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FROGS

Red-banded Rubber Frog

Phrynomantis bifasciatus

Phrynomantis bifasciatus is a compact, smooth and shiny frog from southern and eastern Africa. It is black with sharp red to cream bands, walks more than it hops and prefers to eat ants and other small arthropods. The skin secretion is toxic to other frogs, so the species must not be kept with other species.

Family: Microhylidae Former name: *Phrynomerus bifasciatus* **Mild skin toxins**

KEY FACTS

THE ANIMAL

Adult size	**4-7 cm** snout-vent length
Lifespan	**8-10 years**
Active	**At dusk and at night**
Lifestyle	**Terrestrial**
Habitat	**Savanna**
Skin toxins	**Mild** Wash your hands after contact and keep your fingers away from your eyes and mouth
Difficulty	**Intermediate**

CARE

Min. enclosure	**60 × 30 × 30 cm** L × W × H for 3 adults
Temperature, day	**24-29 °C**
Temperature, night	**20-23 °C**
Humidity	**50-70%**
Water	**Water dish**
UVB	**Optional**
Diet	**Small invertebrates (springtails, fruit flies)**
Kept	**Singly or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles in water**
Egg-laying site	**In water**
Eggs per clutch	**300-1,500**
Hatching	**4 days**
Larval period	**30-90 days** from hatching to metamorphosis
Larval diet	**Algae/plants**
Parental care	**None**

PROTECTION AND PAPERWORK

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

About the species

Phrynomantis bifasciatus is a small, elongated and slightly flattened frog with a narrow head, blunt snout and long, slender legs. The skin is smooth, shiny and rubbery. The back is black, often with a golden sheen, and marked with broad, bright red to cream bands: two widely separated bands run from the snout over the eyes and down the sides, and a third crosses the lower back. The sides and legs have smaller red to cream spots. The underside is dark grey to black with white spots. The sexes look alike, but males have a darker throat.

Females grow to 7 cm from snout to vent; males are slightly smaller. The feet have small, slightly expanded toe pads, so the frog can climb up stones and tree trunks, but it is not a true climber. It moves mostly by walking or running and rarely hops. The species belongs to the family Microhylidae and was formerly placed in the genus *Phrynomerus*.

If disturbed, the frog inflates its body, arches its back, tucks in its head and raises its rear end, so that the red warning colours are clearly seen. If it is badly frightened or wounded, it secretes large amounts of skin secretion with an unpleasant smell. The secretion is irritating and toxic and can kill other frogs in the same container. It affects heart muscle cells in humans. Brief handling of a calm frog is without problems, but longer skin contact or secretion in cuts and wounds can cause very painful swelling, nausea, headache, difficulty breathing and a rapid pulse. Wash your hands thoroughly after contact, and keep the secretion away from eyes, mouth and wounds.

Distribution and habitat

Phrynomantis bifasciatus lives in large parts of eastern and southern Africa: from the Democratic Republic of the Congo and eastern Ethiopia and Somalia through East Africa to north-eastern South Africa, and west through northern Botswana and northern Namibia to southern Angola. In South Africa it is found in northern KwaZulu-Natal, Eswatini, eastern Mpumalanga, Limpopo, northern Gauteng and central and northern North West.

The species is common throughout its range and is found in several national parks and nature reserves.

> **Native range:** Congo - Kinshasa, Ethiopia, Somalia, Kenya, Tanzania, Mozambique, Zimbabwe, Zambia, Malawi, Botswana, Namibia, Angola, South Africa and Eswatini.

HABITAT

Phrynomantis bifasciatus lives in savanna and scrubland (bushveld) from 50 to about 1,450 metres' elevation and is adapted to warm, semi-arid surroundings. It is found in dry to moist grassland, scrub, farmland, pasture and around ponds and ditches.

The year is divided into a rainy season and a dry season. In the dry season the frog hides under stones and tree trunks, in holes dug by other animals, in termite mounds, in hollow trees, under loose bark and in drainpipes. It often shares hiding places with other frogs, lizards and scorpions. The breeding season falls in spring and summer, when enough rain has created shallow pools. The frog is opportunistic and breeds even in very small bodies of water, for example water-filled elephant footprints.

Care

THE ENCLOSURE

Little is known about the care of *Phrynomantis bifasciatus*, and the recommendations are based on the species' habitat and on the few experiences there are. A terrarium of 60 × 30 × 30 cm holds three adults, and two animals can be kept in a smaller one. More animals need more floor area. The frogs spend most of their time on the ground and in hiding, so floor area matters more than height. The lid must close tightly, because the frog climbs well.

The substrate must be soft, moist and deep enough for the frog to burrow into. Soaked coconut fibre, sphagnum and leaf litter hold moisture and can pass through the gut if the frog swallows some. Provide plenty of cover in the form of cork bark, flat stones and pieces of cork tube, so that each animal can retreat. Plants such as pothos and sansevieria tolerate dry periods and do best in pots. Remove dead feeder insects and droppings regularly.

