herpy

FROGS

Harlequin Treefrog

Rhacophorus pardalis

Rhacophorus pardalis is a medium-sized, nocturnal flying frog from the rainforests of Borneo, Sumatra, the Malay Peninsula and the Philippines. The back is brown to reddish brown with a dark, X-shaped marking, the webbing is bright orange, and the belly and flanks are yellow with an orange-red net pattern. Females reach up to 7 cm. The species is rare in captivity, and little is known about its care.

Family: Rhacophoridae Former name: *Rhacophorus rizali; Rhacophorus rhyssocephalus*

KEY FACTS

THE ANIMAL

Adult size	**5-7 cm** snout-vent length
Lifespan	**5-10 years**
Active	**At night**
Lifestyle	**Arboreal**
Habitat	**Rainforest and wetland**
Skin toxins	**None known**
Difficulty	**Experienced**

CARE

Min. enclosure	**45 × 45 × 60 cm** L × W × H for 3 adults
Temperature, day	**22-26 °C**
Temperature, night	**20-22 °C**
Humidity	**70-90%**
Water	**Water dish** depth 2-3 cm
UVB	**Recommended** Ferguson zone 1
Diet	**Insects**
Kept	**Singly, in pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles in water**
Egg-laying site	**In a foam nest**
Eggs per clutch	**100-200**
Larval period	**85 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**None**

PROTECTION AND PAPERWORK

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

About the species

Rhacophorus pardalis is a sturdy tree frog with a broad head, rounded snout and broad adhesive discs on all fingers and toes. Fingers and toes have full webbing, and along the outer edge of the forearm, along the feet and at the heel there are skin folds. The skin on the back is finely granular and almost smooth, and on the belly it is coarsely granular.

The back is brown to yellowish brown, often with a reddish tinge, and dark and pale patches form a camouflage pattern that often becomes an X-shaped marking across the shoulders. Here and there are white spots. The belly, the undersides of the thighs and the lower part of the flanks are yellow with a distinct orange-red net pattern, and the flanks usually have black spots. The webbing is bright orange. The scientific species name, *pardalis*, is Greek for "leopard".

Females are larger and sturdier than males: males reach about 5 cm from snout to vent, females 6-7 cm. Males have a single internal vocal sac and develop nuptial pads in the breeding season. The weight is not documented.

The species was described in 1858 by Albert Günther. Several names have since been merged with it, among them *Rhacophorus rizali* and *Rhacophorus rhyssocephalus*. Like the genus's other flying frogs, it glides between the trees with spread webbing. It is common in the wild, but lives so hidden in the trees that its habits are only poorly known.

The species has no known toxic skin secretion. Even so, wash your hands before and after working in the terrarium, and do not touch your eyes or mouth afterwards.

Distribution and habitat

Rhacophorus pardalis lives on Borneo (Brunei, the Indonesian part Kalimantan, and Malaysia), where it is the flying frog most often met with in the forest. The range also includes the Thai part of the Malay Peninsula, West Malaysia, Sumatra and several islands in the Philippines. The species is found from the lowlands up to about 1,000 m above sea level.

> **Native range:** Brunei, Indonesia, Malaysia, Philippines and Thailand.

HABITAT

Rhacophorus pardalis lives in primary and older secondary tropical rainforest and in humid montane forest, and it is seen at swamps, ponds and other still waters. It stays up in the vegetation, but comes down to the water to breed.

Breeding takes place in the rainy season. The male's call is a series of soft, clucking sounds. The eggs are laid in a foam nest on vegetation hanging out over a pond or other waterhole, and the tadpoles fall into the water when they hatch. The breeding sites are still water of all sizes, from small wild boar wallows of a few square metres to ponds of several hundred square metres, and also drying stream beds and isolated pools beside the streams. The tadpoles forage along the bottom and reach more than 48 mm in length.

The species is nocturnal and feeds on insects and other invertebrates.

Read more: Rearing tadpoles

Care

THE ENCLOSURE

Little is known about keeping *Rhacophorus pardalis*. The climate in its range is warm and very humid all year, and the figures in this guide are borrowed from *Rhacophorus reinwardtii*, which has the same size and requirements. The species is rare in captivity, so buy only captive-bred animals and have the origin documented; wild-caught animals do poorly.

The terrarium must be tall and airy. Three adults need at least 45 × 45 × 60 cm, and larger is better for a frog that jumps and glides. Provide many perches: plants with large, sturdy leaves, vertical branches and a cork back wall. Keep the middle fairly open, so that the frog does not hit the glass, and plant densely in front of the side walls. Robust plants such as *Philodendron* and *Epipremnum* tolerate a heavy frog.

The substrate can be a moisture-retaining substrate of sphagnum and dead leaves. A mesh across the whole lid ensures that the air does not stand still.

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

TEMPERATURE

Keep the terrarium at 22-26 °C by day and 20-22 °C at night. Keep the temperature below 28 °C, and do not use heat lamps. Check with a digital thermometer, and be aware of the room temperature in summer.

