## SNORKELING IN JUNE IN EAST TENNESSEE

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Recently, I returned from my first snorkeling trip to Tennessee. I relied on the *Hidden Rivers* snorkel guide by Casper Cox, along with some generous personal advice from Casper (many thanks to him!). It was a perfect introduction to the waters and fauna found on the west flank of the Smoky Mountains, and I'm already anticipating returning to the region next spring.

My family and I camped one night at Jake Best Campground along the crystal-clear waters of Citico Creek (Figure 1). I was in the water five minutes after arriving around midday (after a six-hour drive from western Virginia). It sounds a bit trite, but when you submerge yourself in flowing water and begin to acclimate to your relative weightlessness, peering around all the while, all of your troubles melt away as you enter a world completely different from the one above you. Snorkeling near the campground, I managed to find a semi-active River Chub *Nocomis micropogon* nest, with a few Tennessee Shiners *Notropis leuciodus* and numerous Warpaint Shiners *Luxilus coccogenis*, which I had very much hoped to see! Warpaint Shiner is definitely one of our most striking fishes, with their black and white fins and brilliant red markings (Figure 2).

I also encountered Whitetail Shiners Cyprinella galactura, Greenside Darters Etheostoma blennioides, Redline Darters Etheostoma rufilineatum, Snubnose Darters Etheostoma simoterum, River Chubs, Smallmouth Bass Micropterus dolomieu, and stonerollers Campostoma sp., and this wasn't even the most diverse section of the creek! Being used to the less diverse fish assemblages of middle Atlantic drainages, I'm blown away by the diversity (especially darter diversity) in other drainages, such as the Tennessee River drainage. I spotted all the above darters, as well as a mystery darter. This darter was large, 3-4 inches, and dark black and blue all over. I only saw one, and it was in an area with extremely strong current (so strong that seconds later my snorkel was ripped from my mask, though I recovered it before it drifted too far). Perhaps it was a Greenfin Darter Etheostoma chlorobranchium, though I didn't notice the signature lighter trimming on the fins. I'll probably never know, but what better reason to return as soon as possible?

At another site farther down the creek, I saw the only Gilt Darter *Percina evides* of the trip, a female, as well as a madtom *Noturus* sp. (species still to be determined, likely a Smoky Madtom *Noturus baileyi* and many more Smallmouth Bass (Figure 3).

## Photos by the author.

Lock Cabe is a high-school junior living in western Virginia. He is deeply invested in conservation and has a lifelong fascination with biodiversity and wildlife, with a special passion for our native fishes. He is an amateur photographer of fish and other wildlife, and his photos are collected at @lockcabe on Instagram.



Figure 1. Citico Creek.



Figure 2. A male Warpaint Shiner.



Figure 3. Smallmouth Bass.



Figure 4. A tuberculate male River Chub.

Smallmouths are an extremely common introduced species where I live, so it was a great experience to see and observe them hunting and breeding in their native habitat!

At a final site farther downstream, I was able to see more shiners (mostly Warpaint Shiners) on chub mounds, along with a tuberculate male River Chub (Figure 4), the architect himself! I'm very new to underwater photography and still have a lot to learn, but I was excited to capture these two species. Chub mounds and their associated species never fail to amaze me. Without chubs, many of the other fish species wouldn't exist in the creek, or at least not exist in any significant numbers. The fact that so many species in a certain creek depend on this one species fascinates me.

Before leaving the creek the next day, we met a couple of TVA fisheries biologists sampling insects, and we had a long conversation about everything from Spotfin Chub *Cyprinella monacha* to madtoms to crayfish taxonomy and their ongoing study on the effects of climate change on the creek. Fish lovers are everywhere! We then proceeded over the mountain to the Tellico River, enjoying the creek and forest on the way. Smoky Mountains forests are often the most diverse in the country, and it becomes extremely obvious when you start identifying trees; new species appear around every corner. It was odd to see holly trees, Sourwood, and Mountain Ash, all in the same patch of



Figure 6. Eastern Hellbender.



