

FROM THE LAND OF ICE & SNOW TO THE PALMETTO STATE: OUR EXPEDITION TO AND FROM SOUTH CAROLINA FOR THE NANFA CONVENTION, MARCH 16–19, 2023

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Seven of us upper Midwesterners attended the COVID-delayed 2023 NANFA convention in Columbia, South Carolina. Our traveling crew included long-time NANFA members Ray Katula, Jenny Kruckenberg, and Konrad Schmidt, all of whom were involved in organizing the NANFA 2022 convention held in Winona, MN. Tagging along were four relative newcomers to NANFA: Matthew Kvam (MN), Jonathon Newkirk (MN), Ric Zarwell (IA), and myself (IA).

TUESDAY, MARCH 14: OUR FIRST TRAVEL DAY

After much e-mailing in February, and after considering several options for a type of vehicle, we had decided that renting a 15-passenger van was our best option. Our travel plan began with meeting at Ray's house in Onalaska, WI, in the late morning of March 14. On my drive from central Iowa to Ray's house, I picked up Ric at his home in Lansing in northeast Iowa along the Upper Mississippi River. As we drove along the river from Lansing to Ray's house in Onalaska, Ric and I noticed people ice fishing on the Mississippi's still-frozen backwater lakes. It was the last ice fishing we would see for the next week.

One might think that seven people traveling in a 15-passenger van would leave ample room for luggage and other gear. This was not the case. In addition to luggage, NANFA members travel to NANFA conventions well-supplied with seines, dip nets, waders, buckets (both minnow and 5-gallon), coolers for transporting fish, and sometimes, a bottle of oxygen to ensure survival of fish during transport (Figure 1).

Despite removing the rear seat of the van, our luggage and gear fully occupied the rear half of the van with very little air space remaining near the ceiling. Seven seats, and only seven seats, remained for the seven in our group. There was some minor stowage of gear (a stack of 5-gallon buckets) by the van side door that needed to be

removed before passengers in the rear two seats could exit the van.

Google Maps shows a drive of about 1,120 miles and nearly 17 hours from Onalaska, WI, to Columbia, SC. The decision was made early on to split the trip to Columbia into two days of travel to make the trip easier on those in our group that are somewhat advanced in years.

After loading the van—and being pleased, and a little surprised, that all of us and our gear/luggage were going to fit in the van—we departed Ray's house at about noon on Tuesday, March 14 and began our long journey to South Carolina. The first leg of our journey lasted about 10 minutes before we stopped for lunch. After this not-so-fast fast-food lunch, we began our expedition in earnest.

As the sun was setting, we decided to overnight at a Super 8 motel in a small town about 15 miles northwest of Indianapolis. At about 8:30 PM, as we pulled into the parking lot of the Super 8, we noticed a Cracker Barrel restaurant across the road, and we decided to have our dinner there. The younger members of our crew, who are far more adept at smart phone operation than the older members, informed us, however, that the Cracker Barrel was closing soon; so, we opted for another restaurant.

WEDNESDAY, MARCH 15: A LONG DAY OF TRAVEL & A LATE ARRIVAL IN COLUMBIA

Our travel the next day was long but mostly uneventful. After navigating through Indianapolis, we traveled through Louisville, KY, where we crossed the Ohio River and possibly blew through a toll station. The scenic highlight that day, by far, was our drive through the Great Smoky Mountains in eastern Tennessee (Figure 2).

We arrived in Columbia late in the day (again, at about 8:30 PM) and checked into the Hampton Inn/Columbia. We dined at a well-known chain restaurant near the hotel. All agreed that our dining experience at this neighborhood bar and grill was one of the most unusual and frustrating we had ever encountered. Being Midwesterners, howev-

Photos by the author unless otherwise indicated.

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Figure 1. The type of oxygen bottle that our group took along in the van for our trip to NANFA 2023 in Columbia, SC (web photo). The bottle in our van was about 4.5 feet tall. These bottles need to be transported in the upright position.

