



There are all manner of males in the animal world. Two that make their home in the Etowah River watershed exhibit behaviors that remind me of some of my human friends. Maybe you will recognize them.

They are both handsome but not too ambitious. They like to spend their time hanging out in the streams where they grew up, looking good, trying to get the attention of the local females and contemplating where their next meal is coming from. Both are two-inch long fish that are found no where else in the world but the Etowah watershed.

"The Cherokee darter only lives in the small streams that flow into the Etowah," said Paul Freeman, aquatic ecologist with The Nature Conservancy. They hardly ever go out into the main-stem of the Etowah and prefer to make their home in the riffles, the shallow, flowing sections where rocks jut above the water's surface. The Cherokee darter prefers the cracks and crevices between the rocks on the bottom of the creeks that feed into the river.

While the Cherokee darter prefers the small streams, his cousin, the Etowah darter, likes to hang out with a much faster crowd in a bigger scene. Only the larger river will do for him.

"Currently the Etowah darter lives in only one place on the planet, in the swift-moving water of the large streams in the Upper Etowah basin above Allatoona," Freeman said.

Be it in the little creeks or the big river, both of these guys like to strut their stuff.

"They have two dorsal fins on the top ridge of their backs that they use to communicate. They can either fold these fins down like a fan or fluff them out like a peacock. They use them to discourage predators and to attract mates," Freeman said.

Their dappled backs help them to blend in with the rocks on the bottom. During the spring and summer spawning season, the darters "color up" adding turquoise blue and brick red to their everyday attire, going from drab to

dressy, as they try to get the attention of the females.

"Darters get their name because they move around the water in short quick bursts, said Freeman.

"They can instantly burrow under the rocks when danger is present, or flit out into the open when they see a female coming along." The male courts a female and then she deposits an egg by attaching it to a rock or a little piece of wood.

The Cherokee darter helps reduce the population of those pesky black flies by eating their larvae and midges, while the Etowah darters tend to dine on caddis flies and mayflies. All the while, the darters must avoid being eaten by the bigger sport and game fish.

When all is right with the world, that is about as complicated as a darter's life gets. Hanging out in the stream, looking for food and a mate and trying not to get eaten by the bigger guys. But increasingly all is not right in their world. The Etowah darter is an endangered species and the Cherokee darter is threatened. Although both are listed as protected by the Federal Endangered Species Act, their habitats continue to face degradation. Two essential attributes of their underwater world are critical to the darter's survival. The water must be moving and it must be clear. Instead, their streams are being degraded by incompatible agricultural practices, urbanization, sedimentation, just to name a few of the human impacts on their habitat.

Because darters communicate by sight alone, clear water is necessary for their survival. When the water becomes cloudy they cannot see to find insects for a meal, locate a mate, or avoid a predator.

"They also need flowing water. To dam up their stream or river would be a death sentence for them and



their whole local population," Freeman said.

"Over time, the cumulative effects of pollution and sedimentation are negatively impacting the river. Every time it rains all the land is rinsed and everything the rain picks up is washed into the river. Stormwater runoff containing fertilizers, pesticides, animal wastes and dirt are making portions of the Etowah River and its streams uninhabitable for the darters, filling up all the cracks and crevices between the rocks where they live," he said.

"A little bit of dust in your home doesn't affect you, but imagine what it would be like if three feet of dirt suddenly covered the floor of your house. You wouldn't be able to open the door to the refrigerator, then you'd be in trouble. Every aspect of the darter's survival is tied to the spaces between the rocks. It's where they breed, eat, and find shelter," Freeman said.

"I think of these little fish as sentinels alerting us to the health of our river. If the water quality of the Etowah basin is good enough for these sensitive little fish to flourish, then I feel pretty good about drinking the water that comes from the river. If these fish are dying, then I think that's a biological indicator that could mean degraded water quality," he said.

Darters have a short life span - each individual fish lives only about three years. When there is a disruption to a stream that they live in, it can quickly wipe out an entire population. If they should disappear from north Georgia, they are gone from this world forever.

For more information about the Conservancy's work in the Etowah watershed, call 770/704-7280 or visit www.nature.org/georgia.

August 13, 2003



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