



ODDEST TOADS—*Xenopus* toads in their laying cage. The netting is to prevent them from eating their own eggs. Note the extremely wide, webbed hind feet, tiny, hand-like forefeet; also absence of eyelids.

ZOOLOGY

World's Oddest Toads

Are being used for pregnancy tests which require only four to 12 hours instead of 48. Are completely unlike the "regulation" toad.

► WASHINGTON is the temporary home, just now, of a colony of the oddest toads in the world. They are as completely unlike the "regulation" toads that all of us know as can well be imagined. They haven't any warts. They don't sit blinking their eyes while they wait for a chance to snare an insect with a lightning-like snap of a long tongue, because (a) they are as completely aquatic as catfish, so they never sit on anything, (b) they haven't any eyelids, so they can't blink, (c) they haven't any tongues at all. Being so unlike the familiar, land-dwelling toads and even more water-loving than frogs, they are often called frogs; but zoologists still classify them as toads.

They come from Africa, and their formal name is *Xenopus laevis*. Familiarly, they are sometimes called clawed toads (or clawed frogs) because there are sharp little claws on three of the toes of each broad, paddle-like hind foot.

Most of them are at present in the U. S. Fish and Wildlife Aquarium, under the main lobby of the Department of Commerce building. Some, however, have been placed on public display at the National Zoological Park, and there are other collections also in New York, Chicago and Philadelphia.

They are here on business—medical business. Physicians use them instead of the Aschem-Zondek pregnancy test, because it requires only four to 12 hours instead of 48 hours. If a little body fluid from a woman who thinks she may be going to have a baby is injected into a female *Xenopus* with a hypodermic syringe, and the toad begins to lay eggs, the test is positive. More than 1,000 such tests are now being made each month.

The toads were brought to this country by a Merchant Marine officer, Lt. Jay E. Cook, of New York. On his wartime cruises, he made contact with a good source for wholesale toad exports in Africa, and arranged to have a shipment of 3,000 of them sent. Of these, 2,822 made the long voyage successfully—a very good score. Another shipment, of 2,000 animals, is on the way.

Lt. Cook feeds his toads on ground beef hearts, mostly. They will also eat liver, horsemeat, clams, minnows, tadpoles—even their own kind of tadpoles, for like all the frog-toad tribe they are cannibals. In their native home (which is most of Africa south of the equator) they feed on worms, drowned insects and small wiggling things that they can catch in the water. Since they have no tongues, they have to put their food into their

mouths with their small, hand-like front feet.

Although they spend their entire lives in the water, and will die like fishes if kept out of it for any length of time, they are strictly air-breathers. Consequently they swim to the top about every 10 minutes, stick the tips of their noses above the surface long enough to catch a breath, then let themselves sink to the bottom again.

There have been some proposals to grow them in this country, in the frog-farm region along the Gulf Coast. The climate there is favorable enough; nevertheless, Lt. Cook does not anticipate attempting it, for the present at least. So long as he can get a good supply from Africa, *Xenopus* will probably remain on an import basis. No one has ever suggested levying a protective tariff on toads.

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ELECTRONICS

Television "Eye" Sensitive To Candle-Lighted Scenes

► EXTREME sensitivity is the striking feature of a new television "eye" revealed by the Radio Corporation of America. It is a television camera tube of revolutionary design, so sensitive that it can pick up scenes illuminated only by candle or match light, or scenes with invisible infra-red rays in a blacked-out room. It is claimed to be 100 times more sensitive than conventional pick-up tubes.

In appearance the new tube, called the RCA Image Orthicon, resembles a large tubular flashlight in size and shape. It is about 15 inches long, with a shank about two inches in diameter, and a head three inches in diameter and three inches long. It has three main parts: an electron image section, an improved Orthicon-type scanning section, and an electron multiplier section in which the relatively weak video signals are magnified before transmission.

The principle on which the tube is based is known as secondary electronic emission. This involves the use of electrons from a primary source as missiles to bombard a target, or a series of targets, from each of which two or more electrons are emitted for each electron striking it. The primary source in the tube is a photo-sensitive face on which the light from the scene being televised is focused by an optical lens system.

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