

Notes on Spawning the Swamp Darter (*Etheostoma fusiforme*)

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In 2002 I was given six swamp darters that had been collected in New Jersey. Since I had only spawned darters from the Great Lakes drainage, I thought swamp darters would be an interesting change of pace.

All of the northern darters I have worked with needed temperatures between 5 and 10°C and a photoperiod that matched shortening days in the winter to induce spawning. Therefore I placed the swamp darters in my “cold room” for low temperatures. I simulated the photoperiod by using a timer to change the amount of light the tank received by 15 minutes per week.

On December 21, when daylight was only nine hours per day, I used an acceleration method to trick the fish into believing it was spring. I removed the darters from the cold room, along with 10 gallons of cold water, on January 5. I placed them in a blacked-out aquarium in the heated part of my basement. Within a day or two, the water temperature went up to about 16°C. I added three hours of light per week for three weeks, and by early February the darters were ready to spawn.

I use nylon spawning mops for plant-spawning darters. It's interesting that each species has a preference between floating mops or sinking mops, and where in the mop it lays its eggs. My swamp darters chose the sinking mops and placed 90 percent of their eggs in the yarn strands within an inch of the knot.

Swamp darters are the only darters I've seen that spawn in groups. Two fish would work their way up through the mop from the bottom toward the knot, then several others would join in. It's possible they were eating the eggs, but I doubt this considering the large number of eggs—1.1 mm in diameter with clear yokes—I gathered daily from the mops:

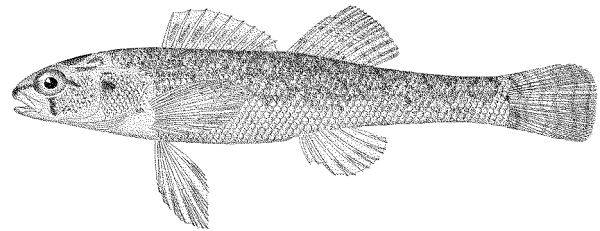


Fig. 1.

Swamp darter, *Etheostoma fusiforme*. Illustration by H. L. Todd. Courtesy Smithsonian Institution, National Museum of Natural History, Division of Fishes.

Feb 9	43 eggs	Mar. 1	22 eggs
Feb. 10	27 eggs	Mar. 2	48 eggs
Feb. 11	7 eggs	Mar. 5	13 eggs
Feb. 12	55 eggs	Mar. 6	25 eggs
Feb. 16	26 eggs	Mar. 8	18 eggs
Feb. 19	42 eggs	Mar. 10	17 eggs
Feb. 20	13 eggs	Mar. 11	3 eggs
Feb. 21	47 eggs	Mar. 14	17 eggs
Feb. 23	15 eggs	Mar. 15	7 eggs
Feb. 24	14 eggs	Mar. 17	21 eggs
Feb. 25	4 eggs	Mar. 18	18 eggs
Feb. 28	33 eggs	Mar. 20	20 eggs

After March 20 I took the fish out of the spawning set-up because I had several other darter species waiting to use the tank, so there's no telling how much longer the spawning would have continued.

The fry hatched in 9.5 days at 20°C and were 4.5 mm long and pelagic. I placed them in green water and they were eating newly hatched brine shrimp at one week. At 29 days the fry were 8.3 mm long, and they began settling to the bottom of the tank and acting like darters. At 60 days they were 15.5 mm long and were beginning to show pigment patterns of adults. 🐟