

SPENDING SPRING BREAK EXPLORING TENNESSEE'S FISH DIVERSITY

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Oak Creek, Wisconsin

Joining the Ichthyology and Aquarium Science Society of Stevens Point (IASSSP) has been the most enjoyable part of my experience so far at the University of Wisconsin-Stevens Point. As a lifetime fish enthusiast and more recently native fish enthusiast, I couldn't ask for a better university-affiliated group to satisfy and continue growing my fish obsession. IASSSP members such as myself help maintain a live aquarium fish collection, curate and maintain a preserved ichthyology research collection, and conduct weekly fish surveying trips on the waterbodies throughout central Wisconsin. The surveying trips are my favorite activity that the society does, as it allows us to observe many native fish species. While the ichthyologic aspect of the IASSSP generally focuses on the native fishes of Wisconsin due to our location, this past semester we were lucky enough to take a trip to southeastern Tennessee over our spring break to further explore the freshwater fish diversity the United States has to offer. The goal of the trip was to observe as many fish species as possible, and, as a lifelist fisherman, it was also an excellent opportunity to add some species to my list. Armed with a catch and release scientific collectors permit from the Tennessee Wildlife Resources Agency and some insider information from NANFA member Casper Cox, five other IASSSP members and I pointed our vehicles south, and we were on our way to Tennessee.

After 12 hours of driving, setting up camp in the dark, and spending too much time in the local Walmart securing non-resident Tennessee fishing licenses for the group, we were on the banks of the Tennessee River with visions of Smallmouth (*Moxostoma breviceps*) and Black redhorses (*M. duquesnei*) swimming in our heads. While the catostomids never showed, the sunfish were out in full force. We caught

Bluegill (*Lepomis macrochirus*), Green Sunfish (*L. cyanellus*), and Redbreast Sunfish (*L. auritus*). While we caught a few decent-sized sunfish on standard fishing gear, we caught many of the small sunfish that lived amongst the rocks near shore on microfishing gear. After a few hours on the mighty Tennessee we decided to check out the Sequatchie River. Although smaller and more tannin-stained than the Tennessee River, fishing the mainstem Sequatchie produced the same sunny results -with the addition of a Longear Sunfish (*L. megalotis*). We found a feeder creek that held Western Mosquitofish (*Gambusia affinis*) and a shiner (*Notropis* sp.) On the way back to our campsite we stopped at a different spot on the Tennessee River, and had more success in the traditional fishing sense, landing two Largemouth Bass (*Micropterus salmoides*) and a Black Crappie (*Pomoxis nigromaculatus*) in the fading daylight.

The next day we toured the Tennessee Aquarium and the Aquarium's Conservation Institute. While the aquarium itself was very impressive with its focus on native freshwater fishes, our group of fish nerds was more impressed with the work being done at the Conservation Institute. Among other projects, the Conservation Institute is doing a rehabilitation project on populations of the endangered Laurel Dace (*Chrosomus saylori*) and Barrens Topminnow (*Fundulus julisia*) (Figure 1). It was exciting to see these extremely rare species, and hopefully some day we will be able to see healthy populations of them in the wild.

Once we finished our tours, our group headed to Mountain Creek in Chattanooga at the suggestion of our tour guide at the Conservation Institute for our first real Tennessee fish sampling experience (Figure 2). The creek was a beautiful clear water creek, with gravel riffles and deep pockets around its bends. We began by microfishing and caught Bluntnose Minnow (*Pimephales notatus*), Largescale Stoneroller (*Campostoma oligolepis*) (Figure 3), Striped Shiner (*Luxilus chrysocephalus*), and Redbreast Sunfish. After a while we put down our rods and picked up the seine (Figure 4). In addition to the species caught hook and line, the seine produced West-

Photos by the author unless otherwise indicated.

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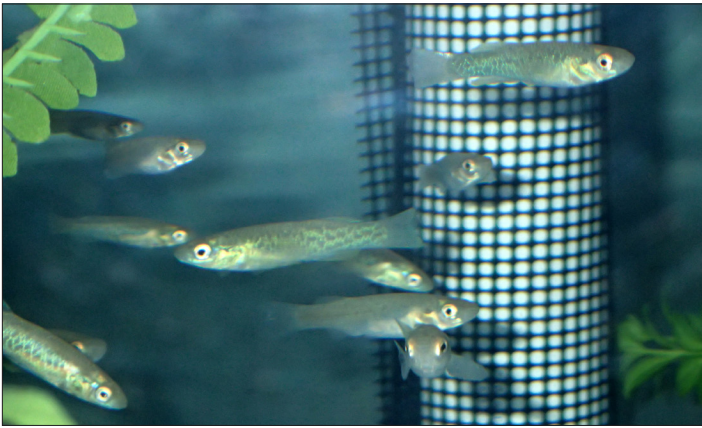


Figure 1. Barrens Topminnow in the Tennessee Aquarium Conservation Institute. (Photo by Johnathan Butkus)



Figure 3. Breeding male Largescale Stoneroller from Mountain Creek.