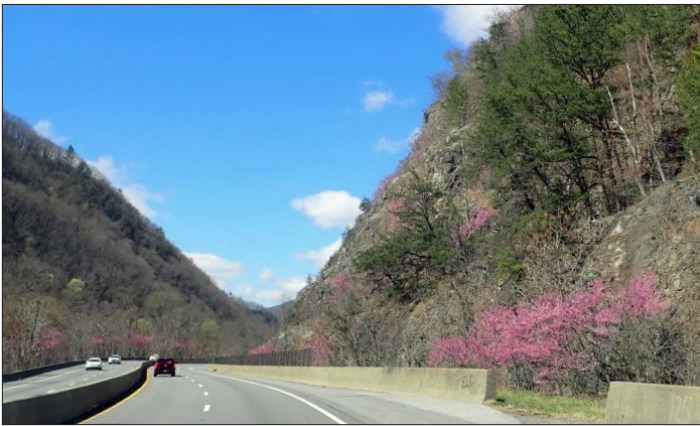


Figure 2. Our drive through the Great Smoky Mountains of eastern Tennessee. (Photo by J. Kruckenberg)

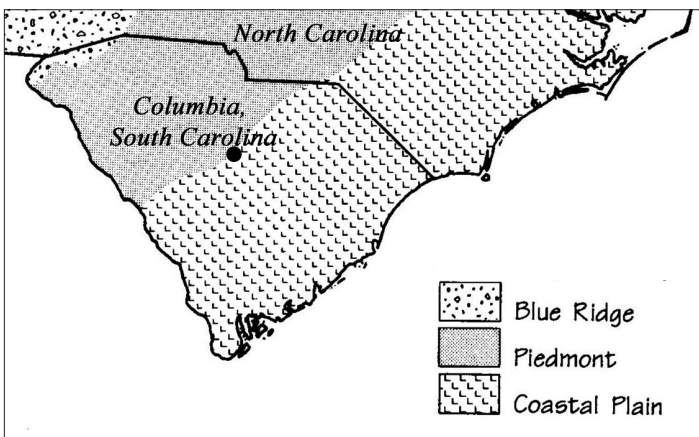


Figure 3. Physiographic provinces in South Carolina. Modified from Rohde et al. 1994.

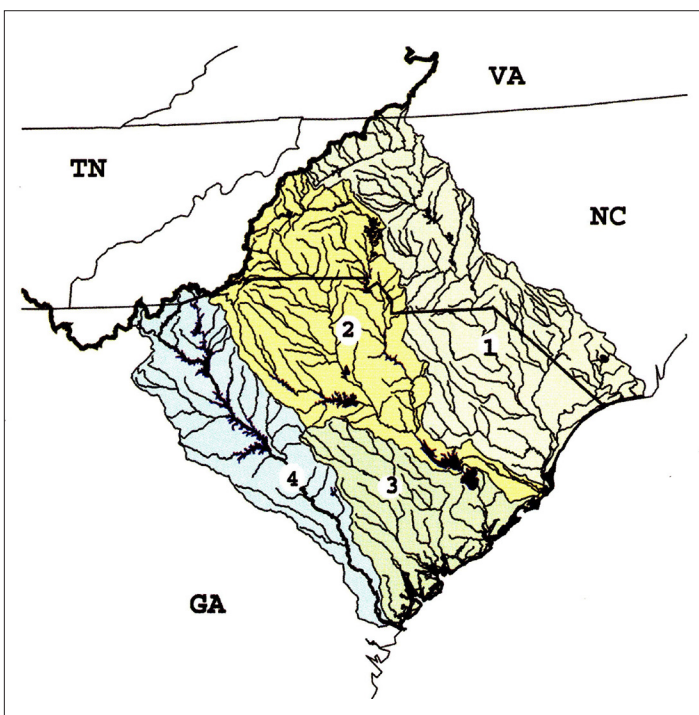


Figure 4. The major river drainages of South Carolina. 1: Pee Dee; 2: Santee; 3: Edisto; 4: Savannah. From Rohde et al. 2009.

er, we maintained our composure and, eventually, we were served our orders.

THURSDAY, MARCH 16: RESTED AND READY TO SEE FISH; DAY 1 OF NANFA 2023

Konrad decided to attend the South Carolina DNR's boat electrofishing and fish photography demonstrations on the Congaree River on the south side of Columbia. The rest of us, however, went collecting in northeastern South Carolina at sites recommended by Fritz Rohde. These sites are near the boundary of South Carolina's Coastal Plain and Piedmont physiographic provinces (Figure 3) and are in the Pee Dee River drainage (Figure 4). Ray had collected before in South Carolina, and he led our group. We sampled three streams in Chesterfield County: Thompson Creek, Deep Creek, and Lynches River (Figures 5–7). Figure 8 shows all sites visited by members of our group during NANFA 2023. See Table 1 for the common and scientific names of fish species that were seen at those sites.

FRIDAY, MARCH 17: PRESENTATIONS, BANQUET, AND AUCTION

All of our group but two attended the day of presentations at the Saluda Shoals Environmental Center in Columbia (Figure 9).

All the presentations were excellent. Jenny gave a presentation on 30 years of darter hunts in the Minneapolis/St. Paul area that she has organized and led (Figure 10). Her presentation—which she had intended to give at the 2022 NANFA convention in Winona but did not due to time constraints—was very well-received.

