herpy

FROGS

Uluguru Forest Treefrog

Leptopelis uluguruensis

Leptopelis uluguruensis is a small, nocturnal tree frog from the mountain forests of Tanzania's Eastern Arc Mountains, with a green or yellow-brown back, orange spots and a vertical pupil. The species is endemic, regarded as near threatened and almost unknown in terrariums, so its care is based on climate and habitat.

Family: Arthroleptidae

KEY FACTS

THE ANIMAL

Adult size	**3-5 cm** snout-vent length
Lifespan	**5-10 years**
Active	**At night**
Lifestyle	**Arboreal**
Habitat	**Rainforest and montane forest**
Skin toxins	**None known**
Difficulty	**Expert**

CARE

Min. enclosure	**60 × 40 × 60 cm** L × W × H for 3 adults
Temperature, day	**20-24 °C**
Temperature, night	**16-19 °C**
Humidity	**80-100%**
Water	**Water dish** depth 2-4 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	**On the ground**
Eggs per clutch	**100-300**
Larval period	**60-120 days** from hatching to metamorphosis
Larval diet	**Algae/plants and complete diet**
Parental care	**None**

PROTECTION AND PAPERWORK

CITES	**Not listed**
IUCN	**Near Threatened (NT)**

About the species

Leptopelis uluguruensis is a small to medium-sized tree frog in the family Arthroleptidae. Males are 28-38 mm and females 46-48 mm from snout to vent, so females are clearly the largest. The back is deep green, blue-green or green-brown in some animals and yellow-brown in others, often with pale spots or rings and scattered orange spots. The eyelids are brownish with a yellow outer edge, and the thighs are translucent yellow-green with an orange patch. The belly is white, more or less tinged with blue, and the male's throat is blue and translucent. The iris is brown or silvery, and the pupil is vertical. The eardrum is almost invisible, the toes are webbed only about halfway, and the fingers have well-developed adhesive discs. The male lacks chest glands.

The species was described in 1928 by Thomas Barbour and Arthur Loveridge, and the name refers to the type locality, the Uluguru Mountains. It is distinguished from its close relatives *Leptopelis flavomaculatus* and *Leptopelis vermiculatus* because the green animals never have the sharp light-green colour that those two species have, and from *Leptopelis barbouri* by the eyes, which are never red or orange.

Skin toxins have not been documented in the species. Amphibians should nevertheless not be handled unnecessarily, and hands are washed before and after contact with the animals or the terrarium. Lifespan, weight and breeding figures are not documented; a lifespan of 5-10 years is an estimate based on frogs of the same size.

Distribution and habitat

Leptopelis uluguruensis is found only in Tanzania, where it is endemic to a series of mountains in the Eastern Arc chain: East Usambara, Nguu, Nguru, Uluguru and the Udzungwa Mountains (including the Kihansi Gorge and the Mwanihana Forest). The records are scattered from the Tanga region in the north-east to the Udzungwa Mountains in the south, and the individual forest areas are separated by open land.

The range is small and heavily fragmented. Within the forests where it occurs, the species is common, and it lives in, among others, Udzungwa National Park and Amani Nature Reserve.

> **Native range:** Tanzania.

HABITAT

Leptopelis uluguruensis lives in humid rainforest on the lower and middle slopes of the mountains, from about 900 to 1,650 metres. It is not found in open country far from mature forest, but tolerates lightly disturbed forest, for example banana plantations close to the forest. The animals sit on large leaves by forest streams and in bushes about a metre above the ground, often near water.

The Uluguru Mountains catch moisture from the Indian Ocean, so the east-facing slopes are very wet with over 3,000 mm of rain a year and rain in every month. Specific figures for temperature and humidity at the frog's habitat are not documented; at that altitude the climate is cooler than in the coastal lowlands. By day in the dry season the frogs sit with closed eyes and legs tucked under the body on large leaves by the streams.