Figure 2. The group poses while sampling Mountain Creek. (Left to right) Loren, Jason, Noah, Kiefer, Jennie, & Johnathan. (Photo by Kiefer Sroka)



Figure 4. Sampling at sunset. (Photo by Kiefer Sroka)

ern Mosquitofish and Blackside Snubnose Darter (*Etheostoma duryi*) (Figure 5).

The following day we moved our campsite to the Hiwassee-Ocoee State Park. With the Hiwassee River within walking distance and a nice view of the beautiful Smoky Mountains, the scenery at our new campsite was a welcomed change from the view of suburban backyards we had at our previous campsite. Our new campsite would serve as a base as we explored the Hiwassee and Conasauga rivers. We took two trips to the Conasauga River. Our first trip to the Conasauga was the day after a rainstorm. When we arrived at the famed Snorkel Hole, we could see the river was still reeling from the heavy rain. The water was murky-brown, the water level was high, and the current was rushing. Although conditions were not ideal, we went to work with the seine and dip nets. Our efforts were rewarded with many shiner species including Burrhead Shiner (*Notropis asperifrons*), Blue Shiner (*Cyprinella caerulea*), Emerald Shiners (*N. atherinoides*), Largescale Stoneroller, and a small Alabama Hog Sucker (*Hypentelium etowanum*). In addition to the fishes we also caught many tadpoles and some interesting aquatic invertebrates, one in particular with an impressive set of mandibles (Figure 6).

After some time we decided to take a break from sampling to do some fishing. Knowing the potential to catch a number of unique small fish species, we tied on our smallest hooks tipped with a bit of red worm. After a bit of exploring, a few members of our group found a small creek (Figure 7) a little ways upstream from the Snorkel Hole that was full of Rainbow Shiner (*N. chrosomus*) (Figure 8). We were blown away by the colors of these little fish. With vivid violet-purple bodies, bright-red fins, and a sparkling gold stripe, these little cyprinids were the most beautiful fish we had ever caught, and possibly had ever seen. Due to their abundance and aggression towards bits of red worms,



Figure 5. Blackside Snubnose Darter from Mountain Creek. (Photo by Johnathan Butkus)



Figure 8. Rainbow Shiner from the Conasauga River watershed.

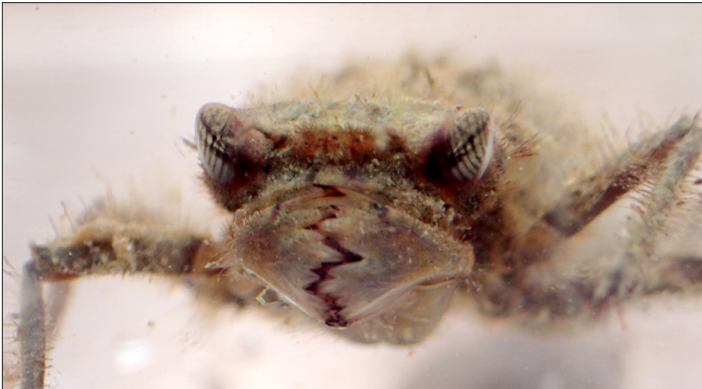


Figure 6. Menacing dragonfly nymph, likely in the genus *Corduligaster*, from the Conasauga River. (Photo by Johnathan Butkus)



Figure 9. Rainbow Shiner from a Conasauga River tributary. (Photo by Johnathan Butkus)



Figure 7. Feeder creek of the Conasauga River.



Figure 10. Southern Studfish microfished from a feeder creek to the Conasauga River. (Photo by Johnathan Butkus)

we were able to catch and observe many specimens of this gorgeous species (Figure 9). The Rainbow Shiners were not the only species in the creek, and we ended up seeing more diversity in this feeder creek than we did in the river. Due to the creek's shallow depth and rocky bottom, microfishing was a more effective and rewarding method of sampling than the nets were. With the microfishing gear we caught Southern Studfish (*Fundulus stellifer*) (Figure 10), Tricolor Shiner (*C. trichroistia*), Largescale Stoneroller, Creek Chub (*Semotilus atromaculatus*), and Burrhead Shiner in addition to the Rainbow Shiner. We saw quite a few darters amongst the rock, but were unable to catch them. We also found a horsehair worm floating through the creek. These parasitic

worms have a very interesting life cycle, completely maturing inside an insect and emerging when their host submerges in water (Figure 11).

