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FROGS

Beautiful Mantella

Mantella pulchra

Mantella pulchra is a small, diurnal and rather shy frog from the humid forests and swamps of east-central Madagascar, brown with pale green spots and a more subdued pattern than its brightly coloured relatives. The females grow to 25 mm. It feeds on ants and other small arthropods and needs a cool, humid enclosure with many hides.

Family: Mantellidae

KEY FACTS

THE ANIMAL

Adult size	**20-25 mm** snout-vent length
Lifespan	**4-8 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Rainforest and wetland**
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 × 30 cm** L × W × H for 4 adults
Temperature, day	**20-24 °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	**12-30**
Hatching	**3-12 days**
Larval period	**56-112 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**None**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Near Threatened (NT)**

About the species

Mantella pulchra is a small, compact frog with a subdued pattern. Compared with the better-known, brightly coloured species in the genus, it looks like a browner, washed-out version of *Mantella madagascariensis*: the contrasting orange and black legs are replaced by a pattern in shades of brown. The back is brown, and the head is black to dark brown, becoming paler towards the snout, where it is pale sandy brown at the very tip. At the base of the forelimbs and hind legs there are green spots, blue in a few animals. The pattern varies considerably from animal to animal. The Latin species name means "beautiful". The species was described in 1925 by Hampton Wildman Parker.

The species reaches 20-25 mm from snout to vent. The females are largest, reaching 25 mm, while the males are smaller and more slightly built. The animals are known to be rather shy, but they readily come out when food appears.

Mantella pulchra is confused with *Mantella madagascariensis* and *Mantella baroni*, which have almost the same build but clearly orange and black legs. *Mantella nigricans* is another brown species that at first glance can resemble an unusually green *Mantella pulchra*. Animals in the trade are often mixed up, but *M. pulchra* is recognised by its brown legs.

As throughout the genus, there are toxic alkaloids in the skin. The frogs do not produce them themselves, but take them up from the ants and mites they eat in the wild. The poison is not particularly dangerous to humans, but contact should be avoided, and hands washed after any contact with animals or enclosure. In animals of the genus fed on cultured feeders, the poison appears to disappear over time, so captive-bred animals are regarded as non-poisonous. Lifespan is not documented for the species; 4-8 years in captivity is borrowed from *Mantella aurantiaca*.

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

Distribution and habitat

Mantella pulchra is found only in Madagascar, in the rainforest of the east-central part of the island, with most records around Moramanga in the Alaotra-Mangoro region. In some places it lives alongside *Mantella baroni*. The altitude is not documented.

The species is Near Threatened (NT) on the IUCN Red List. The threats are loss of forest and wetlands to agriculture, grazing, logging and charcoal burning, as well as settlement and introduced species. How much collection for trade matters is unclear. The species is on CITES Appendix II together with the rest of the genus.

> **Native range:** Madagascar.

HABITAT

Mantella pulchra lives in humid tropical and subtropical lowland forest and in swamps, often near streams. It moves among leaf litter, stones and moss and is active during the day, when it hunts small arthropods.

The genus has a rainy season and a cooler dry season and is most active in the wettest period from December to February, when the males call to defend territories, and the females feed themselves up on ants and mites. When the rain stops and the cooler months arrive, the animals become less visible and live hidden in the leaf litter. In the genus the eggs are laid on land in damp hollows close to water, and heavy rain washes the developed tadpoles into the water. The enclosure is therefore set up as a cool, humid forest-floor enclosure.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about the care of *Mantella pulchra*, and the species is rarely bred in captivity. It lives on the forest floor in a humid and relatively cool climate and is kept like its close relatives *Mantella aurantiaca* and *Mantella madagascariensis*. Enclosure size, humidity, clutch, larval period and lifespan are borrowed from them.

Four adults need an enclosure of at least 45 × 45 × 30 cm (length × width × height), and more animals require more floor area. The frog lives on the ground, so floor area is more important than height. The males are territorial and fight over positions, so choose a larger rather than a smaller enclosure. The species is shy and hides a great deal when there is no food, so many hides and dense planting are especially important: the more secure the animals feel, the more often they come out.

A simple setup is a base of damp sphagnum, some pieces of cork bark, artificial or live plants and a small, shallow water dish. Damp kitchen paper can be used instead, but must be changed often, sometimes daily. 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 and leaf litter. Do not use ordinary garden soil with fertiliser, and rinse the plants thoroughly for pesticides. The lid must 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 20-24 °C, and at night it may fall to 16-18 °C. The species tolerates 19-25 °C without problems, but a longer period above 25 °C causes stress and disease and can kill the animals. In a cool dry season the temperature may fall to 15 °C.

Most living rooms are suitable all year round, but a south-facing windowsill is not. Be careful with lamps over the enclosure, especially if there are live plants: use LED or other light that does not give off heat. Measure the temperature with a digital thermometer at the animals' level. A proper winter rest is not documented, but a cooler and slightly drier period triggers breeding behaviour (see Mating).

