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FROGS

Redbelly Toad

Melanophryniscus stelzneri

Melanophryniscus stelzneri is a small toad, 2-4 cm long, from grassy hills in Argentina, black with yellow spots on the upper side and red markings on the belly and under the feet. It is active by day, walks rather than hops and is hardy, as long as the air is not too humid. The animals in the trade are often the close relative *Melanophryniscus klappenbachi*.

Family: Bufonidae Former name: *Phryniscus stelzneri; Atelopus stelzneri; Bufo stelzneri; Dendrophryniscus stelzneri*

KEY FACTS

THE ANIMAL

Adult size	**2-4 cm** snout-vent length
Lifespan	**10 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Savanna and rocky terrain**
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	**50 × 25 × 30 cm** L × W × H for 4 adults
Temperature, day	**20-25 °C**
Temperature, night	**15-20 °C**
Humidity	**50-70%**
Water	**Water dish** depth 1-2 cm
UVB	**Optional** Ferguson zone 1
Winter rest	**13-16 °C** 2-3 weeks
Diet	**Insects and small invertebrates (springtails, fruit flies)**
Kept	**In pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles in water**
Egg-laying site	**In water**
Sexually mature	**12-24 months**
Eggs per clutch	**200-250**
Hatching	**3-5 days** at 23 °C
Larval period	**40-50 days** from hatching to metamorphosis
Larval diet	**Complete diet**
Parental care	**None**

PROTECTION AND PAPERWORK

CITES	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Melanophryniscus stelzneri is a small, compact toad. The upper side is black with yellow or yellowish-green spots and stripes, and the belly and the undersides of the feet are red and black. The strong contrast is a warning to predators. Males are 2-3 cm from snout to vent, females 3-4 cm, and females are clearly larger and rounder.

The toad moves mostly by walking and crawling instead of hopping. It climbs clumsily and often falls, but without being hurt. The male calls with a melodious, trilling sound reminiscent of a canary. The animals are active by day, explore constantly and are not shy, but also spend long periods in hiding.

M. stelzneri was described in 1875 as *Phryniscus stelzneri*. The species name honours the German geologist Alfred Wilhelm Stelzner, who stayed in Argentina. There are two subspecies, *M. s. stelzneri* and *M. s. spegazzinii*, and two former subspecies are now regarded as separate species: *Melanophryniscus dorsalis* and *Melanophryniscus fulvoguttatus*. The name is used in the trade for several black-and-yellow toads of the genus, and the animals from Paraguay, which for many years were sold as *M. stelzneri*, are *Melanophryniscus klappenbachi*. It is therefore often unclear which species a toad in the trade really is.

In the wild the toads are poisonous. The toxin is built up from alkaloids in the food, especially ants and mites, and in captivity the toads lose it. Captive-bred animals are non-toxic. How strong the toxin is in this particular species has not been documented, so wash your hands after contact with wild-caught animals, and do not touch your eyes and mouth.

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

Distribution and habitat

Melanophryniscus stelzneri is found only in Argentina. The species was first found in Córdoba and is now known from the provinces of Córdoba, San Luis and Salta. Whether it also occurs in Bolivia is unresolved.

Older records of the species from Paraguay, Uruguay and southern Brazil apply to other species of the genus; the toads from Paraguay are *Melanophryniscus klappenbachi*.

> **Native range:** Argentina.

HABITAT

Melanophryniscus stelzneri lives in hilly grassland with rock outcrops, about 500-1,000 metres above sea level. The climate is cooler and drier than in the rainforest, with hot summers, cool winters and most rain in summer. The toads stay beside, but not in, flowing water.

The breeding season begins in October, when the heavy spring downpours form temporary streams and ponds. The species breeds explosively: the toads gather for a few days and lay eggs in shallow water in ponds, streams, marshes and roadside ditches. The food consists of small arthropods, especially ants, mites and termites.

