

# DARTERS ON THE BRAIN: INSIGHTS AND OBSERVATIONS OF A REDLINE FANATIC



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## ORIENTATION

Like many, my fascination with fish began long ago with the vibrant colors and social interactions of South American tetras, African cichlids, and various reef fish. Evenings were spent “playing in the fishroom” with my father, Alan, a fellow fish enthusiast, as we routinely spent 2–4 hours a night maintaining the approximately 40 fish tanks and vivariums in our basement. Tank sizes ranged from 2 to 225 gallons and held nearly every species of tropical fish that could be found for sale. We had success breeding and rearing the young of many species. Most were traded away at local fish clubs we were associated with. Growing up in the Piedmont region of northern Virginia, I spent many afternoons mucking around local creeks after school attempting to capture the local wildlife. Rarely did the idea creep into my head to actually try to keep any species I managed to net. At that point in my life, they—fish in particular—were just drab, boringcreek fare. They paled in comparison to the “exotics” and weren’t worth the tank space.

Little did I know at that time that many years down the road I would fall head-over-heels for natives, from working exclusively with them in a professional setting to permanently altering my body in the form of a large tattoo.

## CAREER

My professional career in the zoo and aquarium industry began at the Virginia Living Museum (VLM) in Newport News, VA. The VLM boasts a wonderful array of native flora and fauna that can be found across the state in every geographical region and habitat. Their collection includes native birds, mammals, herps, fish, invertebrates, and plants. For the first three years, I was

a herpetology assistant and helped maintain the large collection of display and education animals. After that, I moved over to the Aquarium Department where I became a full time Aquarist under curator Chris Crippen, who still holds the position today. In the year I worked with him, Chris taught me everything about native freshwater and marine species of fish and aquatic invertebrates. From Chesapeake Bay species 101 to Stream Inhabitants 404—I learned it all. This is where my passion for natives, and stream fish in particular, really developed. We made many collecting trips to various parts of the state in order to obtain species we needed for the exhibit. Among these were trips up and down the Blue Ridge Mountains along Interstate 81 to find stream inhabitants. While I was familiar with the types of fish that could be found in a stream environment, from my youth, I had never experienced anything like mountain streams and the secrets they keep. Chris opened my eyes to the mind-blowing world of darters. I’ve been hooked ever since.

In early 2009, I moved back to northern Virginia and took a position as an aquarist at the National Aquarium in Washington, D.C. The vacancy just happened to be for the “Native Freshwater Ecosystems” gallery. The displays are based on the ichthyofauna that can be found in ponds, lakes, rivers, streams, and swamps across the continental United States. Over the last five years, the Curator (Jay Bradley) and I have traveled across most of the eastern states collecting species for display. Jay helped nurture my passion for natives by allowing me to redesign, renovate, and repopulate each exhibit as I saw fit. The collection now includes over 60 native species, of which 10 are darters. One species in particular quickly became a favorite and has—quite literally—left its mark!

## OBSESSION

The first time I collected a batch of Redline Darters (*Etheostoma rufilineatum*) was on a trip to eastern Tennessee in the fall of 2009. A few aquarists from the Tennessee Aquarium led us on an expedition to the outskirts of Chattanooga and the eastern portion of the state to begin our collecting. In addition to Redlines, we also scooped up a few Tennessee Snubnose (*E. simotermum*), Striped (*E. virgatum*), and Rainbow (*E. caeruleum*) darters. Most of the males retained decent coloration, considering it was early October. It was not the Redlines' handsome mix of red, black, yellow, tan, and a dash of blue of that first caught my attention, however, but their outgoing personality. I vividly recall having to poke the Redlines into the dip net as they blatantly refused to move from behind whatever rock they were using as shelter from the current. As a 6-foot, 200-pound man, I would expect to be seen as a formidable threat by any stream inhabitant, especially a two-inch darter. Yet all of them—every single one I caught—held their ground while other species fled immediately. I was impressed.