The species is threatened by loss of forest to settlements and agriculture, by logging and, in the East Usambara, also by illegal gold mining.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

Little is known about the care of *Leptopelis uluguruensis*, and the species is not common in captivity. Care is therefore based on the climate and habitat of the Eastern Arc Mountains: a cool, persistently humid rainforest climate with rain all year. The relative *Leptopelis flavomaculatus* is the closest, better-known species, but there is no fixed care standard for it either.

Three adults need a terrarium of at least 60 × 40 × 60 cm (length × width × height). The frogs climb and jump, so height is important, and a terrarium with a front door is better than one that opens from the top. The lid must fit tightly and have fine mesh. Furnish with live plants with large, flat leaves, for example philodendron and mother-in-law's tongue, because the species rests on large leaves in the wild. Add slanted branches and bamboo and a back wall of cork or coconut fibre.

The substrate must hold moisture and be easy to keep clean: a drainage layer of expanded clay, a separation of mesh and on top moist coconut fibre with leaf litter and sphagnum. Replace the top layers when they smell musty. Rinse new plants thoroughly and let them stand outside the terrarium for a few weeks, so remnants of fertiliser and pesticides disappear. Newly acquired animals are kept for a month in a simply furnished terrarium with moist kitchen paper, so they can be monitored.

Read more: Terrarium construction and bioactive substrate

TEMPERATURE

By day the temperature should be 20-24 °C, and at night 16-19 °C. This corresponds to the climate at 900-1,650 metres, where *Leptopelis uluguruensis* lives, cooler than for most terrarium frogs. It needs no warm spot, and the temperature must not exceed 26 °C for any length of time. Place the terrarium away from south-facing windows and heat sources, and measure the temperature in several places with a digital thermometer.

If the room is warmer in summer, a fan at the mesh lid, a cooler room or a cool cellar can keep the temperature down. In winter room temperature is often enough. Signs of too high a temperature are animals sitting flat and dried out, and signs of too low a temperature are loss of appetite. Seasonal variation with slightly cooler nights is healthy, but a true winter rest is not necessary.

HUMIDITY AND MISTING

Humidity should be 80-100%, with the highest humidity at night. The forests on the east-facing mountain slopes get rain in every month of the year. Mist the terrarium with lukewarm, clean water in the evening when the frogs wake, and lightly again in the morning. An automatic fog or rain system on a timer gives even humidity and is an advantage, but must not waterlog the substrate.

Keep the air moving with mesh openings, so the terrarium does not become stagnant and mouldy, and let the surface of the leaves dry a little during the day. In the wild the frogs sit on leaves by water and drink and absorb moisture through the skin, so the leaves must be wet after misting. If the terrarium becomes too dry, the skin looks dull, and the frogs head down towards the water dish.

WATER AND WATER QUALITY

Place a wide, shallow water dish 2-4 cm deep in the terrarium, and keep it full. Give an easy way out of the dish with stones or bark, so the frogs do not drown. The water must not contain chlorine or chloramine: use tap water with a water conditioner, rainwater or reverse-osmosis water with added minerals for aquariums. Change the water every day, and remove dead feeder insects and droppings at once.

Amphibians absorb water and dissolved substances through the skin, so soap, cream, cleaning products and hand sanitiser must not come into contact with the dish or the terrarium. Rinse your hands with clean water before they touch the furnishings.

LIGHTING AND UVB

The light must give the plants enough to grow: an LED plant light for 8-12 hours a day, preferably with a gradual transition in the morning and evening. *Leptopelis uluguruensis* is nocturnal and sits hidden on leaves by day, so the light should be subdued, and there must be dense plants as shade. Switch off all lighting at night.

UVB has not been documented as necessary for the species. A weak UVB source in Ferguson zone 1 can be used as an offer in part of the terrarium, so the frogs can seek shade themselves. Keep the lamp cool, so it does not dry out the terrarium.

