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FROGS

Tomato Frog

Dyscophus antongilii

Dyscophus antongilii is a frog from the north-eastern lowlands of Madagascar: round, stout and uniformly orange to deep red. The female reaches up to 11 cm and over 200 g, the male is smaller and more subdued. It lies buried by day and hunts at night, and it is calm and robust to keep when temperature, humidity and hygiene are in order.

Family: Microhylidae

Mild skin toxins

KEY FACTS

THE ANIMAL

Adult size	**7-11 cm** snout-vent length
Weight	**40-230 g**
Lifespan	**6-10 years**
Active	**At night**
Lifestyle	**Terrestrial and burrowing**
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	**60 × 35 × 35 cm** L × W × H for 3 adults
Temperature, day	**23-27 °C**
Temperature, night	**18-21 °C**
Humidity	**60-80%**
Water	**Water dish**
UVB	**Optional** Ferguson zone 1
Diet	**Insects and worms/snails**
Kept	**Singly, in pairs or in groups**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles in water**
Egg-laying site	**In water**
Sexually mature	**9-24 months**
Eggs per clutch	**1,000-1,500**
Hatching	**1-2 days**
Larval period	**45 days** from hatching to metamorphosis
Larval diet	**Complete diet**
Parental care	**None**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Least Concern (LC)**

About the species

Dyscophus antongilii is a heavy, round-bodied frog in the family Microhylidae and the most brightly coloured of the genus's three species. The back is smooth and uniformly orange to deep red with no distinct lateral bands. Females are clearly larger than males: up to 11 cm from snout to vent and 230 g against the male's about 7 cm and roughly 40 g. The female has the clearest red and orange tones on the back and a paler belly, and some animals have black spots on the throat. The male is more subdued orange to brownish orange. Young are dull and yellow-brown and acquire their colour only as they grow. Diet affects colour: carotenoids make the frogs distinctly redder.

The species was described in 1877 and is named after Antongil Bay. It resembles *Dyscophus guineti*, with which it partly shares its range, but is recognised by its uniform colour and by lacking the dark band from the eye along the side. *D. antongilii* is rarer in trade than *D. guineti*, and Madagascar has not permitted legal export since 2019. Animals in captivity typically live 6-10 years.

When the frog feels threatened, it puffs itself up, and if it is seized, the skin secretes a thick, white and sticky secretion that has a numbing effect on the attacker's eyes and mouth. The secretion can cause allergic reactions in humans but is not dangerous. Skin toxicity is therefore rated as mild: avoid handling, wash secretion off your hands immediately, and do not touch eyes and mouth until your hands have been washed thoroughly.

Distribution and habitat

Dyscophus antongilii lives only on Madagascar. The species occurs in the north-eastern part of the island around Antongil Bay, where Maroantsetra is a core area, and south along the coast to Andevoranto. The exact range is uncertain, because the species has long been confused with *D. guineti*. In some places the two species live side by side.

> **Native range:** Madagascar.

HABITAT

Dyscophus antongilii lives from sea level up to about 200 metres in humid tropical lowland forest. It also occurs in marshes, freshwater swamps, ponds, ditches, canals, plantations and gardens and can cope in heavily degraded forest and even in urban areas. By day it lies buried or under leaf litter, and at night it comes out and lies in wait for prey.

The species breeds in small, shallow ponds, swamps and slow-flowing water after heavy rain. Breeding falls in February and March, in the middle of the rainy season, when the climate is warm and humid.

The species is listed as Least Concern (LC) by the IUCN, but populations have declined because of habitat destruction, pollution and collection for the pet trade, especially around Maroantsetra. The species was therefore soon listed on CITES and is today on Appendix II.

Care

THE ENCLOSURE

A pair or three animals need a terrarium of at least 60 × 35 × 35 cm (length × width × height). Floor area matters more than height, because *D. antongilii* lives on the ground and digs. Young do best two by two in a smaller terrarium of about 40 litres, where they find the food more easily.

