

# Raising Dusky Darters

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**F**or the last 20 years, whenever I went collecting, I was lucky if one or two other people came along. When passers-by asked me what I was doing, I'd either try to explain it to them, or side-step the question by saying I was too cheap to buy bait. So the Vermillion River collecting trip at the NANFA Urbana Convention (1999) was a new experience for me. There I was, with about 60 people, all looking for fish. When a net was lifted everyone knew what kind of fishes they were.

When I left the convention to go home, I had two dusky (*Percina sciera*) and four slenderhead (*P. phoxocephala*) darters in my bucket. I thought I would have a pair of slenderheads, but I had little faith that the duskies would be a pair. I was rather excited about the darters, since I had never kept *Percina* before. On top of that, I've always thought of native fish as being Michigan fish. These were exotics from far off Illinois. I might as well have been collecting in the wild jungles of Florida. Fantastic!

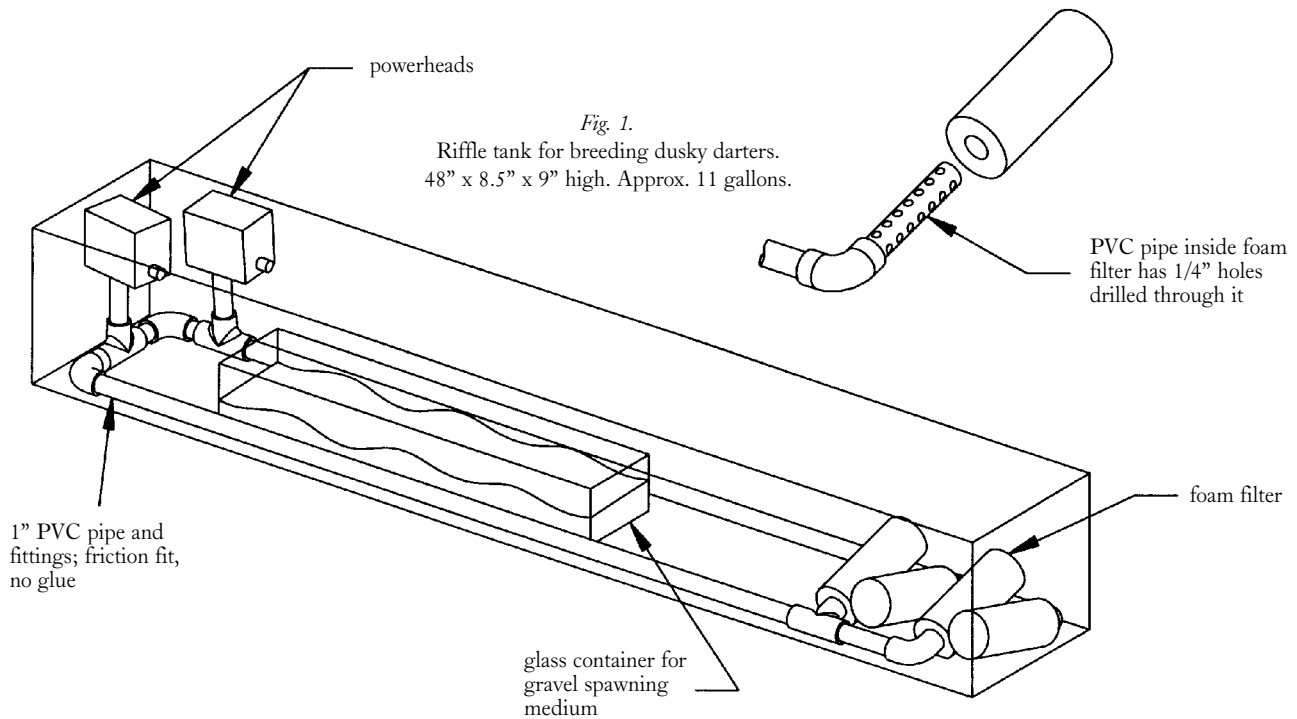
The darters settled in and I had no trouble getting them to eat. I feed my darters almost exclusively frozen brine shrimp. I know this is a limited diet, but it has worked for me in spawning and raising rainbow, greenside, and fantail darters.

I decided to check for the row of modified scales on the centerline of the male's belly. I placed the darters in a two-gallon aquarium and then placed the aquarium so that it straddled two dining room chairs. I was able to lie on the floor and look up to check out the darters. (You should probably do this when you're home alone, as it looks rather strange.) I couldn't see a line of modified scales on the four slenderheads, but to my surprise I had a pair of duskies. The row of modified scales could be seen at a glance. I placed the darters in my cold room where the temperatures get down to 40°F and the photoperiod mimics outdoor conditions in southern Michigan.