Figure 5. Whitetail Shiner.

forest. I had never seen such a diverse woodland. Aside from a rat snake crossing the road, we saw little wildlife, but there is always something enchanting about driving through a wilderness unfamiliar to you (especially with no phone signal), as you can be completely part of where you are, and truly notice your surroundings.

The Tellico River is one of the more picturesque rivers I've seen: a powerful flow winds and swirls around and past large boulders and rock shelves, bordered by lush forest and steep ridges. Unfortunately, when we arrived, the water clarity wasn't quite as good as Citico Creek, making photos significantly harder to take and subjects for photos harder to find. Despite that, at a first stop, I managed to find Tangerine Darters Percina aurantiaca, one of the poster-fish, so to speak, of river snorkeling. They are impressive, due to their large size and bold colors. They are also inquisitive, as is noted in the snorkel guide's section on the Tellico. They are alert and interested, appearing to wonder what this large, clumsy creature looming over them could be? I was also impressed with the nuptial male Whitetail Shiners (Figure 5), with their large red and white fins and substantial silver bodies. Shiners of the genus Cyprinella (including Whitetails) always look to me like industrial creations: their scales are evenly spaced and the color of steel, and their bodies are the archetypal "fish shape," giving them the appearance of having just popped out of a mold in a factory.



Figure 7. Tennessee Shiner.



Figure 8. Redline Darter.

One of my favorite sights from the Tellico ended up being something other than a fish. While allowing myself to drift down a run, looking down all the time, I noticed a large, brown object that appeared to be flapping in the water. As I drifted nearer, it gradually morphed into the form of a large Eastern Hellbender *Cryptobranchus alleganiensis* (Figure 6). At the risk of sounding trite again, there is something surreal about encountering hellbenders. I had never seen one and was struck by a feeling of sheer disbelief that such a prehistoric-looking, massive amphibian could still exist, much less exist in a southeastern river! As I attempted to anchor myself in order to photograph it, a few more curious Tangerine Darters showed up to watch, completing an already wonderful experience.

Farther down the river, at Tellico Beach, the water seemed clearer (though perhaps that was my imagination). To my delight, I almost immediately found a River Chub nest with Warpaint Shiners, stonerollers, a Whitetail Shiner, and other species conglomerating on it. Among the others were some *Notropis*, which I assumed to be Tennessee Shiners that weren't in their full breeding color (Figure 7). They ranged from a normal silvery coloration to slightly rosy pink. Assuming they were indeed that species, which I am inclined to believe they were, I was interested to see that they would still school over a chub mound, even after their spawning had apparently ended.

After exiting the water at Tellico Beach, we drove north to one final spot on the Little River. The water was clear and pleasant, but for some reason fishes of any sort were sparse, although Stripe-necked Musk Turtles *Sternotherus minor* were abundant. I did manage to find a number of Redline Darters (Figure 8) and a single male Bluebreast Darter *Etheostoma camurum*, who quickly disappeared after flashing his red, white, and blue-trimmed fins. I had hoped to see a Blotchside Logperch *Percina burtoni*, but saw none, until right as I went to get out of the water, one solitary logperch darted across my field of vision. This was a fitting end to a fantastic trip.

Experiencing biodiversity produces a pure sort of joy, at least for me, but it is always tinged with a little bit of melancholy, as even in my relatively few years, the state of biodiversity worldwide has become so jeopardized. I know that habitat destruction and temperature changes threaten populations of fishes and other wildlife, and this knowledge often has a bit of a sobering effect on my enjoyment. However, trips like this, when I have the privilege to see so much diversity in such pristine habitat, make that melancholy a little bit less prominent. To observe a madtom in Citico Creek, where I know that people at places like Conservation Fisheries, Inc. are working to protect them, inspires hope. Knowing that Hellbenders still reach massive sizes in large rivers such as the Tellico does the same. I hope that the *Hidden Rivers* movie, and its accompanying snorkel guide, find their way into the hands of people who will be as blown away by our aquatic life as I am, and will also help them realize how much we lose when we lose our wild rivers and streams.