Ray and Jonathon, however, having not met several species goals during Thursday's sampling, used recommendations from



Figure 5. Sampling on Thursday at Thompson Creek in Chesterfield County, SC. Top, L-R: Ray, Ric, Jonathon, and Jenny. Bottom: a Redlip Shiner captured at Thompson Creek. Navigating riprap at the bridge resulted in an injury to one in our group.



Figure 6. Sampling on Thursday at Deep Creek, Chesterfield County, SC. Top, L-R: five-sevenths of our crew: Jonathon, Ray, Matthew, Jenny and Ric; bottom: a Carolina Fantail Darter found at Deep Creek.

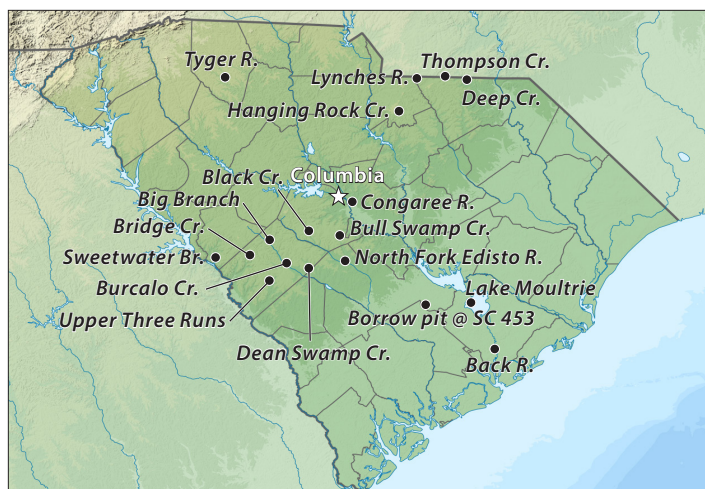


Figure 8. Field trip and other sample sites visited by our group during the NANFA convention in South Carolina.



Figure 9. The Saluda Shoals Environmental Center, Columbia, SC. Photo: S. Taylor in Columbia Living Magazine, May-June 2016.

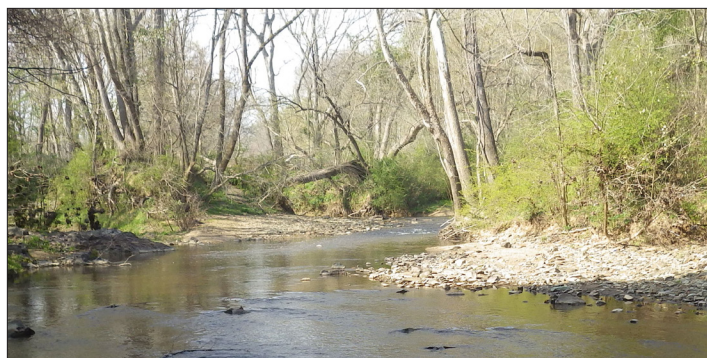


Figure 7. Sampling on Thursday at Lynchess River (top) in northern South Carolina. This river is the Lancaster/Chesterfield County line. bottom: Spotted Sucker. This river is named for a signer of the Declaration of Independence.

South Carolina fish experts Dustin Smith and Tim Aldridge to spend the day collecting at sites in the Edisto River and Savannah River drainages south and west of Columbia. Their first site, Upper Three Runs in Aiken County, provided a treasure trove of species. Riffles produced Turquoise Darter, Savannah Darter, and Sooty-banded Darter. Several leuciscid species were found

in pools of this stream, including Dusky Shiner, Lowland Shiner, and Yellowfin Shiner.

Ray and Jonathon encountered a species at Upper Three Runs that was not on their list of collecting goals: a Cottonmouth *Agkistrodon piscivorus* (Figure 11).

As they were walking downstream, Ray noticed a snake swimming from one streambank to the other. A closer look (but not too close) showed that this was a Cottonmouth. The snake seemed aware of Ray and Jonathon, and they gave it plenty of room as they proceeded downstream. On their return trip upstream, Ray rounded a bend and noticed the Cottonmouth, ready to strike, on a log just two feet away. Ray stopped and slowly moved away, and he and Jonathon then proceeded upstream to the bridge. Not to be deterred by the presence of a venomous snake, they continued collecting at the bridge and found several more Savannah Darter as well as Spotted Sunfish and Speckled Madtom.

Ray and Jonathon's next site was on the North Fork of the Edisto River in Orangeburg County. This site—a sand-bottomed stream with areas of logs, driftwood, and numerous gentle riffles—appeared to have great potential for additional species. Intense collecting, however, produced only two species: Eastern Mosquitofish and a few Spotted Sunfish.