Even once our new captives arrived in D.C., their antics never ceased. Males and females alike chase each other around but rarely cause any damage. They all jockey for the best spot in the exhibit, sitting directly in the outflow of the powerheads. Despite their gallant efforts, even the most robust female loses her spot to the larger, dominant males. And what a sight those males are! Tucked in and amongst the river rock that lines the floor of their Appalachian Stream exhibit, you can always see several Redlines playing tag and finding new hiding places behind or under rocks. Though there are over 250 species of darters, I knew right away that the Redline had “that special something” that would make them my favorite.

All the while, another bug had been giving me an itch and it was the infamous ‘second tattoo’ bug. Those of you who only have one tattoo will know exactly what I’m talking about. Though over four years had passed since getting my first, there was never any doubt that I would end up with another. I knew I wanted it to be some sort of animal, and several herp species were at the top of the list. By the time I was finally able to afford my next tattoo, I had spent years working with native fish and the herps were being pushed further down the list.

## WHY A REDLINE TATTOO?

Most stream fish I have captured over the years tend to lose the vivid colors that they express in the wild. At best, their colors return only occasionally, under the right conditions, and last for a very short time. Male Redlines retain quite a bit of color throughout the year, making them an impressive display animal. Like that of all darters, they have that elongated, unique profile of a bottom-dwelling perciform that defies the classic fish-shape most of us expect.

Being a “think outside of the box” type of guy, I wanted a tattoo that no one else had. On top of that, it had to have a prominent location. Eureka!....the rib cage! Though some readers may cringe at the thought of spending many hours in a chair being tickled on the ribs by thousands of needle pricks, I happily sat through three 4-hour sessions while reading my Kindle. The first stage was the outlining the fish and its fins and scales (Figure 1). After 2 weeks, I returned to get the shading done (Figure 2). The red you see is my body's reaction to the initial trauma, not coloring.

Finally, after a several month hiatus due to scheduling conflicts, I returned to the parlor to have the tattoo finished (Figure 3). Believe it or not, NO red ink was used on the final product. We decided that using a true red would contrast too much, so we went with a deep orange instead. I initially had a hard time swallowing the idea that my REDline darter tattoo was orange, but a year later I'm very happy with the results. In hindsight, one could argue that certain populations of Redlines are slightly more orange than red (at least I tell myself that to help fall asleep at night!). The actual size of the tattoo ended up having to be roughly 12" x 5" (Figure 4) in order to include all of the fine detail.

## FINAL THOUGHTS

Redlines remain one of my all-time favorite fish, even when exotics are considered. The fact that I don't have to leave the country (or even the state, for that matter) to see them makes them even more appealing. Watching them in the wild never gets old, which is why Chris and I usually take a couple of trips a year to the western side of the state to go ‘dartering’. I switch on my “Redline Radar” and can home in on their exact location. My fellow darter enthusiasts will know that I'm talking about riffles. This species prefers very strong current and is able to navigate it with ease. In the right spots, I can capture

two or three on each attempt with a dip net. I seem to have good luck as most of the time it is a male and one or two females. This holds true even outside of the breeding season. In captivity, the Redline Darter does quite well. Despite their preference for cool waters, I have had them in tanks that reached an ambient temperature of 75 degrees. To my initial surprise, they did quite well at this elevated temperature for an extended duration. I made sure to add extra aeration to these tanks to help increase the dissolved oxygen, as warm water holds less.

Though breeding behaviors have been seen and spawning has likely occurred, no attempts have been made to harvest any eggs. Other fish in the tanks likely make short work of the unguarded eggs and/or fry. I still intend to successfully breed and rear this species in the future. I am currently in the process of setting up a 125-gallon stream display at my new house. It will have (surprise, surprise!) Redline Darters as its main feature. Finding a place to hide the 10- and 20-gallon rearing tanks from the wife will be my next trick!



