SPAWNING BEHAVIOR OF THE CENTRAL STONEROLLER (*Campostoma anomalum*)

by Jon Wojtowicz, Newton, Iowa

On a collecting trip in January 1992 on the Big Darby Creek in central Ohio, I happened to collect some large (6") Central Stonerollers (*Campostoma anomalum*). The creek was clear and cool (the air temperature was 30°F) and collecting was done over gravel and boulder riffles.

The Central Stoneroller males I collected were covered from snout to caudal fin with tubercles and were in excellent color. They had silver undersides and blackish-brown tops. There were black blotches on the sides from just in front of the dorsal fin to the caudal fin. The anal and dorsal fins were dusky orange with black stripes radiating from the origin. The caudal fins were pale orange. The females were all very robust in the mid-section and appeared to be in spawning condition.

Upon returning to my home in Iowa, the two pairs which I retained were placed in a 15-gal.-long aquarium in an unheated attached garage. The water was partially softened (140 ppm as CaCO3) and at a temperature of 43°F. The aquarium was set up with several pieces of driftwood and a 3" layer of 3/8" gravel over an undergravel filter. Light and heat were provided by two 25-watt incandescent light bulbs. The aquarium was also occupied by two Longnose Dace and a small Stonecat. These fish were fed small amounts of flake food supplemented with frozen bloodworms.

I would normally observe the fish in the morning prior to going to work and several times in the evening. All was going well, and preparations were being made to move the stonerollers into the house for spawning. As I was in the garage getting an aquarium to set up, I noticed something unusual in the stonerollers' aquarium. A large pit measuring 3" wide by 9" long had been dug on one side of the aquarium. The pit was deep enough to expose the undergravel filter plate. In the bottom of the pit was a male stoneroller lying motionless. I observed the fish for approximately half an hour and he did not move until I prodded him. All other occupants of this aquarium appeared normal. The lights were then turned off for the night.

The next morning, I observed that the pit had moved. I also saw the male stoneroller busily digging by picking up gravel with his mouth and depositing it outside the pit. This activity was only interrupted when another fish approached the pit. Any intruder was promptly chased away by the male, and this included any females.

After about an hour, I noticed the females approaching the pit in an unusual manner. Each slowly approached the edge

of the pit and sat at the edge, body slightly waving. The male would swim to the female, bumping her in the side as she was forced into the pit. The male would then swim alongside the female and very violently thrash his body against her. At this point, the female was releasing eggs throughout the pit. This procedure was repeated several times with each female.

At this time, I had to go to work, and did not have an opportunity to separate the fish. Unfortunately, by the time I returned, the other fish had discovered the eggs and devoured them, even though the male stoneroller always tried to chase the fish away.

The male kept the pit moving, always burying the previous location. This continued for the next week or so until a cold snap hit and spawning activity ceased. This cold snap was also severe enough that it froze the water in the aquarium and chilled the occupants.

Although this attempt at breeding was not successful, I hope to attempt to breed the Central Stoneroller again if suitable fish can be collected.

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