African Clawed Frog (Xenopus laevis) Species Profile: Housing, Diet, and Behavior

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African Clawed Frogs are easy to take care of as long as you have a fresh, clean, dependable water source. They are an excellent choice for the first-time frog owner. African Clawed Frogs have been used extensively in laboratory research. In the 1940s they were used to test for pregnancy in humans by injecting the frog eggs with the urine from women thought to be pregnant. As more sophisticated pregnancy testing became available, many of these frogs were released into the wild in the United States. Especially in southwestern areas of the country, they have become established and interfere with natural ecosystems. It is now illegal to import them or have them as pets in some states, so check with your local ordinances before purchasing one. These frogs should never be released into the wild.

Natural environment

There are fourteen species of the African Clawed Frog, which is native to the sub-Saharan portion of Africa. *Xenopus laevis* is generally found along the western Rift Valley, and lives in grassland ponds, streams, and lakes in both arid and semi-arid climates. Because of the release of captive African Clawed Frogs into the wild, the species is now found in many parts of the world in freshwater environments.

If the water sources in their environment dry up, the African Clawed Frogs may migrate to new sources, or bury themselves in the mud, with an opening for them to breathe through. They can remain dormant this way for up to 10 months.

Physical characteristics

The African Clawed Frog is medium-sized, with the females (3-6 inches) being almost twice as large as the males. They have flattened bodies, and wedge-shaped heads. Their small eyes, which are lidless, are situated at the top of the head. They have thick muscular hind legs with webs between the five toes. The three inside toes have claws. The front legs are small and the four toes are not webbed. The African Clawed Frog does not have a tongue; instead, it uses its front toes as fingers to bring food to its mouth. The Latin word " *Xenopus*" actually means "strange foot."

African Clawed Frogs are well-designed for swimming, and can even swim backwards. Although they are aquatic, adult African Clawed Frogs have fully developed lungs.

The skin of African Clawed Frogs is transparent and they do not have visible ears. They are usually gray to olive green in color, with patches of brown or darker gray over their backs and legs. The belly and inside of the legs are cream-colored, sometimes with a yellow tinge. Like fish, they have a lateral line along each side. The lateral line helps them navigate and detect movement in murky water.

In addition to size, there are other visible differences between male and female African Clawed Frogs. During mating season, mature males develop black nuptial pads on the inside of their forearms and on their front toes (fingers). Females are more pear-shaped than males and have a more apparent cloacal opening.

African Clawed Frogs can live 10-15 years.

Reproduction

African Clawed Frogs are generally mature at 10-12 months of age. Despite the fact that they have no vocal sacs, during mating season both males and females can produce a very loud call underwater, which sounds like a rapid series of metallic clicks. Mating generally occurs at night. The male grasps the female, placing his forearms above her hind legs. This is called a "pelvic amplexus" (mating embrace). While in the male's grasp, the frogs move in a circular motion, and the sticky eggs (from several hundred to 2,000) are laid and fertilized while the frogs are upside down near the surface of the water. The frogs will continue to perform these somersault-like maneuvers until all the eggs have been laid.

The unprotected eggs develop into tadpoles within two days and eat small plant material. They will mature into tiny frogs within 6-8 weeks, and become carnivorous.

Some females may lay eggs without a male being present.

Enclosure and environment

African Clawed Frogs should be kept in aquariums, with at least 10 gallons of water per frog. The depth of the water should be between 6 and 12 inches. This will provide ample swimming space, but still allow them to easily reach the surface to breathe. The temperature should be 74-78°F. In most climates, a heater will be needed to keep the water at a proper temperature. Tap water should be allowed to stand 24 hours or a dechlorinator should be used before adding it to the aquarium.

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The bottom of the aquarium can be covered with small rocks that are too large for the frog to swallow. Provide rocks, flower pots, and driftwood as hiding places. Plastic plants may also be added. Natural plants are usually destroyed by the frogs as they dig. Direct or artificial lighting is not needed, and is actually not recommended, since the natural environment of these frogs is often stagnant water that diffuses the sunlight. Provide the aquarium with a tight-fitting lid, since African Clawed Frogs are excellent jumpers and escape artists.

Diet

African frogs have a very varied diet, and are scavengers in their natural environment. They may be fed commercially prepared foods (e.g., Tetra's ReptoMin), brine shrimp, shrimp pellets, waxworms, tubifex worms, bloodworms, mealworms, and insects, as well as feeder guppies and small minnows. Remove any uneaten food after 15 minutes. Frequent water changes and/or a good aquarium filtration system will also be necessary. African Clawed Frogs usually have excellent appetites, so be careful to not overfeed.

Temperament and handling

African Clawed Frogs are fun to watch, but should not be handled since their skin dries out very easily. They may, however, learn to take food from the owner's hand. Some people have reported an allergic reaction to a chemical produced by the frog's skin.

- Photos courtesy of the Headwaters Science Center, Bemidji, Minnesota, and University of North Texas, Denton Texas.

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