Their next site, Sweetwater Branch in Edgefield County, produced several interesting species, but none were on Ray and

What in the World is a Darter Hunt?



Figure 10. Title slide from Jenny's presentation.



Figure 11. A Cottonmouth (Wikipedia).

Jonathon's list of species goals. They had hoped for Christmas Darter here, but none were seen. The dominant species was Rosyface Chub. They did find a few small Yellowfin Shiner. Ray and Jonathon sampled one last site before heading back to Columbia and the NANFA convention. This site, Bridge Creek in Aiken County, produced Yellowfin Shiner and several small Savannah Darter as well as Sooty-Banded Darter and Speckled Madtom.

In a display of good timing, Ray and Jonathon arrived at the Saluda Shoals Environmental Center just as the NANFA banquet was starting. Despite having spent a full day collecting, searching for their species goals, and avoiding venomous snakes, they both seemed remarkably fresh as they were decked-out in their NANFA 2023 t-shirts.

Several in our group participated in the NANFA auction and, in the process of financially supporting NANFA, acquired several additional fish-related items to cram into the van for transport back home.

SATURDAY, MARCH 18: FIELD TRIPS

Ric attended the Coastal Plain field trip led by Stephan Beaman; the sites visited were Back River and Lake Moultrie in Berkeley County, a borrow pit in Dorchester County, and Bull Swamp Creek in Lexington County (Figure 8). Ric saw his first American Eel on this field trip.

Konrad, Matthew, and I attended the Lower Sandhills field trip led by Dustin Smith. The sandhills region in South Carolina and south-central North Carolina is the portion of the Coastal Plain physiographic province farthest from the ocean (Figure 12).

We visited five stream sites in the Lower Sandhills region southwest of Columbia: Big Branch near Aiken, Upper Three Runs near New Ellenton, Burcalo Creek near Aiken (all three sites are in Aiken County), Dean Swamp Creek near Springfield in Orangeburg County, and Black Creek near Pelion in Lexington County (Figure 13). All sites except Upper Three Runs, which is in the Savannah River drainage, were in the Edisto River drainage (Figure 8). Each of these sites produced interesting species (Figures 14–17).

Our field trip leader, Dustin Smith, had planned for the group to have lunch at what he said was his "daughter's favorite restaurant in the world": Mary's County Kitchen in Springfield, a small town in Orangeburg County, SC. Unfortunately, Mary's was closed. Instead, we had a good old fashioned gas station/convenience store lunch at the nearby Springfield Speedstop (Figure 18).

Others in our group attended different field trips on Saturday. Species seen by our group on these field trips included Rosyside Dace and Redlip Shiner (Figure 19).

SUNDAY, MARCH 19: OUR LAST DAY IN SOUTH CAROLINA

Because we were facing a long, two-day drive back to our homes in the upper Midwest, we decided to visit only one of the NANFA field trip sites scheduled for Sunday: Tyger River in Spartanburg County. We gained access to the Tyger River at Nesbitt Shoals Nature Park, approximately 70 miles northwest of Columbia (in the general direction of Wisconsin). This beautiful river is popular for kayaking; it was the largest water we sampled during the NANFA convention (Figure 20). Although the Tyger River was a scheduled field trip site for Sunday, we arrived earlier than the NANFA-led field trip group in order to get a good start on our drive back home (and maybe to get first shot at Fieryblack Shiner known to be there).

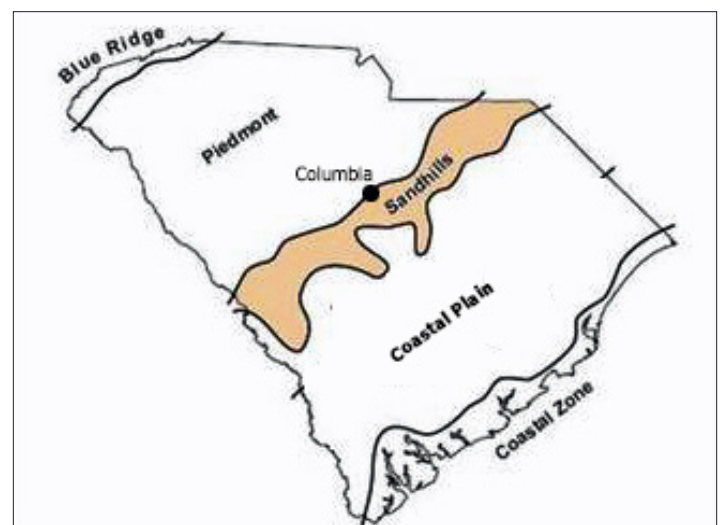


Figure 12. The Sandhills portion of South Carolina's Coastal Plain physiographic province. Image modified from <http://scregions.weebly.com/sandhills.html>.



