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FROGS

Venezuelan Horned Frog

Ceratophrys calcarata

Ceratophrys calcarata is a broad, nocturnal ambush predator from the dry lowlands of Colombia and Venezuela. It lies buried with only its eyes and mouth showing and snaps up anything that fits in its mouth. The species reaches 6-8 cm, must live alone and is kept like the better-known species of the genus. It bites hard.

Family: Ceratophryidae

KEY FACTS

THE ANIMAL

Adult size	**6-8 cm** snout-vent length
Lifespan	**10-15 years**
Active	**At dusk and at night**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Savanna and dry forest**
Skin toxins	**None known**
Difficulty	**Intermediate**

CARE

Min. enclosure	**45 × 45 × 30 cm** L × W × H for 1 adult
Temperature, day	**25-28 °C**
Temperature, night	**22-24 °C**
Humidity	**60-80%**
Water	**Water dish**
UVB	**Optional** Ferguson zone 1
Diet	**Insects, vertebrates and worms/snails**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles in water**
Egg-laying site	**In water**
Sexually mature	**18-24 months**
Eggs per clutch	**335**
Clutches per year	**1**
Hatching	**2-4 days** at 24-26 °C
Larval period	**14-30 days** from hatching to metamorphosis
Larval diet	**Other tadpoles**
Parental care	**None**

PROTECTION AND PAPERWORK

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

About the species

Ceratophrys calcarata is a stout, almost spherical frog with a large head and a mouth almost as wide as the body. Above each eye there is a small, pointed flap of skin like a horn. Adults reach 6-8 cm from snout to vent, and females are the largest. The species has two clearly different colour types, often in the same population: one light brown, the other strongly green.

The species was described by Boulenger in 1890 and is closely related to *Ceratophrys cornuta*. An isolated population in Venezuelan Amazonas was long regarded as *C. cornuta* but belongs to *C. calcarata*. The species is far rarer in terrariums than *Ceratophrys cranwelli* and *Ceratophrys ornata*.

The frog is an out-and-out ambush predator. It buries itself so that only the eyes stick up and waits until prey comes close enough. Then it lunges forward in a single strike. The bite force is great for a frog: the upper jaw has sharp teeth, and the lower jaw has two tooth-like projections that hold on to the prey. A bite from a large frog hurts and often draws blood.

The skin has no known toxin. The real risk is the bite. Wash your hands after contact with the animal, the water and the substrate.

Distribution and habitat

Ceratophrys calcarata lives in the Caribbean lowlands of northern Colombia and north-western Venezuela, up to about 500 m above sea level. In Colombia the species has been found in, among others, Magdalena and Sucre. In Venezuela it lives in the states of Falcón, Lara, Yaracuy, Trujillo, Mérida and Zulia.

In addition there is a separate population in Venezuelan Amazonas around Puerto Ayacucho. The populations are often several kilometres apart, and the frog is hard to spot, because it is hidden for most of the year. The species is not threatened.

> **Native range:** Colombia and Venezuela.

HABITAT

Ceratophrys calcarata lives on the ground in dry savanna, dry scrub and dry lowland grassland and by temporary freshwater swamps. For most of the year the frog lies hidden in the ground. Only after several days of sustained rain does it emerge and head for the waterholes to breed.

The lowlands are warm all year with a humid rainy season and a dry season. The frog spends the dry season hidden underground; how long it stays dormant is not documented.

Adults eat mostly other vertebrates, especially frogs and toads: in some populations amphibians make up over 60 % of the diet. The rest is centipedes, earthworms, spiders and beetles. Young animals live mostly on insects. The diet follows what is easy to get hold of.

Care

THE ENCLOSURE

There is little knowledge about the husbandry of *Ceratophrys calcarata*. The climate in the range is warm, and the way of life corresponds to *Ceratophrys cranwelli* and *Ceratophrys ornata*, which are far better known in captivity. The recommendations are borrowed from them.

An adult needs a horizontal terrarium of at least 45 × 45 × 30 cm. The floor area should be 8-10 times the size of the animal, and height matters less, because the frog sits on the ground and does not climb. A large female does better in 60 × 45 × 30 cm. Always keep the animals separately.

The most important thing is a deep, loose substrate that the frog can bury itself in completely: 10-15 cm for adults. A mixture of coconut fibre, a little sphagnum and fine, composted orchid bark holds moisture, aerates well and does not smell. Avoid gravel and small stones, which are swallowed with the food and can cause constipation. Lay leaf litter or moss on top and a few pieces of cork bark or half flowerpots, where the soil stays a little damper. Robust plants such as pothos and ferns can stand in pots buried in the substrate, so they are not dug up.

Sift the substrate for faeces, and replace it completely when it smells or becomes slimy. If several terrariums stand side by side, put screens between them, because the frogs throw themselves at the glass at animals on the other side and can injure their snout and jaws.

TEMPERATURE

By day the terrarium is kept at 25-28 °C and at night at 22-24 °C. The lowlands are warm all year, so the temperature should not fall markedly in winter. Use a heat mat on the side of the terrarium, not under the substrate, because a frog that buries itself to get away from the heat otherwise ends up digging towards it. Always use a thermostat, and measure the temperature down at the substrate for a few days before the frog moves in.

A deliberate cool dormant period is not recommended, because it is not known how the species tolerates it.

Read more: Heat and temperature

HUMIDITY AND MISTING

Humidity is kept at 60-80 %. The species comes from dry lowlands but lives in humid conditions during the rainy season, so the substrate must be damp all year. Mist lightly in the evening, so the soil is kept damp but not wet. Have both damper and drier areas in the substrate, and let young frogs have it slightly damper than adults.

Use tap water treated against chlorine and chloramine. If the substrate dries out completely for a long time, the frog risks going into unwanted dormancy or drying out.

