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FROGS

White-lined Leaf Frog

Phyllomedusa vaillantii

Phyllomedusa vaillantii is a nocturnal leaf frog from the Amazon, 5-8 cm long, with a green back, reddish-brown flanks and red, lavender or orange colours on the inner thighs. It walks slowly across branches instead of hopping and lays its eggs in a folded leaf nest over water.

Family: Phyllomedusidae

Mild skin toxins

KEY FACTS

THE ANIMAL

Adult size	**5-8 cm** snout-vent length
Lifespan	**8-10 years**
Active	**At night**
Lifestyle	**Arboreal**
Habitat	**Rainforest and wetland**
Skin toxins	**Mild** Wash your hands after contact and keep your fingers away from your eyes and mouth
Difficulty	**Intermediate**

CARE

Min. enclosure	**45 × 45 × 90 cm** L × W × H for 2 adults
Temperature, day	**24-28 °C**
Temperature, night	**20-24 °C**
Humidity	**60-80%**
Water	**Water dish** depth 2-5 cm
UVB	**Optional** Ferguson zone 1
Diet	**Insects**
Kept	**Singly, in pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles in water**
Egg-laying site	**On leaves over water**
Sexually mature	**12-18 months**
Eggs per clutch	**200-800**
Hatching	**5-14 days** at 24 °C
Larval period	**40-90 days** from hatching to metamorphosis
Larval diet	**Complete diet**
Parental care	**None**

PROTECTION AND PAPERWORK

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

About the species

Phyllomedusa vaillantii is a medium-sized, slender tree frog with a smooth, green back and a pale green to whitish underside. The flanks are reddish brown, and the skin has small white or orange spots. The inner thighs can be red, lavender or orange, and the belly is light orange. The pupil is vertical and elliptical, as in the other species of the genus, and the eyes are large.

Males measure 5-6 cm from snout to vent and females 7-8 cm. The female is thus both larger and more heavily built, and the sexes have clearly different snout shapes. The male has loose skin on the throat, where the vocal sac is.

Like other species of the genus, *P. vaillantii* walks slowly and deliberately through the vegetation with opposable toes, instead of jumping. The frog spends the day sitting hunched on a leaf, and only after dark does it begin to move and feed. The skin glands produce a secretion with biologically active peptides, which in *P. vaillantii* have been shown to act against bacteria and to kill mosquitoes and their larvae. The toxin is made by the frog itself and does not come from its food. How much the secretion bothers people on ordinary contact is not documented, and the skin toxicity is therefore set to mild as a precaution: wash your hands before and after contact, do not touch your eyes and mouth, and handle the frog only when necessary.

The species was described in 1882 by George Albert Boulenger. Few experiences with the species in captivity are documented, and many of the care figures are therefore borrowed from closely related species in the genus. The lifespan is probably 8-10 years.

Distribution and habitat

Phyllomedusa vaillantii lives in northern South America, in large parts of the Amazon region. It has been found in Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela. In Brazil it is known from, among other places, Amapá and the forests around Manaus.

The range is large, and the species is not regarded as threatened worldwide. The local threat is loss of habitat when rainforest is cleared.

> **Native range:** Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela.

HABITAT

The species lives in humid tropical lowland forest, by swamps, rivers and freshwater marshes. The frog sits in vegetation over water: in bushes and low trees by ponds and streams, where it sleeps hidden on the leaves by day. Males call from branches near the water at night.

The year is marked by a rainy season and a less wet period. Reproduction follows the wettest months. Temperature and humidity in the habitat are not documented for the species.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

A tall, well-ventilated terrarium suits best, because the frog is arboreal. Two adults need at least 45 × 45 × 90 cm (length × width × height), and a small group needs more floor area. Height matters more than floor space: the frog climbs and sleeps on the leaves, so there must be many branches, both horizontal and vertical, and large, stable leaves that can bear its weight, e.g. philodendron, pothos or calathea.

The substrate can be damp sphagnum or paper towels if you want it easy to keep clean. A drain at the bottom makes it easy to remove excess spray water. A simple, tidily arranged terrarium with a few potted plants is easier to keep healthy than a dense planted bottom layer, because disease-causing worms and bacteria do not build up in the soil. The terrarium must have good ventilation in the lid so that the air does not stand still.

Be aware that newly arrived frogs easily rub their snouts against the glass. Give them hiding places and avoid boxes that are too small. For juveniles, a smaller plastic container with paper towels can be used until they have grown.

TEMPERATURE

Keep the daytime temperature at 24-28 °C. At night it may fall 3-6 degrees, to 20-24 °C, as in the wild. A hot-spot lamp is not needed if the room is warm enough. A low-wattage bulb can provide a little extra warmth if necessary, but it also dries out the air.

Temperatures above about 30 °C for long periods should be avoided. If it gets too hot, lower the temperature and mist more often.

HUMIDITY AND MISTING

Humidity should be between 60 and 80 % with natural fluctuations through the day. Mist the enclosure once or twice a day, preferably in the evening, so that it can dry out a little during the day. Humidity can briefly rise to nearly 100 % right after misting, but it must fall again.

Still, wet air causes fungus and bacteria, so ventilation must not be closed completely. Species of the genus can cope with periods of lower humidity, because the skin secretion reduces water loss, but they should not be kept dry for long. Use rainwater, reverse osmosis water or dechlorinated water for misting. A rain system or a fog machine on a timer can make the work easier.

WATER AND WATER QUALITY

The frog likes to sit in a water bowl at night, and the bowl must therefore be large enough for the animal to sit in the water, and shallow enough that it never risks drowning: 2-5 cm deep with a stone or a branch as an exit. The bowl is changed every day, because the frog often leaves droppings in it.

