herpy

FROGS

Guibé's Mantella

Mantella nigricans

Mantella nigricans is a small, diurnal frog from the forests along streams in northern and north-eastern Madagascar. It grows to 28 mm and is patterned in green, brown and black with a black belly and blue spots. The species is closely related to *Mantella baroni*, is kept like it and tolerates a wider temperature range than many species in the genus.

Family: Mantellidae

KEY FACTS

THE ANIMAL

Adult size	**27-28 mm** snout-vent length
Lifespan	**5-10 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	**Beginner**

CARE

Min. enclosure	**45 × 45 × 30 cm** L × W × H for 4 adults
Temperature, day	**21-24 °C**
Temperature, night	**16-18 °C**
Humidity	**70-100%**
Water	**Water dish**
UVB	**Optional** Ferguson zone 1
Diet	**Small invertebrates (springtails, fruit flies)**
Kept	**In groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles in water**
Egg-laying site	**On the ground**
Sexually mature	**12-18 months**
Eggs per clutch	**50-130**
Hatching	**3-12 days**
Larval period	**42-56 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**None**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Least Concern (LC)**

About the species

Mantella nigricans is a small, dark frog with a green or brown back, or a mixture of the two colours. There are at least two forms: one with a green head that turns brown down the middle of the back, and one with an entirely black or dark brown head and back and only green spots at the base of the legs. The sides are black or partly green with large green spots. The belly is black with blue spots. Unlike many other species in the genus, it lacks the pale stripe along the side of the head and the horseshoe-shaped pale marking on the throat. It is a warning coloration: frogs of the genus are poisonous to predators.

The species reaches 27-28 mm from snout to vent and is thus medium-sized for the genus. The females are usually larger and plumper than the males. *M. nigricans* resembles *Mantella pulchra* and *Mantella baroni*, but lacks the red markings on the hind legs. It was described in 1978 by Jean Guibé as a subspecies of *Mantella cowanii* and was raised to a full species in 1999. A form described in 1981 as a subspecies of *Mantella madagascariensis* is now included in that species. The species is very close to *Mantella baroni* and is regarded by some as its northern colour form.

Toxins (alkaloids) in the genus come from the ants and mites the frogs eat, and they are not produced by the frogs themselves. Frogs of the genus lose the poison over time in captivity. The poison is not particularly dangerous to humans, but contact should be avoided, and hands washed after any contact with animals or enclosure. Lifespan is not documented for the species; the figure in captivity is borrowed from *Mantella baroni*.

Distribution and habitat

Mantella nigricans is found only in Madagascar, where the whole genus is native. The species is widespread and numerous in the northern and north-eastern part of the island, among other places in the Tsaratanana massif and in Marojejy National Park.

The species is listed as Least Concern on the IUCN Red List because the range is relatively large and the species is probably numerous. It has not been found in disturbed forest or in open terrain, so clearance of forest is a threat. The species is on CITES Appendix II.

> **Native range:** Madagascar.

HABITAT

The frog lives in the leaf litter in rainforest and at forest edges along streams, at 100-1,240 metres above sea level, and stays mostly on the ground near running water. It is active during the day. The males call with short, single clicks.

The animals are most active in the wettest time of year, from December to February. When the rain stops and the cooler, dry months arrive, they become less visible and live hidden in the leaf litter. The eggs are laid on land close to water, and heavy rain washes the developed tadpoles into the water. The climate in the forests is humid and relatively cool, and the enclosure should imitate this.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Mantella nigricans*, which is only rarely kept. It is cared for like the close relative *Mantella baroni*, and enclosure size, clutch, larval period, sexual maturity and lifespan are borrowed from it.

Four adults need an enclosure of at least 45 × 45 × 30 cm, and more animals require more floor area. The frog lives on the ground, so floor area is more important than height. The males defend territories, so choose a larger rather than a smaller enclosure with many visual barriers.

A simple setup is a base of wet sphagnum or a thin, damp soil mix with a layer of leaf litter, some pieces of cork bark, plants and a shallow water dish. For a living enclosure, first lay a drainage layer of gravel or expanded clay pebbles, then a mesh, and on top several centimetres of soil. Do not use garden soil with fertiliser, and rinse the plants thoroughly for pesticides. Provide many hides in the form of bark, driftwood or half flowerpots. The lid must fit tightly enough to retain humidity, but part of it must be mesh so the air does not stand still.

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

TEMPERATURE

During the day the temperature should be 21-24 °C and at night 16-18 °C. The species does well in a wider range than many species in the genus, and 19-26 °C is fine, but longer periods above 26 °C must be avoided. The night temperature is borrowed from *Mantella baroni*.

Most living rooms are suitable, but a south-facing windowsill is not. Use LED or other light that does not give off heat over the enclosure, and measure the temperature with a digital thermometer at the animals' level. A proper winter rest is not documented for the species.

HUMIDITY AND MISTING

The species lives along streams in rainforest and needs more humidity than *Mantella baroni* and the species that come from dry regions: 70-100 % all year round. Mist the enclosure daily with decalcified water, heavily in warm weather and less when it is cold. The substrate should be damp, but not waterlogged. Feel free to put glass or plastic over parts of the mesh lid to hold the humidity, but make sure that part of the air can still move. If the air is too dry for a longer time, the skin dries out and the animals lose weight.

WATER AND WATER QUALITY

Place a shallow water bowl in the enclosure, and keep it full at all times. The frogs are poor swimmers, so the bowl must be so shallow that they can easily get out, and it must not take up much of the floor. The depth is not documented for the species, but at most a couple of centimetres is plenty.