Read more: Lighting and UVB

FEEDING

In the wild the species takes spiders, grasshoppers, earwigs and other invertebrates. Give live feeder insects of a size corresponding to the frog's head width: fruit flies and small crickets for juveniles and small males, and crickets, mealworms, small cockroaches, locusts and flies for adults. The food should vary, so the diet is varied.

Feed adults in the evening, every second or third day, as much as they eat in about an hour. Young animals are fed every day. Remove feeder insects left in the morning, so they do not gnaw at sleeping frogs. Dust the feeder insects with calcium at every second or third feeding and with a vitamin supplement with D3 once every week or two. Give the feeder insects a nutritious diet a couple of days before feeding.

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

BEHAVIOUR AND HANDLING

Leptopelis uluguruensis is nocturnal and sits motionless by day on large leaves or at the water's edge. The males call at night with a short, dry click from bushes near water, and the call is not loud. Social behaviour has not been described, so preferably keep a pair or a small group with several hiding places, and separate the animals if any are chased or do not get to the food.

Frogs should not be handled. If an animal must be moved, for example during cleaning, use a clean plastic container, and move the frog by letting it hop into it. Wet, clean hands without soap residue are the only acceptable contact. Signs of stress are animals sitting flat on the ground, losing skin colour or refusing to eat.

Breeding

SEXUAL MATURITY AND SEXING

Females are clearly larger than males: 46-48 mm against 28-38 mm. The males have a translucent, bluish throat and call at night, while the females are silent. The age at sexual maturity is not documented. A pair is most reliably put together by listening for which animals call, and choosing a female that is clearly larger.

MATING

Mating has not been described for *Leptopelis uluguruensis*. The genus normally breeds when the heavy rainy season begins, and the males call from bushes near water. Imitate the rainy season: keep the terrarium slightly cooler and drier for a few weeks, and then mist heavily several times a day while feeding the frogs generously every evening. Move the animals to a terrarium with a rain system when the females are thick with eggs and the males call. Breeding in captivity is not documented.

EGGS AND TADPOLES

Egg laying has not been described for *Leptopelis uluguruensis*, but the eggs are probably laid in cavities in mud near water, as in the rest of the genus, and the tadpoles live freely in water. The number of eggs is not documented; 100-300 eggs per laying and a larval period of 60-120 days are estimates for tree frogs of this size. For breeding, part of the terrarium must be a shallow mud or moss area close to a water section, and the eggs must be kept moist and cool.

The tadpoles of the genus feed on algae and plant parts in water. The species' tadpoles have not been described, so they are cared for like other free-living tadpoles: clean, oxygenated water without chlorine, 20-22 °C, and finely ground fish food and blanched lettuce as food.

Read more: Rearing tadpoles

METAMORPHOSIS

Hatching time is not documented for *Leptopelis uluguruensis*, and the larval period of 60-120 days is an estimate. When the forelegs appear, the water must be shallow, and there must be easy access to land with moist leaves, bark and moss, so the little frogs do not drown.

REARING THE YOUNG

Keep the newly metamorphosed young in a small, moist terrarium with moist kitchen paper and leaves, and give them fruit flies and springtails every day, dusted with calcium and vitamins. Move them to a larger terrarium when they are about 15-20 mm, and keep animals of the same size together, so none are eaten or outcompeted.

Health and common mistakes

Health problems have not been documented for *Leptopelis uluguruensis*. Amphibians generally have these problems:

- Dehydration from too low humidity or a terrarium that is too warm: dull skin, sluggish behaviour and animals sitting in the water dish.
- Bacterial and fungal infections in a warm, stagnant and dirty environment: redness on the belly and thin, slimy skin.
- Lack of calcium and D3 (soft jaw, cramps in the legs): prevented by dusting the food.
- Poisoning from soap, cream, pesticides or chlorine in the water.
- Parasites and intestinal worms in wild-caught animals: a faecal test at a vet with amphibian expertise.

See a vet when an animal stops eating for more than a week, loses weight, has swellings, bleeding or reddening skin.

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.