The species lives in a climate without cold seasons and should not have a winter rest.

HUMIDITY AND MISTING

Humidity should be 70-90 %. Mist every evening with dechlorinated tap water, rainwater or reverse-osmosis water, and let the terrarium dry out a little during the day, so that the air does not stand still. Live plants and a mesh across the whole lid help keep the air fresh.

If you see wrinkled skin or a sluggish frog, increase the humidity and lower the temperature immediately.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

Place a stable, shallow water bowl in the terrarium, which the frog can sit in at night. 2-3 cm of water is enough, so that the frog easily gets out again. Change the water every day or every other day, and use dechlorinated tap water, rainwater or reverse-osmosis water. Never use soap or cleaning products near the water, because amphibians absorb substances through the skin. The water must be at the same temperature as the air.

LIGHTING AND UVB

The frog is arboreal, and a weak UVB source of the type used for tropical forest animals is recommended. Always provide shaded places where the frog can retreat.

Use LED lighting that is strong enough for the plants, and avoid lamps that give off heat. Keep a fixed daily rhythm with about 12 hours of light; the frog is nocturnal and becomes stressed by disturbance in the terrarium during the day.

Read more: Lighting and UVB

FEEDING

Rhacophorus pardalis eats live insects. Crickets can be used throughout its life, from about 3 mm for the youngest up to about 15 mm for adults, supplemented with small cockroaches, fruit flies for the smallest froglets and an occasional wax moth larva as a treat.

Give adults a few feeder insects twice a week, and remove feeder insects that are not eaten. Dust the food with calcium, and give a vitamin supplement containing D3 a few times a month, as is usual for tree frogs.

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

BEHAVIOUR AND HANDLING

The species is nocturnal and spends the day hidden among the leaves. It lives mostly on its own outside the breeding season, and males call from the water's edge in the rainy season. Keep a pair or a small group in a spacious terrarium with many perches, and no more males than there is room for.

The frog should be handled as little as possible, because the skin is thin and sensitive. During cleaning it is moved with a damp, soft plastic tub. It jumps and glides vigorously when startled.

Breeding

SEXUAL MATURITY AND SEXING

Females are larger and sturdier than males and have a relatively larger head. Males are slimmer and have nuptial pads and an internal vocal sac. When the animals are sexually mature is not documented. Keep several young animals together, and sort them when the sexes can be seen.

MATING

In the wild *Rhacophorus pardalis* breeds in the rainy season, and the males call by the water. In the terrarium, breeding probably requires a dry and a wet period and a rain chamber, as in other tropical tree frogs; breeding of the species has not been described.

In *Zhangixalus arboreus*, breeding is triggered by misting the terrarium every evening for a period, giving extra food once a week and then running a rain system. This can be used as a guide.

EGGS AND TADPOLES

The female makes a foam nest on leaves and branches above the water. The number of eggs is not documented; the figure in the box is borrowed from related flying frogs. The parents care for neither eggs nor tadpoles.

Provide a water area of at least 8 cm beneath the leaves where the frogs can lay, so that the tadpoles fall into the water when they hatch, or cut the leaf off and hang it above an aquarium. The care of the tadpoles has not been described, but clean water at the terrarium's temperature with pieces of cork and aquatic plants and a daily water change of 5-10 % is a safe starting point. The tadpoles forage along the bottom and eat spirulina tablets and sinking fish food.

METAMORPHOSIS

Hatching time and larval period are not documented for the species. The larval period of about 85 days is borrowed from *Rhacophorus reinwardtii* and is only a guide. The tadpoles reach more than 48 mm in length.

When the forelimbs appear, the tadpoles stop eating and need easy access to land: lower the water level, put cork or branches in the water, and keep a lid or mesh on the aquarium, so that the newly metamorphosed froglets cannot escape. Provide a moist transition to land with plants and wet hiding places.

REARING THE YOUNG

The newly metamorphosed froglets go into a small, humid terrarium with damp kitchen paper, plants and a shallow water bowl. Humidity must be high at first, 80 % or more. Give fruit flies and small, dusted crickets, a few and often, once the tail has been absorbed, and sort by size, so that the smallest are not outcompeted. Keep the young in a smaller terrarium until they are large enough to cope among the adults.

Health and common mistakes

Common problems in tree frogs in terrariums are:

- Desiccation and too high a temperature. The signs are lethargy, wrinkled skin and outstretched legs. Keep an eye on the thermometer and hygrometer.
- Injuries from jumping against the glass, especially in wild-caught animals.
- Infectious diseases and parasites, especially in wild-caught animals. Buy captive-bred animals, quarantine new animals, and use separate equipment.
- A one-sided diet or a lack of calcium and D3, which can cause weakened bones. Vary the food.

See a vet with expertise in amphibians if the frog stops eating, has sores, swellings or reddish areas on the skin, or sits listlessly on the floor.

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.