The duskies, when caught, were about 80 mm long. Over the winter the male grew to 100 mm and the female to 115 mm long. The length difference was not very significant, but the female's bulk was about twice that of the male's.

In early April, the cold room's temperature was up to 60°F and the lights were on 12 hours a day. I thought this would be a good time to try to set them up for breeding. Having no experience with *Percina*, I sent an e-mail to Ray Katula after reading his articles on darters many times. I asked him for any advice on breeding *Percina*. Ray replied that you should not try raising too many fry, for they will exhaust the food supply, and make sure to have lots of green water. He also said that most people are successful using ponds. I also sent an e-mail to J.R. Shute of Conservation Fisheries, Inc. J.R. told me that they used a 20-gallon tank for their fry, and darkened the sides of the tank because otherwise the fry would spend all day bumping into the sides of the glass. He also mentioned that they feed their fry lots of green water and artificial rotifers. In my small basement set-up I use 15-gallon tanks for spawning and two-gallon tanks to raise fry. Therefore, most of J.R.'s advice wouldn't work for me.

I have a raffle tank that I made out of glass from some broken tanks, so I decided to use it for a spawning tank (Fig. 1). I added some rocks and Java fern at the foam filter end and the duskies spent most of their time hiding there. After two weeks I noticed that both of the fish were on the gravel together. The male was almost jet black. I could barely make out any of his normal color pattern. He was swimming around the female and flaring his dorsal fins. I think I was more impressed than the female, because after a few moments, she swam off, leaving him alone. Then the male's color changed back to normal in no more than a second. I have never seen a color change happen so fast on a fish.



The next day I observed the male mounting the female on the bare tank bottom. They both quivered and broke away, but I could see no eggs. In the next few days I began to see large divots in the gravel and decided to investigate. As I began sifting through the gravel, I expected to find adhesive eggs and gravel stuck together in clusters, as with rainbow darters. But I found individual eggs. They were mildly adhesive and would float up in the water when I agitated the gravel with a circular motion of my finger. I gathered them with an eyedropper as they sank back to the bottom, and placed them in small glass bowls. I placed a few drops of MarOxy into each bowl, stretched plastic wrap over the top, and added the date with a marker. The temperature in the spawning tank was 65°F and the eggs measured 1.5 mm in diameter. Table 1 lists the dates and quantity of eggs gathered.

The fry hatched in 5-6 days, were 5.5 mm long, had no pigment, and were pelagic. The first fry that hatched were placed in a two-gallon tank into which I promptly dropped a rock, smashing the bottom. The water and fry ran out of the broken bottom all over my basement floor as I eloquently commented on my inability to hold onto objects.

The remaining fry, as they hatched, were placed in a five-gallon tank with a foam filter. I added green water until I could no longer see the fry. I also did daily feedings of APR (artificial protozoa and rotifer, available at [www.wetthumbaquatics.com](http://www.wetthumbaquatics.com)). If I placed a strong flashlight against the side of the tank, the fry swarmed to it. It was easy to see that they

**Table 1.** Date and number of dusky darter eggs gathered.

|          |     |
|----------|-----|
| April 14 | 9   |
| April 16 | 38  |
| April 18 | 62  |
| April 20 | 11  |
| April 22 | 23  |
| April 24 | 84  |
| April 26 | 106 |

were eating, because the APR, a white powder, could be seen in their guts. Within a week they could eat brine shrimp nauplii, but I maintained the green water and APR feedings. The pelagic fry started to settle to the bottom of the tank 41 days after the first hatching. At 45 days I started feeding them adult frozen brine shrimp. At this point the danger of losing fry was over. I am not sure how many fry I placed in the five-gallon tank, since I gave some away, but by the time they all settled to the bottom there were over 100 fry. I then moved the fry to a 15-gallon tank to give them room to grow.

It has been a year since I spawned the duskies and I have kept eight of them. They are 60-80 mm long, leading me to believe that they become fully grown during their second winter.

The only other darter I have worked with that has small pelagic fry is the greenside (*Etheostoma blennioides*). On my first spawning of greensides I was able to raise only a few fry out of hundreds. On my second attempt I used green water and almost all of the fry survived. I believe green water explains my success with the duskies. Even though I kept the fry under crowded conditions, I managed to raise a large percentage of them.

Now if only I had a male slenderhead I could try another species of *Percina* . . . 