

POWERHEAD TOMS

by Doug Carpenter, Lexington, Kentucky

It would seem reasonable that in every aquarium, each fish would develop a preference for specific areas. The areas are highlighted by a characteristic or combination of characteristics that include such things as the amount or absence of light, water flow, hiding places, and whether or not they are willing to share their spot with other fish of their own or different species. Given a choice, some fish will refuse to come into bright light, some desire swift currents, some prefer still waters, some want a cave of rocks or forest of plants in which to disappear, and others just want to be left alone by more aggressive personalities.

During the last six months, one species in my community tank of Kentucky fish has exhibited a new trait unobserved before: they have been hanging out around the powerhead installed in their home. The tank, a 40-gallon breeder, is generally home to a variety of shiners, dace, and topminnows. It is equipped with two undergravel filters and a hang-on power filter. One of the undergravel filters has two lift tubes with airstones while the other undergravel filter has the powerhead attached to a 3" length of lift tube. The discharge from the powerhead is directed across the length of the tank. The undergravel filters are covered with a 2" layer of coarse gravel along with mussel shells (1" in diameter) and various remains of snail shells. A large quantity of limestone rocks from local creeks has been used to form caves and crannies for the shy fish. Tall plastic plants have served the purpose of hiding the lift tubes and powerhead from direct view. A good growth of algae can really add to the looks of the already lifelike plastic plants easily available today.

Kentucky fish enjoy cool water, and since I cannot afford a chiller, they are kept in the basement in an effort to keep them comfortable. The water temperature stays about 70°F; 60° would be preferable. The powerhead undoubtedly adds unwanted heat, but the swift current is well worth the trade-off, and it has drawn the affection of four Mountain Madtoms (*Noturus eleutherus*).

At this time, I have several species of natives in this tank, including Blackspotted Topminnows, Rosyface Shiners, Bigeye Shiners, Silverjaw Minnows, Rosefin Shiners, Tennessee Shiners, Spotfin Shiners, Blacknose Dace, Southern Redbelly Dace, and Mountain Madtoms. They all seem to get along fairly well, and school to the extent possible in a 40-gallon tank. The topminnows generally stay in the upper reaches in the calmest spot they can find, directly above the powerhead. The "school" will cruise the open spaces of their confines without entering the rocks for prolonged periods. At times, they will go directly into the face of the current. The madtoms are a different story.

On October 17, 1991, I collected three Mountain Madtoms from a relatively shallow, fast riffle of the Green River composed mostly of small gravel. I caught several more on May 29, 1992, and kept two. Each of the five fish was about 1½" long when obtained; they have since grown about an inch. The Green River Drainage contains 151 species, according to Burr & Warren (A Distributional Atlas of Kentucky Fishes). Among the darter species found near this same location were Rainbow, Fantail, Greenside, Orange-fin, Spotted, Gilt, Tippecanoe, Banded, and Speckled. Rosefin Shiners, Golden Shiners, Bluntnose Minnows, Longear Sunfish, and Banded Sculpins were also found within 100 yards of this riffle.

Up until approximately October, 1992, the only time I saw the madtoms in the tank was when I would grind up a few mealworms or provide some flake food. They would stay in their limestone caves out of sight except at meal time. When the madtoms could taste the aroma of food in the water, they would come out and compete with the more active fish for their share. After the food was cleared, they would retreat into their hideouts. About a year later, for whatever reason, they abandoned the seclusion of the rocks for the powerhead in the corner of the tank. I am not exactly sure when the change took place, the length of time for the transition, or how many of the madtoms made the transition together, but now all four of them lie either on top of, or wedged between, the powerhead and the glass. One of the madtoms died in January, 1993. Next time, maybe I will be able to document my observations better.

I do not understand this dramatic change. Not only have the madtoms abandoned their seclusion, but they now lie in the bright fluorescent light. The other residents do not seem to mind their presence and ignore them. At feeding time, the cats leave their roost, suck up some scraps, and then return to their perch. Why have they chosen such a dramatic change of homes? Do they seek the warmth and/or vibration of the powerhead or are they avoiding some unknown variable in the rocks? What would happen if I pulled the plug on the powerhead? Why did all of the madtoms make the switch? What do they do when all the lights are out? I have kept Elegant Madtoms and Stonecats in this same tank on other occasions, and they preferred seclusion. Lots of questions but no answers. Maybe time will tell why these interesting fish have decided to attach themselves to the warm, vibrating box in the calm waters of the corner under the light.