HUMIDITY AND MISTING

Humidity should be high most of the time, 70-100 %. Mist the enclosure with dechlorinated water every day, heavily in warm weather and a little 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, and make sure that the air can still move.

Weeks or months of drier conditions followed by heavy misting can trigger breeding behaviour. If the air becomes 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, 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 when there is a film. Use no cleaning products.

LIGHTING AND UVB

No UVB requirement is documented for the species, and the frogs manage without. A weak UVB light (Ferguson zone 1) can be used as an optional extra, 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 about 10-12 hours a day, and keep it dark at night.

Read more: Lighting and UVB

FEEDING

The frog is an eager hunter and can eat relatively large prey for its size. In the wild the genus feeds mostly on ants and mites. In the enclosure it is fed small arthropods, and most readily take food of up to about 6 mm: cultured wingless fruit flies, springtails, newly hatched crickets, aphids, small cockroach nymphs, termites, small spiders and lesser mealworm larvae. Very small waxworms can be used for variety. 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 animals are chased away from the food by the strong ones. Dust the feeder insects with a good calcium and vitamin powder at every second or third feeding, and at every feeding for juveniles. The amounts are borrowed from the genus. 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: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Mantella pulchra is diurnal, but rather shy and may stay hidden among leaves and plants until food appears. The males patrol their area, call from the leaf litter and may wrestle with one another. The animals are best kept in a small group with many hiding places 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, for example during cleaning, use a small, clean plastic container, and do not touch it with dry hands. The species is regularly exported from Madagascar, and captive-bred animals are seldom available. Newly bought, wild-caught animals are often emaciated and have parasites, so they must be quarantined for several weeks or months in a simple, basic enclosure.

Breeding

SEXUAL MATURITY AND SEXING

The males are smaller and slimmer than the females and are recognised by their call and by visible glandular pads on the inside of the thighs. Age at sexual maturity is not documented for the species; 12-18 months is borrowed from *Mantella madagascariensis*. The species has only rarely been bred in captivity, and the methods here are borrowed from the genus, in which a group with more males than females breeds most easily.

It is best to buy a small group of juveniles and let them grow up together, so that there are animals of both sexes.

MATING

Mating follows the rainy season. In captivity a cooler and slightly drier period is used for up to three months, with about 10 hours of light, less frequent misting, a lower water level and less food, with the temperature seldom above 22 °C and allowed to fall to 15 °C. After that light, temperature and food return to normal, and the enclosure is misted heavily. The period can be a strain, so keep an eye on the animals' weight, and move animals that look poorly to an enclosure of their own.

Females that are ready swell with eggs a few weeks after the rest period. Plentiful food and humidity are the key.

EGGS AND TADPOLES

The female lays the eggs on land, in damp hollows or crevices. The number is not documented for the species itself; expect 12-30 eggs as in the roughly equal-sized *Mantella aurantiaca*. The slightly larger *Mantella baroni* lays more than 50 and up to about 130 eggs. Often only some of the eggs are fertilised.

The eggs are moved to a closed container, where they lie on top of a clump of moss so that they just touch the water's edge without being flooded. Under a lid the air is kept humid. 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, bloodworms and daphnia. Rear them together in large plastic containers with a clump of Java moss or a piece of pothos, which gives cover and keeps the water clean. For the first few weeks the water should be 3-5 cm deep, later up to about 10 cm. The water temperature should be 18-26 °C without large fluctuations, and the water must be treated against chlorine and heavy metals. Do not overfeed, because the water then deteriorates.

METAMORPHOSIS

The tadpoles hatch from the egg about 3-12 days after laying, and the timing is borrowed from the genus. The larval period is about 56-112 days: the first tadpoles develop front legs about eight weeks after hatching, and the rest metamorphose over the following weeks. The figure is borrowed from *Mantella madagascariensis*. 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. As soon as the tail is being absorbed, the little frog is moved to a land enclosure with damp kitchen paper and a hide of, for example, a pothos leaf, a dry oak leaf or a crumpled damp napkin.

REARING THE YOUNG

The newly metamorphosed frogs are very small (in the genus about 7-10 mm) and need plenty of small arthropods. Fruit flies and newly hatched crickets are taken by most, but are too large for the smallest, which get springtails, aphids or a clump of damp leaf compost with small animals in it. Keep them singly in small containers or two to five together in containers of about 13 × 13 × 8 cm. Always give a little food, and dust it with calcium and vitamins at every feeding.

When they are 2-3 months old, they can be moved to a larger enclosure with moss or soil, bark and plants. The young animals are cared for like the adults. In the genus the fully developed colours typically come after 3-8 months.

Health and common mistakes

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

- Too high a temperature. A longer period above 25 °C causes stress and poor appetite and can kill the animals.
- 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 ones. Feed in several places, and separate the animals if some are bullied.
- 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.