Always keep only animals of the same species and the same size together. Other frogs in the same terrarium can die from the skin secretion.

TEMPERATURE

By day the temperature should be 24-29 °C, and at night 20-23 °C. The species comes from warm, semi-arid country and does best at the warm end of the range. The night temperature is not known for the species; 20-23 °C suits the climate of the range.

Heating is best handled with a thermostat-controlled heat mat on the side or back wall of the terrarium, not under the substrate, where the frogs dig. Measure with a digital thermometer, and avoid hot spots where the animals can dry out.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity should be 50-70 %. The species comes from dry to moist savanna and is more drought-tolerant than most frogs, but it can still dry out. Keep part of the substrate constantly moist, and mist the terrarium with water without chlorine, so that the substrate never dries out completely. Misting a couple of times a week is normally enough.

Provide a gradient if possible, so that one end of the terrarium is more humid and the other slightly drier. The frog chooses for itself where it wants to stay. Avoid a waterlogged substrate and stagnant air, which cause mould.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

Put a large, shallow dish of clean water in the terrarium, large enough for the frog to lie in and shallow enough for it to climb out easily. Amphibians absorb water and substances through the skin, so the water must be free of chlorine and chloramine. Use tap water treated with a water conditioner, and change the water daily.

LIGHTING AND UVB

Phrynomantis bifasciatus has no known need for UVB, but weak UVB can be provided and benefits the plants. Ordinary terrarium lighting for 10-12 hours a day gives a clear daily rhythm. Provide plenty of cover, so that the frogs can avoid the light during the day.

Read more: Lighting and UVB

FEEDING

Phrynomantis bifasciatus has a small mouth and prefers small prey. In the wild the diet consists mostly of ants and termites, but also other small arthropods such as grasshoppers and spiders. In the terrarium it is fed small food: fruit flies, small crickets, springtails and small cockroaches. Mealworms and waxworms can be given in small amounts.

Young animals are fed daily, and adults two to three times a week. Give only as much as the animals eat within half an hour. Dust the food with calcium at each feeding and with a vitamin preparation once a week. Remove feeder insects that are not eaten, so that they do not bother the frogs.

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

BEHAVIOUR AND HANDLING

Phrynomantis bifasciatus is a calm frog that walks and runs more than it hops. It is most active in the evening and at night and hides by day. When threatened it inflates itself and shows the red bands. Keep handling to a minimum, because the skin secretion can irritate skin and mucous membranes, and the frog is stressed by being picked up. Move it with a wet, clean plastic container when cleaning is needed, and wash your hands afterwards.

The species is unsuitable for keeping with other frogs, because the skin secretion is toxic to them. Animals of the same species and size can be kept together if there are enough hiding places.

Breeding

SEXUAL MATURITY AND SEXING

The sexes look alike, but the male has a darker throat, and the female grows slightly larger. Age and size at sexual maturity are not documented. The animals should have reached full adult size before they are put together for breeding.

MATING

In the wild the species breeds in spring and summer, when heavy rain has filled shallow pools. Rain is the trigger. Breeding in captivity is not documented. A dry season followed by heavy, prolonged misting or a rain system imitates the natural cycle and is the obvious starting point.

EGGS AND TADPOLES

The female lays 300-1,500 eggs in a jelly mass about 75 mm in diameter. The mass sticks to plants or sinks to the bottom of the water. The individual eggs are 1.3-1.5 mm and light brown at one pole. There is no parental care, so the adults are moved away after laying. The water must be shallow, clean and free of chlorine and have plants and leaves for the eggs to attach to.

METAMORPHOSIS

The eggs hatch after about four days. The tadpoles resemble small fish, grow to 37 mm and stay freely suspended in the water, where they filter food from the water. They live in shoals, and the fins are coloured, black or red. The larval period is about a month in the wild, depending on the amount of food, but can be up to 90 days in captivity. When the forelegs appear, there must be access to land in the form of a slope or floating plants, and the water must not be too deep.

Read more: Rearing tadpoles

REARING THE YOUNG

The newly metamorphosed froglets are very small and need a moist hide and small food: fruit flies, springtails and the smallest crickets, dusted with calcium. Feed them daily. Keep the froglets in groups of the same size, and keep the terrarium moist. Details of growth and time to sexual maturity are not documented.

Health and common mistakes

Phrynomantis bifasciatus is hardy, but wild-caught animals can be weakened. The typical problems are:

- Dehydration from a substrate and air that are too dry. The frog becomes lethargic and the skin wrinkled.
- A substrate that is too wet, cold or dirty, which can cause bacterial infections with redness on the belly and legs.
- Swallowed substrate such as gravel or fine bark. Use a substrate that can pass through the gut.
- Parasites. Quarantine new animals and have a faecal sample examined.
- Overweight from too much food.

Scrapes, redness, lethargy or refusal of food for several weeks must be seen by a vet with knowledge of amphibians.

Read more: Quarantine and hygiene 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.