The next day we explored the Hiwassee River watershed, once again using fishing gear, this time of varying sizes. We began on the mainstem of the Hiwassee, catching Rainbow Trout (*Onchorhynchus mykiss*) and River Chub (*Nocomis micropogon*) (Figure 12). A few of the chubs we caught were big males with full tubercles, which was really interesting to see. Switching to microfishing gear we caught Tennessee Darter (*E. tennesseense*) (Figure 13) and Banded Sculpin (*Cottus carolinae*). At this point the water level began rapidly rising due to the daily surging caused by power generation upstream, so we explored some of the tributaries of the Hiwassee. In these tributaries, we caught Banded Sculpin, Mirror Shiner (*N. spectrunculus*), Tennessee Shiner (*N. leuciodus*), and Striped Shiner. Once the water level of the Hiwassee returned to normal we returned to fish it (Figure 14). Fishing a spot further downstream of our previous spot, we caught more River Chub, Striped Shiners, Mottled Scul-



Figure 11. Horsehair worm. (Photo by Kiefer Sroka)



Figure 14. The Hiwassee River. (Photo by Johnathan Butkus)



Figure 12. Tubercled River Chub from the Hiwassee River. (Photo by Johnathan Butkus)

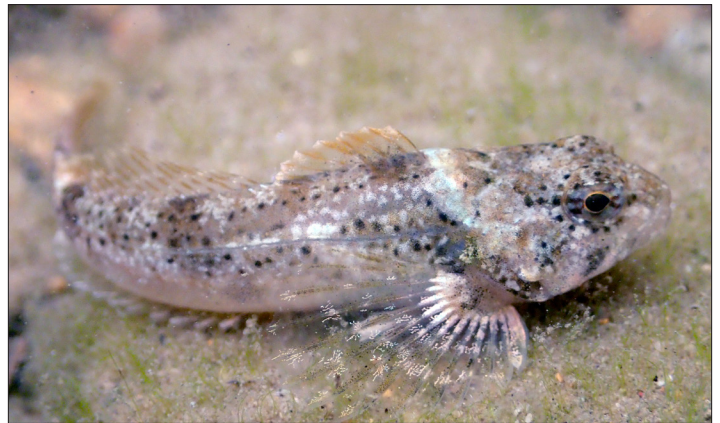


Figure 15. Mottled Sculpin in the Hiwassee River. (Photo by Johnathan Butkus)



Figure 13. Tennessee Darter microfished from the Hiwassee River. (Photo by Johnathan Butkus)



Figure 16. Logperch caught from the Hiwassee River. (Photo by Johnathan Butkus)

pin (*C. bairdii*) (Figure 15) and Logperch (*Percina caprodes*). The Logperch here were a different subspecies than we see in Wisconsin, and had a much different appearance with a more slender head and longer, sharper bar markings on their flanks (Figure 16).

We saw many darters darting around the shallows at this spot, but were unable to get them to bite. Before we left we used dip nets to catch these darters, which ended up being Tennessee Darter. We also caught juvenile Rock Bass (*Ambloplites rupestris*) and some interesting crayfish with the dip nets.

On our final day in Tennessee we went back the Conasauga River. The river had recovered from the rainstorm, as

the water was much lower and crystal clear (Figure 17). We did a few seine pulls, and once again caught a mix of cyprinid species including Largescale Stoneroller, Tricolor Shiner, and Burrhead Shiner (Figure 18). After we finished seining, I tried some standard-size fishing and caught two handsome Redeye Bass (*M. coosae*). After a while I traded my standard gear for microfishing gear and returned to the feeder creek, determined to catch and identify the darters we had seen. After weeding through many aggressive Rainbow Shiner and Creek Chub, I managed to catch two Coosa Darter (*E. coosae*) (Figure 19). The second one I caught was a large male with vivid red and blue fins - a fine fish to conclude our time



Figure 17. The Conasauga River.



Figure 18. Large-scale Stoneroller and Tricolor Shiner seined from the Conasauga River.



Figure 19. Coosa Darter in a Conasauga River tributary.



Figure 20. Warpaint Shiner from the Hiwassee River.

on the Conasauga River. When we arrived back at the campsite a few of us decided to fish the Hiwassee River one last time. In the fading light we caught Warpaint Shiner (*Luxilus coccogenis*), River Chub, Rainbow Trout, and Tennessee Darter (Figure 20).

The next day we made the long drive back to Stevens Point, Wisconsin. Over the six days we were in Tennessee we saw 31 species of fishes (with confirmed identifications), 20 of which we don't see in our local surveying trips. I was able to add nine species to my fishing lifelist, and introduce my fellow group members to the art of microfishing. While our trip may not have been the stereotypical college spring break trip, it certainly was a memorable one.

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