The substrate is the most important choice. Coconut fibre or a soil mixture free of fertiliser, pesticides and weed killers is best, because the frog can dig down, and the substrate holds moisture without rotting quickly. Lay at least 5 cm and cover with a layer of dry leaves, for example magnolia or almond, under which the frog hides, and which reduces the risk of it swallowing substrate. Avoid spruce bark and fine gravel.

Driftwood and cork bark give hides and something to climb on at night. Robust plants such as pothos can be used, but delicate plants get trampled or dug up, so artificial plants are a good alternative. A mesh lid gives the ventilation the species needs; cover part of it with glass if the terrarium dries out too quickly. Replace the whole substrate every second month, and remove faeces and food remains continuously.

TEMPERATURE

Dyscophus antongilii tolerates a wide temperature range and does well at ordinary room temperature. By day it must be 23-27 °C and at night 18-21 °C. The night may fall without harm once in a while to about 15 °C, but temperatures well above 27 °C can kill the frog. The species does not need a hot basking spot.

Use an accurate thermometer and measure in several places, including down at the substrate, where the frog stays. In a large terrarium there can be a large difference from one end to the other. Cool, wet and dirty conditions are one of the most common causes of disease. If the room temperature falls below 18 °C, a thermostat-controlled heat mat under part of the terrarium or a weak heat lamp can help.

A regular winter rest is not necessary, but a cooler and drier period in winter especially suits this species and is also used to get breeding going.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity should be 60-80 %. Mist lightly once a day or every second to third day, depending on how quickly the terrarium dries out, and use a hygrometer. The moisture in the substrate is the most important: it must be damp but not wet, and when the substrate is right, the humidity is usually right too.

A constantly wet substrate and stagnant air cause bacterial and fungal infections and respiratory problems, so ventilation must never be sacrificed for humidity.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

Put out a water bowl with dechlorinated water, large enough for the frog to sit in, and at least as deep as the frog is tall. Most frogs bathe in the bowl at night, so change the water every morning. Tap water is treated with a water conditioner that removes chlorine and chloramine. The frog absorbs water through the skin, so the bowl must never be cleaned with soap.

For breeding the frogs need access to a large body of water or a rain chamber; see under Mating. The tadpoles are sensitive to water quality: tap water that has stood for a day works fine in some places, while water from a different waterworks elsewhere can kill a whole clutch within ten days. If the tap water is poor, reverse-osmosis water can be a solution.

Read more: Rearing tadpoles

LIGHTING AND UVB

The species is nocturnal and does not need UVB, but a weak UVB light (roughly Ferguson zone 1) does no harm and can be provided. For live plants a daylight tube as for aquariums is used.

Keep the light on for about 12 hours a day controlled by a timer. The frog spends most of the day buried or under leaf litter and must always be able to hide from the light.

Read more: Lighting and UVB

FEEDING

Dyscophus antongilii eats only live food. The mouth is smaller than the round body suggests, so feeders must be about as large as the distance between the eyes or slightly smaller: crickets and small dubia cockroaches of 13 mm at most for adults and about 6 mm for young. Earthworms are an excellent food and can be cut into smaller pieces for smaller animals. Adults can be fed almost exclusively on earthworms and shell-less snails, and the soft food probably promotes both shape and breeding activity. Young prefer crickets and take earthworms only at 4-5 cm. Waxworms, mealworms, soldier fly larvae and fly larvae are treats given once in a while.

Adults get 3-6 crickets several times a week or earthworms twice a week, young daily. If crickets are still running around after a couple of hours, the frog is getting too much. Dust the food with a vitamin and mineral supplement at every second feeding for adults and at every feeding for young, and give a carotenoid supplement for the sake of colour. Feed in a dish, or in water, so the frog does not swallow substrate along with the prey. A healthy adult frog can go a week without food with no problem.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Dyscophus antongilii is calm and secretive. It lies buried most of the day and comes out at night. Adults can become somewhat tame, but at best tolerate handling, so pick it up only when necessary. Oil and soap residue on human skin can harm the frog, so rinse your hands thoroughly before and after. If you see the white, sticky secretion, the frog is stressed.