Care

THE ENCLOSURE

Little is known about the care of *Melanophryniscus stelzneri* itself. The care and breeding described here are based on *Melanophryniscus klappenbachi*, which is kept and bred in large numbers and has the same requirements; the figures are borrowed from it.

An enclosure of 50 × 25 × 30 cm (about 35 litres) is enough for four adults. Allow about 10 litres per animal, never under 20 litres, and no more than 10 animals in the same enclosure regardless of size. The toads do not use much space, but they walk around the whole floor, so floor area matters more than height.

Furnish the enclosure so that it is airy and not like a rainforest enclosure. The substrate can be coconut fibre, topsoil or gravel with leaves, as long as it can be kept slightly damp without becoming wet. Lay out cork bark and leaves as hides, as the toads spend many hours hidden. Moss at one end provides a damp corner, so that there are both dry and damp places. Live or artificial plants, for example *Epipremnum aureum*, decorate, and the toads like to climb a little in them.

Ventilation is essential. A mesh lid over the whole enclosure lets the moisture escape and prevents the air from standing still. Remove dead leaves and food remains every week.

TEMPERATURE

By day the temperature must be 20-25 °C, and at night it may fall to 15-20 °C. Ordinary room temperature is the best starting point. *Melanophryniscus stelzneri* briefly tolerates down to 7 °C and up into the low 30s without harm, but is then less active and seeks cover.

No heat lamp or heat mat is needed, and the enclosure must not stand in the sun in a window. Measure the temperature with a thermometer in the enclosure.

The winters are cool in the wild. A cooling period of 2-3 weeks at 13-16 °C without misting and with half rations increases the chance that the females develop eggs (see Mating).

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity is kept at 50-70 %. This is the most important point in the care: *Melanophryniscus stelzneri* does not tolerate persistent humidity above about 70 %. The animals become lethargic, hide and are weakened, and this is the most common reason why the toads die. Let the humidity fluctuate, so that the substrate dries out a little between mistings.

Mist lightly once a day, preferably in the evening, with dechlorinated or reverse-osmosis water, and keep the moss in the damp corner moist. Check the humidity with a hygrometer. If the air is too dry, the animals become lethargic and retreat into the damp corner.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

There must always be a shallow, wide water bowl in the enclosure with 1-2 cm of water. The toads swim clumsily and can drown in deeper water, so place stones or cork in the bowl, so that they can easily climb out. They like to sit in the bowl and absorb water through the skin.

Use dechlorinated or reverse-osmosis water, and change the water every day, as it quickly becomes dirty. Rinse the bowl at each change, with hot water only and no cleaning agents, as amphibians absorb substances through the skin.

LIGHTING AND UVB

Light is only needed for the plants. There is nothing to show that the species needs UVB, but a weak UVB tube for Ferguson zone 1 (UV index under 1) may be an advantage. The light follows an ordinary day-night rhythm. Provide shade and hides, so that the animals can choose for themselves, and use light that does not heat the enclosure.

Read more: Lighting and UVB

FEEDING

Melanophryniscus stelzneri eats small live feeder animals, in the wild especially ants, mites and termites. In the enclosure, fruit flies (*Drosophila hydei*), springtails, small woodlice, the smallest black soldier fly larvae, newly hatched crickets and small cockroach nymphs suit it. The toads are eager eaters and eat a lot relative to their size, more than a poison dart frog of the same size. Always keep plenty of small feeder animals in the enclosure; juveniles are fed daily.

Dust the food with a calcium and vitamin supplement. Your own cultures of fruit flies and springtails give the most stable supply.

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

BEHAVIOUR AND HANDLING

The toads are peaceful towards each other, are not territorial and can be kept in groups of up to 10. The males call, especially when it is humid, for example after heavy misting.

Melanophryniscus stelzneri is active by day, but hides for long periods if the air is too humid or too dry. The toads should not be handled, as the skin is delicate. If an animal needs to be moved, it is caught in a moistened cup. Stressed animals are lethargic and stay hidden all day.

