Propagation of the Pirate Perch, *Aphredoderus sayanus*, an Extirpated Fish in Ohio, at The Toledo Zoo

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The pirate perch is a small, solitary fish that hides by day among aquatic plants or in debris on the bottom of ponds or slow moving streams. They grow to a length of 4.3" and feed on smaller aquatic animals. They were given the common name "pirate perch" by an early naturalist who noticed that they were very skilled at preying on other small fishes kept in the same aquarium with them. He also thought they looked a bit like perch, although they are not related.

They are such a drab, unassuming fish that most people are unaware of their existence. Few people have ever seen one, and those that do usually think they are looking at some type of ugly minnow. Although still plentiful along the Atlantic Coastal States, and in the South, in the Midwest, it is much more rare than it once was. In Ohio, the pirate perch was found in the Auglaize River drainage until around 1950. It has not been collected in Ohio since then, and is considered extirpated (locally extinct) from the state. Habitat destruction occurred when streams in the area were dredged and ditched and wetlands were drained, causing most pirate perch populations to die out. Siltation of these small streams also caused the destruction of this species' habitat. Although still found in Michigan, Indiana and Illinois, it is no longer present in many streams where it once was found. It is considered a species of special concern in Pennsylvania and Wisconsin. As biologists sample more areas in their state, they are finding that the pirate perch's plight is more serious than was originally thought.

The Ohio Department of Natural Resources / Division of Wildlife and The Toledo Zoo are studying if the pirate perch can be reintroduced into areas of Ohio where it once was found. Stricter environmental laws have improved the quality of some stream habitats, enough so that this may be successful. Although translocation (moving some fish into Ohio waters from areas where it is still found) is a possibility, the Division of Wildlife also wanted to explore the prospect of raising these fish in captivity for later release into the wild.

The Toledo Zoo set up a pirate perch breeding system behind the scenes of the aquarium in the winter of 2000. Twelve young wild pirate perch were collected that spring with the help of the Indiana Department of Natural Resources. For the next few months, the fish were treated for various parasitic infections and taught to feed on standard aquarium diets. During this time, six of the fish died because they failed to adapt to captivity. The remaining six fish were fed well and grew much larger. In the fall of 2001, the water temperature of the breeding system was lowered to simulate the changing seasons. In early January 2002, one of the females released a batch of eggs, but they were infertile. This species relies on external fertilization of their eggs. The female needs to release her eggs only when the male is nearby and ready to fertilize them. After the eggs are fertilized, neither the male nor the female offer them any care.

Finally, on February 5th, we saw the first fertile eggs with tiny embryos developing inside. It had been widely reported that this species either broods its eggs in the **cont. on p. 24**

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mouth of the adult fish, or prepares a nest and then guards the eggs after they are laid. In our case, the non-adhesive eggs are simply scattered over the bottom and left to develop unguarded in any way by the adult fish. The eggs hatched in five days, and the tiny larva lay on the bottom, unable to swim for another six days until their yolk sacs were absorbed. They then began feeding on tiny brine shrimp that the aquarium staff raised for them. At this time we have 25 baby endangered pirate perch behind the scenes of the aquarium. Now that we know how to breed this species in captivity, we hope to have even better success next year, and have enough fish to release them back into the wild.

References

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