Several animals can live together when there is enough space; males are rarely aggressive outside the breeding season. Keep together only animals of the same age and size, because young frogs can end up as prey for adults. Do not mix the species with other frogs: it causes stress, can transfer diseases and parasites, and some frogs' secretions are lethal to other amphibians.

Breeding

SEXUAL MATURITY AND SEXING

Sex is easily determined by size: adult females reach up to 11 cm, males rarely over 7 cm. Females are also redder, males more orange or yellowish, and in males the reproductive organs are often seen as two white lines under the skin of the belly.

The young grow quickly and can reach adult size within a year. In the genus the animals become sexually mature at 9-14 months, but a female should be at least two years old before being used for breeding. A precise age for *D. antongilii* is not documented.

MATING

Dyscophus antongilii is hard to breed without hormones, and hormone treatment has long been the usual route. In the wild heavy rain triggers breeding, and the males call at night from small waters. Breeding without hormones has succeeded with the closely related *Dyscophus guineti*, and the procedure is the same: a long dry period and a cooler winter, then gradually increasing humidity and generous feeding, and finally a rain chamber where it rains artificially.

Rain alone is not enough: it can get the pairs into amplexus without any eggs coming. What is decisive is the food: almost exclusively earthworms and snails, given in water. During mating the male grips the female from behind, and the eggs are fertilised in the water.

EGGS AND TADPOLES

The eggs are laid as a film on the water surface. The female lays 1,000-1,500 small black-and-white eggs. In *D. guineti* a clutch can yield from about 40 to over 3,000 tadpoles, and egg-laying can last over 50 minutes. There is no parental care, and the adults are moved out so the eggs and tadpoles get peace.

The tadpoles hatch after about 36 hours and are only about 6 mm long. They do not have fully developed mouthparts and can eat neither algae, pellets, flakes nor meat, not even dead siblings. Instead they swim about and filter their food from the water. Grind fish food to a very fine powder, for example in an old coffee grinder, and stir it into the water in small portions. Water quality is decisive; see under water. Keep the water clean, and divide large clutches between several tubs.

METAMORPHOSIS

Metamorphosis is complete about 45 days after egg-laying. Some metamorphose faster, and a few can stall in development.

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 they do not drown. Move the metamorphosed young to a humid rearing terrarium.

REARING THE YOUNG

The newly metamorphosed young are yellow to yellow-brown and are kept in a simple terrarium with damp coconut fibre or damp kitchen paper, hides and a shallow water bowl. The young are not cannibals, but in *D. guineti* they develop skin toxins and can poison each other when they sit in heaps, and the same caution applies here. Poisoned young become lethargic and do not turn over when laid on their back. Rinse the young regularly when they huddle together, do not keep them too close, change the substrate often, and always ensure good ventilation.

Feed daily with crickets of about 6 mm and other small insects, always dusted with supplements. The young grow quickly and acquire the red colours as they become sexually mature.

Read more: Calcium, vitamins and supplements

Health and common mistakes

Dyscophus antongilii is robust, and most problems are caused by the environment or hygiene. The typical errors are:

- Cool, wet and dirty conditions. This causes bacterial infections, which can show as bloating, discharge, unsteady movements or a frog that rolls over onto its back.
- Too high a temperature, well above 27 °C, can kill the frog.
- Stagnant air, which causes respiratory problems.
- Lack of vitamins and minerals. Dust the food.
- Overfeeding. The frog is greedy and easily becomes fat.
- Parasites and poor condition in wild-caught animals. Preferably buy captive-bred animals.
- Chlorine, chloramine or soap residue in the water and on hands.

A healthy frog is round, has clear eyes and digs down by day. Isolate a sick frog in a clean terrarium with the right conditions, and see a vet with amphibian expertise if it is lethargic, unsteady in its movements, bloated 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.