Read more: Humidity, misting and ventilation Read more: Brumation and the seasons

WATER AND WATER QUALITY

Always provide fresh water in a shallow, heavy bowl that the frog cannot tip over when it digs and that is large enough for the whole animal to lie in. The water should reach the frog's mouth at most, so it can rest with its head above water.

The frog often defecates in the water, so check and change it every day. Amphibians absorb water and dissolved substances through the skin, so clean the bowl without soap and rinse it thoroughly.

LIGHTING AND UVB

UVB is not necessary for *Ceratophrys calcarata*, but the frog gets some UV in the wild, and a weak UVB tube (Ferguson zone 1) can be an advantage. If so, give plenty of shade with broad-leaved plants and the opportunity to bury itself.

Ordinary LED lighting gives a daily rhythm with 12 hours of light, and at night it must be dark. The frog is most active at dusk and at night and lies buried most of the day.

Read more: Lighting and UVB

FEEDING

Ceratophrys calcarata eats almost anything that moves and can get into its mouth. In the wild adults eat mostly other frogs. In the terrarium the staple food should be insects and worms: crickets, cockroaches, grasshoppers and earthworms, preferably varied with a little fish. Mice may be given only rarely and only to large females, because the frog can become so fond of them that it refuses insects, and the fatty food causes obesity.

Young animals are fed daily with as much as they will eat at a time. Adults are fed only every few days or once a week. Overfeeding is one of the most common errors. An adult frog in good condition is slightly longer than it is wide and can manage for months without food. Never force-feed a frog that will not eat.

Feed the feeders well 1-2 days beforehand, and dust them with calcium and a multivitamin with D3 at every second feeding for young and less often for adults. Use tongs, and do not let the frog swallow large amounts of substrate.

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

BEHAVIOUR AND HANDLING

Ceratophrys calcarata is a calm, sedentary frog that can lie in the same place for weeks. It is nocturnal. Young frogs sometimes lift a hind foot as a lure to trick other frogs and lizards close, but this is rarely seen in terrariums.

Always keep the animals separately. Both young and adults eat each other if they can get their mouth around a conspecific, even when they are almost the same size.

Avoid handling the frog. If it must be moved, take hold from behind, and keep your fingers away from the mouth. If it bites, wait until it lets go itself, because if you pull your hand away, the teeth can tear a deeper wound.

Breeding

SEXUAL MATURITY AND SEXING

Females become larger and heavier than males and have a larger head. Males have loose skin in the throat, where the vocal sac sits, and a nuptial pad on the innermost finger. In young animals the sex is hard to see.

The age at sexual maturity is not known; in the best-known relatives it is 18-24 months. Do not let the animals breed until they are fully grown and in good condition.

MATING

Captive breeding is not documented for *Ceratophrys calcarata*. In the wild it breeds in the rainy season, when after several days of rain it comes up from the ground and heads for the waterholes.

In the best-known relatives, *Ceratophrys cranwelli* and *Ceratophrys ornata*, breeding is triggered by a dry, cool period of about two months at about 21 °C, followed by artificial rain: the animals are put in a shallow tub of water where they can reach the bottom and climb out, and are misted heavily several times a day. The males begin to call, and the eggs typically come 3-4 days after the rain has begun. Whether the method works on *C. calcarata* is not known.

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

EGGS AND TADPOLES

The female lays the eggs in the water, on average about 335 eggs per laying, and the species breeds once a year. In the other species of the genus the eggs attach to floating aquatic plants, and the parents must be removed as soon as the eggs are laid, otherwise they eat them. There is no parental care.

The tadpoles are pure predators and readily eat each other, so they must be kept either separately or in a large tub with plenty of floating plants to hide in. Feed several times a day with live food such as bloodworms and chopped earthworms, and keep the water clean with frequent water changes. The water is kept at 24-26 °C.

Read more: Rearing tadpoles

METAMORPHOSIS

Hatching and larval periods are not documented for *Ceratophrys calcarata*. In *Ceratophrys cranwelli* the eggs hatch after 2-4 days and the tadpoles metamorphose after 2-4 weeks; the figures in the box are borrowed from there. The tadpoles are pure predators and grow very quickly.

When the forelimbs appear, the tadpoles must have access to land: lower the water level, and add floating bark or a sloping stone so they can climb out. The newly metamorphosed young must be separated at once, because already now they eat each other.

REARING THE YOUNG

The newly metamorphosed young must live separately in small containers, for example plastic cups, with a damp substrate and a hide. Group rearing causes losses, even when the young look the same size.

The young eat anything that moves. Give small crickets, cockroaches and earthworms daily, and dust the food with calcium and vitamins with D3 at every second feeding. An earthworm in a thin film of water can get a fussy young one to eat, because the movement resembles a tadpole. Move them to larger containers as they grow, and never use gravel in the substrate.

Health and common mistakes

Ceratophrys calcarata is probably as robust as the best-known relatives when husbandry is in order. Typical problems:

- Constipation, when the frog swallows gravel or small stones with its prey. Young animals are particularly vulnerable. The signs are lack of faeces, a bloated belly and lethargy.
- Obesity from overfeeding, especially with mice and other fatty food.
- Frogs that will only take mice and refuse insects.
- Injuries to snout and jaws when the frog throws itself at the glass. Put screens between the terrariums.
- Bone disease in young animals when the food is not dusted with calcium and D3, with soft bones and crooked legs.
- Unwanted dormancy when the substrate is too dry or too cold.

See a vet with amphibian expertise if the frog has no faeces, has a bloated belly, swells up, has sores or red skin or seems unwell without being dormant.

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.

The full guide with map and updates: herpy.org/en/frogs/ceratophrys-calcarata