Amphibians absorb water and substances through the skin, so use only rainwater, reverse osmosis water with added minerals or tap water treated against chlorine, chloramine and heavy metals. Change the water every day or every other day, and scrub the bowl clean without using cleaning products.

LIGHTING AND UVB

No UVB requirement is documented for the species. A weak UVB light (Ferguson zone 1) is optional and is probably an advantage, provided there is shade and plants so the animals can choose. Light for the plants should not give off heat. Keep the light on for 10-12 hours a day, and keep it dark at night.

Read more: Lighting and UVB

FEEDING

Mantella nigricans is an eager hunter and prefers crickets and large fruit flies (*Drosophila hydei*) to small fruit flies and springtails. In the wild the diet consists mainly of ants, mites and other small arthropods. In the enclosure it is fed small arthropods of up to about 6 mm: crickets of 3-6 mm, springtails, woodlice, cultured wingless fruit flies, aphids, small cockroach nymphs, termites and lesser mealworm larvae. Variety prevents deficiencies.

Give 5-15 feeder insects per frog every other day, and adjust according to how plump the animals are. In cool weather one feeding a week is enough. Spread the food in several places, otherwise weak males are chased away from the food by the strong ones. Dust the feeder insects with calcium and vitamin powder at every second or third feeding, and at every feeding for juveniles. The amounts are borrowed from *Mantella aurantiaca*. Fruit flies and newly hatched crickets are seldom available in ordinary pet shops, so they should be cultured yourself or ordered from a large supplier.

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

BEHAVIOUR AND HANDLING

Mantella nigricans is diurnal and lives mostly on the ground near running water. The animals are rather withdrawn, and the males often call half hidden under dead leaves. Once they are out, however, they are bold and stay put even when a hand is working in the enclosure. The males call with a short, metallic click after feeding and misting, defend territories and may wrestle with one another. The animals are best kept in a small group with many hides and plenty of space.

Frogs should as far as possible not be handled. The skin is delicate and absorbs substances from the hands. If a frog has to be moved, use a small, clean plastic container. Newly bought, wild-caught animals are often emaciated and have parasites, so they must be quarantined for several weeks in a simple enclosure.

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

Breeding

SEXUAL MATURITY AND SEXING

The males are recognised by their call and are smaller and slimmer than the females. Age at sexual maturity is not documented for *Mantella nigricans*; 12-18 months is borrowed from *Mantella baroni*. A group with more males than females breeds most easily. The surest way to get both sexes is to buy a small group of juveniles and let them grow up together.

MATING

Mantella nigricans has only rarely been bred in captivity, and the method is borrowed from the genus. Mating follows the rainy season, and an artificial dry season of a few months with less misting and food, followed by heavy daily misting, triggers breeding behaviour. During the dry season keep an eye on the animals' weight, and end it if some look poorly. When misting is increased again, the males begin to call.

EGGS AND TADPOLES

The female lays the eggs on land, in damp hollows close to water. Clutch size is not documented for the species; 50-130 eggs is borrowed from *Mantella baroni*. Often only some of the eggs are fertilised.

The eggs are taken up and placed on damp sphagnum in a closed container. When small tadpoles can be seen in the jelly, water is poured on so that the egg mass is flooded and the tadpoles swim freely. After a couple of days they are moved to an established aquarium with a sponge filter. There is no parental care. For the first few days the tadpoles live off the yolk. After that they are fed daily or every other day with algae such as spirulina and chlorella, fish flakes and daphnia. For the first few weeks the water should be 3-5 cm deep, later up to about 10 cm, at 18-26 °C and treated against chlorine and heavy metals. Do not overfeed, because the water then deteriorates.

METAMORPHOSIS

The eggs hatch after about 3-12 days, and the tadpoles develop legs after 6-8 weeks (42-56 days). The figures are borrowed from *Mantella baroni* and are not documented for the species itself. Tadpoles from the same clutch develop at different rates, and in cooler water it takes longer.

When the front legs appear, the tadpole is moved to a container with at most 1 cm of water and a tight-fitting lid. When the tail is being absorbed, the little frog is moved to an enclosure with damp kitchen paper and a hide.

REARING THE YOUNG

The newly metamorphosed frogs are very small and need plenty of small arthropods. For the first few weeks they are fed newly hatched springtails, later small fruit flies and crickets of 3 mm. Keep them in small containers in groups of two to five, and dust the food with calcium and vitamins at every feeding. When they are 2-3 months old, they can be moved to a larger enclosure, and they are cared for like the adults. The fully developed colours come after a few months.

Health and common mistakes

Like the rest of the genus, *Mantella nigricans* is sensitive to heat and dryness, and most problems come from wrong climate or food. The typical mistakes are:

- Too high a temperature. A longer period above 26 °C causes stress and poor appetite and can kill the animals. Keep the daytime temperature at 21-24 °C.
- Air that is too dry or misting that is too infrequent, which dries out the skin. The animals lose weight.
- Lack of calcium and vitamins because the feeders are not dusted. This causes poor growth and crooked legs.
- Weak animals that are chased away from the food by the strong males. Feed in several places.
- A dirty substrate and stagnant air, which cause bacteria and fungus. Change the substrate and clean the water dish regularly.
- Wild-caught animals, which often arrive emaciated and with parasites. Quarantine and a vet are necessary.

A healthy animal has clear eyes and a plump body and is active by day. See a vet with amphibian expertise if the animal loses weight, does not eat for several weeks, or has sores or swellings.

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/frogs/mantella-nigricans