

Breeding Wild-Caught and F1 Pirate Perch (*Aphredoderus sayanus*)

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The Pirate Perch is an odd, rather unattractive fish that nevertheless has captured the curiosity of many native fish enthusiasts. I am sure this is due to its being the only member of its family and to its unique anus, which moves from just behind the anal fin in juveniles to the throat region just below the head in adults. Pirate Perch occur in my home state of Michigan but seem to be rare and have a scattered distribution. I had never seen one until the 2004 NANFA Convention in Columbia, South Carolina, where it was one of the most common fishes we encountered. (We caught hundreds in our pursuit of more colorful fishes.) Six very small (15mm long) specimens made it back to my fish room at home. The following are my experiences breeding them and their F1 progeny.

I fed my Pirate Perch live blackworms since frozen brine shrimp and bloodworms usually went uneaten. I did not try to breed them in 2005, waiting instead for the spring of 2006. By December 2005 I was wintering three fish, 50-63 mm long, in my "cold room," a room in my home where the temperature in winter can be maintained below 10°C. On 1 Jan. 2006, when the water was around 4°C and the light was on nine hours per day, I removed the Pirate Perch from the cold room along with 10 gallons of water. I placed the fish and the water into a 10-gallon tank in which the bottom and sides had been painted black and the front covered with black plastic. Within a day the temperature rose to 16°C. I added two hours of light once a week for three weeks, at which point the front cover was removed.

Having read a report in *American Currents* (Riffles, Spring 2004) of Pirate Perch spawning in the wild by pushing their heads into massed roots, I provided breeding structure to mimic a root mass. I placed several sinking yarn spawning

mops into the tank, one of which had a rubber band around the loose end of the yarn strands to further simulate a tight mass of roots. The tank also included a 4" x 6" ceramic tile propped up on a halved flower pot to create caves, and a piece of driftwood with java fern attached.

On 16 Feb. 2006, I found several fungused eggs loose in one of the mops. After inspecting all of the mops and finding no more eggs, I began to search the tank. I found a few loose eggs on the tank bottom, and a cluster of eggs under the ceramic tile where it made contact with the tank bottom. The cluster contained 28 fertile and 10 infertile eggs. Water temperature was 18°C. On 27 Feb. 2006, I found 12 fertile and 16 infertile eggs loose on the tank bottom under the driftwood. I placed the eggs into glass bowls with several drops of MarOxy® as a fungicide and covered the bowls with plastic wrap. Here is a timeline of egg development:

- 2-27 Cluster of cells on yolk
- 2-28 Tube body wrapped around yolk
- 2-29 Heads forming
- 3-1 Eyes on heads
- 3-2 Tail moving in eggs
- 3-3 A net of blood vessels covering yolks on most eggs; eyes with slight grey pigment; over half the eggs have fungused
- 3-6 One egg hatched
- 3-7 All eggs hatched

Fry at hatching are 4.5 mm long with very large yolk-sacs and a small amount of pigment in the eyes. Basic color is a cream- to light-yellow. Their shape is reminiscent of a tadpole. The fry remain still on the tank bottom but spin and

scatter across it if disturbed. Fry at nine days old have little of their yolk-sacs left and are darkening in pigment. I fed them brine shrimp nauplii and microworms. Mortality rate was high with only six fish alive at 60 days. At this point they became easy to raise. Five of the six F1s survived to adulthood.

F1s were wintered the same way as their parents and the breeding tank set up as before, except this time I removed the spawning mops. On 19 Feb. 2007, I found 41 fertile and 36 infertile eggs in a cluster under the ceramic tile. Again, I placed these eggs in glass bowls covered with plastic wrap. This time, however, I was out of MarOxy® and it took several weeks to find more since my local store no longer carried the product. All of my Pirate Perch eggs fungused, as did the eggs of other fishes I was working with at the time. I had hoped for a second clutch as the year before, but this didn't happen. I no longer have these Pirate Perch or else I would be breeding them again. I hope this information will help others working with this unusual fish be more successful breeding and raising them than I.

Bibliography of Pirate Perch Literature from *American Currents*

- Anonymous [Riffles item]. 2004. The puzzling anus of the pirate perch. *American Currents* 30 (2) [Spring]: 27-28.
- Brill, J. S. 1977. Notes on abortive spawning of the pirate perch, *Aphredoderus sayanus*, with comments on sexual distinctions. *American Currents* 5 (4) [Oct.-Dec.]: 10-16.
- Hemdal, J. 2003. Propagation of pirate perch, *Aphredoderus sayanus*, an extirpated fish in Ohio, at The Toledo Zoo. *American Currents* 29 (1) [Winter]: 9.
- Katula, R. 1973. Breeding of the pirate perch. *American Currents* 1 (2) [Summer]: 17.
- . 1987. Spawning of the pirate perch recollected. *American Currents* June-July/Aug.-Sept.: 19-20.
- . 1991. Spawning the pirate perch, one more time. *American Currents* Spring: 24-26.
- Pottern, G. 2003. Sex life of pirate perch revealed! *American Currents* 29 (3) [Summer]: 27. 