Use water without chlorine and chloramine, either rainwater, reverse osmosis water with added minerals or tap water treated with a water conditioner. Amphibians absorb water and substances through the skin, so cleaning products, soap and chemicals must be kept well away from the bowl and the furnishings. Rinse the bowl thoroughly with hot water when changing.

LIGHTING AND UVB

Provide 10-12 hours of light a day on a timer, and switch the light off at night. Lighting for the plants is enough, and the frog sleeps under the leaves by day, so there must always be shade. UVB is not necessary, but a low-output UVB tube, e.g. Ferguson zone 1, over a partly open section of the lid can be used as an option above the sleeping places. Never let the animal get close to the lamp, and make sure there is shade and cover.

Read more: Lighting and UVB

FEEDING

The frog eats live insects that are caught at night: crickets, flies, cockroaches and wax moths. Adults get 2-8 feeder insects per frog, about every second to fifth day. Feeder insects must be smaller than the distance between the frog's eyes. Feed in the evening, and remove uneaten feeder insects in the morning, so that they do not gnaw at the frog while it sleeps.

Dust the feeder insects with calcium with D3 at every second feeding and with a phosphorus-free multivitamin powder at regular intervals. Newly metamorphosed froglets take fruit flies the first time, and after a week or two small crickets. Feed the froglets every evening, but do not give too many feeder insects at a time, because that can stress them and cause rectal prolapse.

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

BEHAVIOUR AND HANDLING

The species is calm and nocturnal, and it sleeps all day on a leaf with its legs tucked in. At night it becomes active if it is not disturbed. Males call at night, especially after misting.

The animals can be kept singly, as pairs or in a small group of two to eight in a suitably large enclosure. The skin is thin and sensitive, so handling should be limited to cleaning and health checks. Hands must be clean and moist, or you can use powder-free disposable gloves. Move the animals only when necessary.

Breeding

SEXUAL MATURITY AND SEXING

The female is larger and more heavily built than the male: females are 7-8 cm and males 5-6 cm, and the snout shape distinguishes the sexes. The male has loose skin on the throat and calls, while the female is silent. The frogs probably become sexually mature after 12-18 months if fed well.

A group with more males than females, e.g. six males and three or four females, gives the best results. The females must be in good condition to be able to develop eggs, and the animals must be healthy and have been in captivity for some time.

MATING

Mating follows the rainy season. In captivity it is triggered by a period of slightly lower humidity for four to five weeks, followed by a distinct, abrupt rainy period. Mist heavily several times a day, restrict ventilation slightly and feed varied food every evening until the females are round and the males call every night.

Then move the animals to a rain chamber: a tall terrarium with 5-8 cm of water on the bottom, a pump and a hose with small holes that makes it rain from the top. The water is kept at 21-27 °C. Plants with large leaves, e.g. philodendron, must hang over the water so that there are places to lay eggs. If there is no mating after one to two weeks, move the animals back to the ordinary terrarium and repeat the attempt after a few weeks of feeding.

EGGS AND TADPOLES

The female lays the eggs on a leaf above water. She folds the leaf and glues it together with a jelly, so that the eggs lie protected from drying out and from predators, and the eggs are covered by jelly and empty jelly-filled capsules. The number of eggs per clutch is not documented for the species. The figure in the box, 200-800 eggs, applies to the larger *Phyllomedusa sauvagii*, and smaller species in the family lay about 40-100 eggs, so the clutches are probably smaller.

The eggs hatch after 5-14 days, and the tadpoles fall into the water. There is no parental care. The tadpoles are raised in an aquarium; up to 30 tadpoles can be kept in about 40 litres if the water is kept clean. Use a sponge filter or a small pump so that the water moves, and change 25-50 % of the water every week. The water is kept at about 24-27 °C.

The tadpoles are fed fine powdered food for the first weeks, then ordinary tropical fish flakes in the amount they eat in a couple of hours each day. Eggs that fall into the water usually develop normally.

Read more: Rearing tadpoles

METAMORPHOSIS

The egg mass can be moved together with the leaf to a plastic box with a little water in the bottom, so that the eggs hang just above the water. Keep them at about 24 °C under normal lighting. Hatching takes 5-14 days, depending on the temperature. The tadpoles begin metamorphosis after about 40-90 days.

When the front legs have appeared, the young must be moved to a small container with about 1 cm of water and a leaf or a branch, so that they can get out of the water and do not drown. When the tail has been fully absorbed, move the young to a small terrarium with damp paper or sphagnum, a small water dish and plants.

REARING THE YOUNG

The newly metamorphosed froglets are kept in a small enclosure, e.g. 20-40 litres for a small group, with damp paper towels or sphagnum on the bottom, a shallow water bowl and a couple of plants to sit on. Keep them at the same temperature as the adults, 24-28 °C by day, and mist daily.

The first meal is 2-3 fruit flies per frog, and after a week or two small crickets. Feed every evening or every other evening, and always add calcium and vitamins. The froglets grow quickly and can reach adult size in under a year if fed daily. Sort by size, so that the small ones are not overlooked at feeding.

Health and common mistakes

The typical problems in the species of the genus are:

- Lungworm and other intestinal worms: animals that lose weight despite a good appetite may have worms. Have them tested and treated by a vet with amphibian expertise. Some treatments are fatal to certain species, so never treat on your own.
- Snout injuries from rubbing against the glass: prevented by a large enough terrarium and hiding places, and can be treated with antibiotic ointment.
- Prolapsed rectum in juveniles if they are given feeder insects that are too large or too many at a time.
- Fungus and bacteria in still, wet air or dirty water: ensure good ventilation and clean water.

Go to a vet with amphibian expertise if the animal stops eating, looks lethargic, has reddening skin or sits with its mouth open.

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.