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FROGS

Marbled Rain Frog

Scaphiophryne marmorata

Scaphiophryne marmorata is a small, plump, green frog from the eastern rainforest of Madagascar. The female reaches about 4 cm, the male about 3 cm. It burrows into the leaf litter by day, but also climbs in bushes and small trees in search of insects. It is easy to keep, but breeds only when the floods of the rainy season are imitated.

Family: Microhylidae

KEY FACTS

THE ANIMAL

Adult size	**3-4 cm** snout-vent length
Lifespan	**5-15 years**
Active	**At night**
Lifestyle	**Arboreal, terrestrial and burrowing**
Habitat	**Rainforest**
Skin toxins	**None known**
Difficulty	**Intermediate**

CARE

Min. enclosure	**60 × 40 × 40 cm** L × W × H for 4 adults
Temperature, day	**21-26 °C**
Temperature, night	**18-21 °C**
Humidity	**60-80%**
Water	**Water dish** depth 1-2 cm
UVB	**Optional** Ferguson zone 1
Diet	**Insects**
Kept	**In pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles in water**
Egg-laying site	**In water**
Sexually mature	**10-12 months**
Eggs per clutch	**300-500**
Larval period	**70 days** from hatching to metamorphosis
Larval diet	**Complete diet**
Parental care	**None**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Vulnerable (VU)**

About the species

Scaphiophryne marmorata is a globular frog of the family Microhylidae. The female reaches 3-4 cm from snout to vent, the male about 3 cm. The head is small, flat and short in the snout with large, prominent eyes, and the legs are sturdy. The back is mostly smooth, but has two pairs of spiny tubercles at the top. The colour is bright green with dark green and black spots, and the underside is often marbled with white. In populations in the western part of the range, which were formerly counted with the species, the colour is more olive brown.

The fingers and toes are long, and the fingertips have large adhesive discs. The adhesive discs are a characteristic of the species and allow *S. marmorata* to climb in bushes and low branches. The hind legs are short and sturdy with bony ridges at the heels, which the frog digs with. If it feels threatened, it puffs itself up and may lunge at the attacker.

S. marmorata was described by George Albert Boulenger in 1882. A review in 2003 split what was formerly called *S. marmorata* into several species: *Scaphiophryne spinosa* was reinstated as a species in its own right, and *Scaphiophryne boribory* was described as new. In 2005 the populations in the dry forests in the west were separated as *Scaphiophryne menabensis*. Lifespan is not documented for the species, but the closely related *Scaphiophryne madagascariensis* can live more than ten years.

No toxic skin secretion is known in the species, but wash your hands before and after contact, and do not touch your eyes and mouth until your hands are clean.

Distribution and habitat

Scaphiophryne marmorata lives only on Madagascar, where it is found mainly in the humid forests of the central eastern part of the island. The populations in the dry forests in the west now belong to *Scaphiophryne menabensis*, and animals from the area around Isalo have not been definitively identified.

The species occurs up to about 1,000 m above sea level and is locally common. It is found in several national parks.

> **Native range:** Madagascar.

HABITAT

Scaphiophryne marmorata lives on the forest floor in humid rainforest and in the forest understorey. By day it lies buried in the leaf litter; when it comes out, it often climbs up into bushes and small trees to catch insects.

The species is probably an explosive breeder: at the start of the rainy season the animals gather at temporary waterholes and swamps and mate after heavy rain. Eggs and tadpoles are regularly found in swamps in the range. The eggs are small, about 1.2 mm, and many are laid. The tadpoles grow quickly, so that they can metamorphose before the waterholes dry out. The climate is warm and humid.

The species is listed as Vulnerable (VU) on the IUCN Red List. The range is small and fragmented, populations are declining, and the habitat is disappearing because the forest is being cleared. A small proportion of the animals are collected for trade.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little documented knowledge exists about keeping *Scaphiophryne marmorata*. The care is based on the species itself where possible, and otherwise on the closely related *Scaphiophryne madagascariensis*.

A pair or a small group of up to four adults can be kept in a terrarium of 60 × 40 × 40 cm (length × width × height). The frogs are quiet and move little, so the floor area matters less than the depth of the substrate. Fill the bottom with 6-10 cm of moist, but not wet, soil mixture, for example chopped, sterilised oak and maple leaves, sphagnum and river sand, or a fertiliser-free coconut and soil mixture. The frogs dig and prefer a loose substrate; a dampened foam mat will not do.

Place large pieces of cork bark and driftwood on top of the substrate and a water bowl in one corner. The species climbs, so put in sturdy branches and lay moss on them. Plants must be robust, because the frogs dig them up. The frogs are not messy, so it is enough to replace or sterilise the substrate every other week. A mesh lid covering at least half of the ceiling provides the necessary ventilation.

Juveniles and newly metamorphosed froglets are kept singly or in small groups in plastic boxes with damp kitchen paper on the bottom.

TEMPERATURE

By day the temperature should be 21-26 °C and at night 18-21 °C. The species requires no heat source and thrives at ordinary room temperature. The temperature must not exceed 27 °C for any length of time, because high temperatures can quickly become fatal, especially if the substrate is dry at the same time. Measure the temperature down at the bottom, where the frogs stay, and place the terrarium in a cool spot without direct sun.

