the IUCN Red List, but its distribution is poorly mapped. Deforestation, slash-and-burn farming and pollution destroy the habitat in several places.

> **Native range:** Trinidad & Tobago.

HABITAT

Mannophryne trinitatis lives from sea level up into the mountains, by stony streams in valleys, on mountain slopes and in undisturbed, humid montane forest. The streams are narrow and shallow, with slow, clear water and deeper pools where the tadpoles grow up. The frogs stay on the bank and in the leaf litter close to the water.

The climate on Trinidad is tropical and warm, with a dry season from January to May and a rainy season the rest of the year. In the Northern Range it is cooler than in the lowlands, with clouds, mist and heavy rain. The species has no winter rest.

Care

THE ENCLOSURE

Little is known about keeping *Mannophryne trinitatis*. Care is based on the climate and habitat of Trinidad's forest streams and on better-known species from the forest floor and water's edge: *Allobates femoralis* from the same family and *Hyloxalus azureiventris*. Larval period and lifespan are borrowed from *Allobates femoralis*, and the temperatures are an estimate based on the climate.

A pair needs an enclosure of at least 60 × 40 × 45 cm, with more floor area than height, because the species lives on the ground and defends territories. Build up the base with a drainage layer, insect mesh and a moist substrate of coconut fibre and moss. Make a sloping bank with stones and a water section at one end, so that the water can run over the stones and form small pools. Add large stones, bark and leaves as cover and as low calling sites, and plant with moss, ferns and creeping plants.

Both sexes defend territories, so two animals of the same sex should not be kept together.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

The daytime temperature should be 23-27 °C and the night 20-22 °C. Frogs from forest streams tolerate heat poorly, so keep the temperature below 28 °C. The species has no winter rest, but in the wild there is a drier period from January to May.

HUMIDITY AND MISTING

Humidity should be 80-100 %. Mist daily so that leaves and stones are wet. A fogging system makes it easier to keep the humidity stable. Provide ventilation so that the air does not become stagnant. If it becomes too dry, the frogs move right down to the water.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

The species needs a permanent water section with shallow, clean and preferably gently flowing water, 3-5 cm deep, with stones and leaves. A small pump can provide a little current, and the frogs must be able to climb easily onto land. Use rain water, reverse osmosis water or dechlorinated water, because amphibians absorb substances through the skin. Change part of the water every week.

The water section is also where the tadpoles grow up, so it needs a calm, slightly deeper pool without current.

LIGHTING AND UVB

UVB is hardly necessary, but a low dose (Ferguson zone 1) is optional. Plant lighting for 10-12 hours keeps moss and ferns alive. Provide shade with plants and bark so that the frogs can move away from the bright light.

Read more: Lighting and UVB

FEEDING

The species needs small arthropods: small and large fruit flies (*Drosophila melanogaster* and *Drosophila hydei*), springtails and small isopods. Feed daily or every other day in small amounts, and dust the feeder insects with calcium and vitamins a couple of times a week. In the wild the diet consists of small insects and other arthropods.

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

BEHAVIOUR AND HANDLING

Mannophryne trinitatis is diurnal and territorial. Females defend their spots more often than males, with threats, wrestling and chasing, and they display the yellow throat as a threat. Males defend their area by calling from fixed spots, and the body turns black during the call. The frogs should not be handled. Move them in a clean, wet container when cleaning.

Breeding

SEXUAL MATURITY AND SEXING

The sexes are recognised by the throat: grey in the male, yellow in the female. Females are also slightly larger. The age at sexual maturity is not documented. The surest way to a pair is to let two young frogs grow up together.

MATING

The male calls from a distance, displays his throat and rises up on the tips of his toes. The female leaves her territory and seeks him out, and the pair go together to a place where the eggs can be laid. Egg laying follows the rain, so heavier misting can trigger it.

EGGS AND TADPOLES

The eggs are laid on land, in rock crevices or on wet leaves close to the stream. The number per clutch is not documented; females in the Northern Range have 6-13 mature eggs in the ovaries and in the Central Range 12-26. The male guards the eggs until they hatch.

The male carries the tadpoles on his back to the water and deposits them in pools, preferably without predators. Where there are many predators, the transport can take 3-4 days, and he can also use pools of water in plants. He does not breed while carrying tadpoles. The tadpoles feed on algae and decomposing leaves.

METAMORPHOSIS

The eggs hatch after about 21 days, and the tadpoles metamorphose after 40-50 days. When the front legs appear, the water should be shallow and access to land easy, so that the newly metamorphosed froglet does not drown.

REARING THE YOUNG

The newly metamorphosed froglets are small and dark. Give them a humid enclosure with kitchen paper as substrate and moss as cover. Feed them daily with springtails and the smallest fruit flies, dusted with calcium and vitamins. The growth curve is not documented for the species.

Health and common mistakes

Typical mistakes and diseases are the same as in other small frogs that live by water:

- Too high a temperature or air that is too dry: the frog withdraws and loses weight. Cool the enclosure down and mist more often.
- Calcium and vitamin deficiency: weak limbs and deficiency diseases. Dust the food according to schedule.
- Intestinal worms (tapeworms, roundworms and thorny-headed worms) are common in wild animals and cause thinness even though the frog eats. See a vet with experience of amphibians.
- Chytridiomycosis is a fungal disease in amphibians. Keep new animals in quarantine, and wash equipment between enclosures.

- Dirty water in the water section causes bacterial skin infections, so change the water regularly.

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.