Breeding

SEXUAL MATURITY AND SEXING

From about 10-12 months of age the sexes can be told apart: females grow 1.5-2 times as large as males and are much rounder, while males are slimmer and call, especially when it is humid. The toads become sexually mature after 1-2 years. Captive-bred animals are recognised by the red spots on the hindquarters and under the feet being yellow; wild-caught animals have red spots.

MATING

Breeding imitates the spring rains. First the food is halved for a couple of weeks, and then the animals are cooled for 2-3 weeks at 13-16 °C without misting, but with access to a water bowl. Then the temperature is raised to room temperature, misting is resumed, and the food is doubled or tripled. After one to two weeks the mature females are clearly full of eggs.

Now all the animals are moved to a rain chamber: a tank of about 90 × 45 × 40 cm with 5 cm of gravel on the bottom, sponge filters driven by an air pump, and water at 23 °C and 25 cm deep. The water is a mixture of reverse-osmosis water and peat extract with a pH of about 6.5 and a little sea salt. Floating cork bark with moss gives the animals somewhere to sit, and plastic plants in the corners help them out of the water. Set up the rain chamber several weeks in advance, so that the beneficial bacteria have time to establish. The males begin to call almost immediately, and mating takes place within a day.

EGGS AND TADPOLES

The eggs are laid 1-3 days after the animals have been put in the rain chamber, in long, grey strings of about 200-250 eggs, which hang on moss and plants a few centimetres below the surface. The number of eggs per clutch is not documented for the species; in *Melanophryniscus klappenbachi* there are several hundred. There is no parental care.

Remove eggs that are not attached, as they are easily attacked by fungus, which infects the healthy eggs. Fertilised eggs develop a small furrow within 12 hours and resemble small tadpoles after two days.

Read more: Rearing tadpoles

METAMORPHOSIS

The eggs hatch after 3-5 days at about 23 °C. The newly hatched tadpoles are 3-4 mm long and lie still on the bottom for a few days while they absorb the yolk. Only when they swim around should they be fed.

The tadpoles are fed daily with prepared food in gel form, and half of the water is changed every day, so that water quality is kept high. After 5-6 weeks the hind legs appear and 5-7 days later the front legs, about 40-50 days in all. Then the small toads climb onto cork and moss. They are completely black and no larger than a fruit fly. Take them out of the rain chamber as soon as they have left the water, as they drown easily.

REARING THE YOUNG

The newly metamorphosed young are moved to a plastic box of about 60 × 40 × 15 cm with a thin layer of damp coconut fibre, a couple of handfuls of damp sphagnum as hides and a glass plate as a lid, as they need higher humidity than the adults. They are fed daily with springtails dusted with calcium and vitamins. The young grow quickly and eat an incredible amount, and the most common mistake is giving too little food.

After 8-10 weeks the young can eat small fruit flies (*Drosophila melanogaster*). Then they are moved to a smaller, ventilated box with coconut fibre that is just dry enough not to clump when squeezed, a small pile of damp sphagnum as a damp hide and 60-65 % humidity at 23-24 °C. Mist once in the evening.

Health and common mistakes

The typical problems result from mistakes in husbandry:

- Too high humidity for a prolonged period makes the animals lethargic and is the most common cause of death. Prevent with good ventilation and moderate misting.
- Too little food, especially in juveniles. Always keep plenty of small feeder animals in the enclosure.
- Lack of calcium and vitamins causes weak and deformed limbs. Dust the food with supplements.
- Wild-caught animals more often have parasites and diseases than captive-bred ones and should be examined. Choose captive-bred animals.
- Drowning in water that is too deep. Keep the water shallow, and provide an easy way up.

See a vet with amphibian expertise if an animal loses weight, is lethargic or develops redness, sores or swellings in 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.