A winter rest is not necessary. For breeding a dry period is used; see under Mating.

HUMIDITY AND MISTING

Humidity should be 60-80 %, but the most important thing is that the substrate is moist all the way through: when a handful of substrate is squeezed, it should clump and release a couple of drops. Mist the terrarium lightly once or twice a day with rainwater or dechlorinated water.

Stagnant, humid air quickly causes bacterial skin infections, so ventilation must not be sacrificed for humidity. Let the surface dry out a little between mistings rather than keeping it constantly wet.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

The frogs must always have a shallow, clean water bowl, 1-2 cm deep, so that they easily get out again. Change the water daily. Use rainwater, reverse-osmosis water or tap water treated against chlorine and chloramine. Amphibians absorb water and substances through the skin, so never clean the bowl with soap, and rinse it thoroughly.

For breeding a water area is used where the water is 5-10 cm deep and about 26 °C; see under Mating.

LIGHTING AND UVB

The light must be subdued. The species is nocturnal and hides by day, and no need for UVB has been documented. A weak UVB light, corresponding to Ferguson zone 1, does no harm and can be used if the terrarium has live plants. Switch the light on and off with a timer, so that the day length is about 12 hours, and make sure that the frogs can always dig down or hide from the light.

Read more: Lighting and UVB

FEEDING

Scaphiophryne marmorata eats all kinds of small insects and is very greedy. Adults take crickets of about 6 mm, small dubia cockroaches, small mealworms, fly larvae and the like, and juveniles get crickets of about 3 mm. Alternate between several kinds of food, because the frogs can tire of the same food and refuse it.

Adults are fed every third or fourth day with several feeder insects at a time, and juveniles are fed every day. Dust the food with a vitamin and mineral supplement at every second feeding, alternating calcium with D3 and a multivitamin. Some frogs spit out dusted food at first, but get used to it. Remove feeder insects that are left after a few hours.

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

BEHAVIOUR AND HANDLING

Scaphiophryne marmorata is shy and spends most of the day hidden in the substrate or under bark. At night it comes out, and it likes to climb about on branches. It is not aggressive towards its own kind, so a pair or a small group of the same size works well if there is enough space and cover.

Do not handle the frogs; they gain nothing from it. If a frog must be moved, use damp, clean hands or a small plastic container. Do not mix the species with other amphibians.

Breeding

SEXUAL MATURITY AND SEXING

Females are larger than males, about 4 cm against 3 cm. In the genus the animals become sexually mature at about one year; *Scaphiophryne madagascariensis* is fully grown after 10-12 months. If the sex is unclear, you make sure of a pair by keeping several animals of the same age together.

MATING

S. marmorata breeds after a dry period and heavy rain. The method is the same as for the *Dyscophus* species: let the terrarium dry out for about 6-8 weeks, with the substrate only slightly dampened, and feed the animals well. Then imitate a cloudburst: fill the bottom with 5-10 cm of water at about 26 °C, and let it rain with a rain system or a mister. The animals mate in the water.

Breeding in captivity is rare, and the procedure has not been described in detail for the species.

EGGS AND TADPOLES

The eggs are laid in small, floating clumps in the water. They are only about 1.2 mm, and many are laid; the number is not documented for the species, and the figure in the specifications applies to the genus. There is no parental care, so the adults are taken out of the breeding water after laying.

The tadpoles grow quickly if the water is kept constantly warm, about 26 °C. They readily eat fish flakes and pellets, finely crushed, and reach about 25 mm in length. Change part of the water often, so that water quality stays high, and divide large clutches among several containers.

METAMORPHOSIS

The hatching time is not documented for the species. The tadpoles take about 70 days to metamorphose into small frogs.

When the forelimbs appear, the young must be able to get out of the water. Lower the water level, and add floating plants, stones or sloping bark, so that they do not drown. Move the metamorphosed young to small rearing boxes with damp kitchen paper.

REARING THE YOUNG

The newly metamorphosed froglets are about 8-11 mm. Keep them singly or a few together in plastic boxes with damp kitchen paper and hiding places at 21-24 °C, and feed them daily with very small insects, dusted with supplements. The young are tough and grow quickly on varied food; they can become sexually mature at about one year. Move them to a terrarium with a loose substrate when they are large enough to dig.

Health and common mistakes

Scaphiophryne marmorata is robust when the environment is right. The typical mistakes are:

- Stagnant, humid air, which causes bacterial skin infections. Ensure good ventilation.
- Too high a temperature, especially together with a dry substrate. Temperatures above 27 °C for any length of time can be fatal.
- A dry substrate or too little water, which dries the frog out.
- A lack of calcium and vitamins. Dust the food.
- Overfeeding. The species is greedy and easily becomes fat.
- Chlorine, chloramine or traces of soap in the water and on the hands.
- Wild-caught animals with parasites. Preferably buy captive-bred animals.

A healthy frog is round with clear eyes and digs down by day. Isolate a sick frog in a clean terrarium with the right conditions, and see a vet with expertise in amphibians if it is lethargic, swollen or stops eating.

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

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.