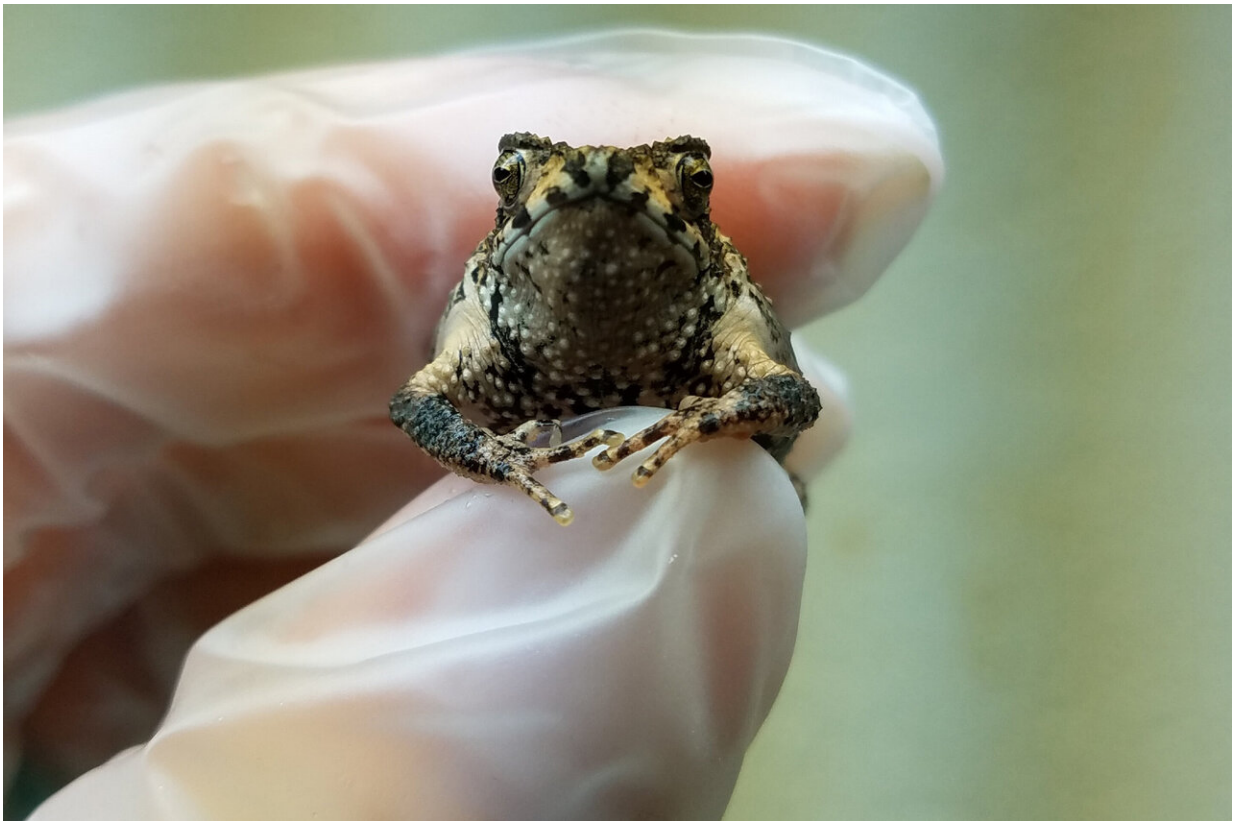


First in vitro Puerto Rico crested toad gives scientists hope

November 23 2019, by Dánica Coto



In this Sept 25, 2019 handout photo provided by the Fort Worth Zoo, Olaf is held by primary Puerto Rican crested toad zoo keeper Kelsey Barron, at the Fort Worth Zoo, in Fort Worth, Texas. Officials told The Associated Press Friday, Nov. 22, 2019, that Olaf, a critically endangered Puerto Rican toad, is one of more than 300 toads born via in vitro fertilization as U.S. scientists attempt to save it from extinction. (Fort Worth Zoo photo via AP)

A critically endangered Puerto Rican toad was for the first time born via in vitro fertilization as U.S. scientists attempt to save it from extinction, officials announced Friday.

Olaf - named in honor of the frozen semen he came from—is the first of more than 300 Puerto Rican crested toads that hatched after the first attempt failed, Diane Barber, ectotherms curator at the Fort Worth Zoo in Texas, told The Associated Press.

"We don't typically name our toads, but that one deserved special recognition," she said via phone. "We were super, super excited. ... You kind of hold your breath for 30 days to see if they're going to metamorphose."

Barber was part of a team that traveled to the southwest town of Guayanilla last year to collect semen from six male Puerto Rican crested toads that were later released back into the wild. The scientists were careful to select bigger toads that had what are called "nuptial pads" on their thumbs, which indicate sexual maturity and help them grab on to females, she said.

Extracting semen from toads that measure up to 4.5 inches (11 centimeters) long is normally easy: they release it in their urine, and they usually pee whenever they're picked up, Barber said. But for those toads that did not pee, another tactic was used.

"It's kind of weird, but if you hold them in your hand and look at them and bark at them like a dog, they will pee," she said.

The team, which included scientists with the U.S. Fish and Wildlife Service and Puerto Rico's Department of Natural Resources, among others, preserved the semen in liquid nitrogen as they transported it to the Fort Worth Zoo, where a couple of female toads injected with

hormones awaited.

Efforts to save the Puerto Rican crested toad date back a couple of decades, but this is the first time in vitro fertilization was used, according to Armando Otero, interim secretary of the island's Department of Natural Resources.

"This is a significant advance for critically endangered species, as it will allow zoos, researchers and other conservationists to expand their genetic population used to increase the general population while keeping toads in their natural and wild habitat," he said in a statement.

To prepare the toads for successful reproduction, scientists expose them to cooler temperatures for about three months and sometimes will even re-create rain, Barber said.

Of the more than 300 toads that were born via in vitro, 100 were sent to other zoos with captive breeding programs and the remaining 200 will be sent to Puerto Rico in December via FedEx to be released into the wild.

The Puerto Rican crested toad was thought extinct until the 1960s and was then rediscovered in the early 1980s. Most of the population lives in the southern half of the U.S. territory, with no northern toads spotted since 1992. But concerns are growing about their ability to survive climate change. In the southwest coastal town of Guánica, where the population remains most stable, rising sea levels are threatening their habitat, Barber said. The toads live near the beach, and scientists fear that in upcoming years, saltwater will seep into the ponds they use for breeding.

The toad's wild population in Puerto Rico is estimated anywhere from 300 to 3,000, Barber said, adding that they're very cryptic.

While Puerto Rico is known for its coquí frogs and their beautiful calls, Barber said that the crested toads sound "more like a car engine that's trying to start."

"For what they lack in their call, they have these beautiful golden eyes and ducklike beak noses that turn up," she said.

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