Figure 13. Big Branch, a stream in Aiken County, SC, on Saturday, March 18, for the Lower Sandhills field trip



Figure 16. Centrarchids from the Lower Sandhills Field trip: top: Dollar Sunfish; bottom: Blackbanded Sunfish.



Figure 14. Leuciscids from NANFA's Lower Sandhills field trip. Top: Yellowfin Shiner; bottom, Coastal Shiner.



Figure 17. Percids from the Lower Sandhills field trip. Top: Sooty-banded Darter; middle: Savannah Darter; bottom: Swamp Darter.



Figure 15. Fish from Saturday's Lower Sandhills field trip: top: Speckled Madtom; bottom: Swampfish.

Table 1. Common and scientific names of fishes from South Carolina waters visited by our group during NANFA 2023.

Anguillidae, freshwater eels	
American Eel	<i>Anguilla rostrata</i>
Lepisosteidae, gars	
Longnose Gar	<i>Lepisosteus osseus</i>
Amiidae, bowfins	
Bowfin	<i>Amia calva</i>
Clupeidae, herrings	
American Shad	<i>Alosa sapidissima</i>
Threadfin Shad	<i>Dorosoma pretense</i>
Leuciscidae, minnows	
Bluehead Chub	<i>Nocomis leptcephalus</i>
Coastal Shiner	<i>Notropis petersoni</i>
Dusky Shiner	<i>Notropis cummingsae</i>
Fieryblack Shiner	<i>Cyprinella pyrrhomelas</i>
Greenfin Shiner	<i>Cyprinella chloristia</i>
Highfin Shiner	<i>Notropis altipinnis</i>
Lowland Shiner	<i>Pteronotropsis stonei</i>
Redlip Shiner	<i>Notropis chiliticus</i>
Rosyface Chub	<i>Hybopsis rubrifrons</i>
Rosyside Dace	<i>Clinostomus funduloides</i>
Sand Shiner	<i>Notropis stramineus</i>
Santee Chub	<i>Cyprinella zanema</i>
Spottail Shiner	<i>Notropis hudsonius</i>
Thicklip Chub	<i>Cyprinella labrosa</i>
Whitefin Shiner	<i>Cyprinella nivea</i>
Yellowfin Shiner	<i>Notropis lutipinnis</i>
Catostomidae, suckers	
"Carolina" Quillback	<i>Carpionodes sp.</i>
Northern Hog Sucker	<i>Hypentelium nigricans</i>
Notchlip Redhorse	<i>Moxostoma collapsum</i>
Shorthead Redhorse	<i>Moxostoma macrolepidotum</i>
Spotted Sucker	<i>Minytrema melanops</i>
Ictaluridae, North American catfishes	
Channel Catfish	<i>Ictalurus punctatus</i>
Speckled Madtom	<i>Noturus leptacanthus</i>
Tadpole Madtom	<i>Noturus gyrinus</i>
Esocidae, pikes	
Chain Pickerel	<i>Esox niger</i>
Redfin Pickerel	<i>Esox americanus</i>
Amblyopsidae, cavefishes	
Swampfish	<i>Chologaster cornuta</i>
Atherinopsidae, New World silversides	
Inland Silverside	<i>Menidia beryllina</i>

Fundulidae, topminnows	
Bluefin Killifish	<i>Lucania goodei</i>
Golden Topminnow	<i>Fundulus chrysotus</i>
Lined Topminnow	<i>Fundulus lineolatus</i>
Poeciliidae, livebearers	
Eastern Mosquitofish	<i>Gambusia holbrooki</i>
Least Killifish	<i>Heterandria formosa</i>
Moronidae, temperate basses	
Striped Bass	<i>Morone saxatilis</i>
White Perch	<i>Morone americana</i>
Centrarchidae, sunfishes	
Blackbanded Sunfish	<i>Enneacanthus chaetodon</i>
Bluegill	<i>Lepomis macrochirus</i>
Bluespotted Sunfish	<i>Enneacanthus gloriosus</i>
Dollar Sunfish	<i>Lepomis marginatus</i>
Mud Sunfish	<i>Acantharchus pomotis</i>
Pumpkinseed	<i>Lepomis gibbosus</i>
Redbreast Sunfish	<i>Lepomis auritus</i>
Redear Sunfish	<i>Lepomis microlophus</i>
Smallmouth Bass hybrid	<i>Micropterus</i>
Spotted Bass	<i>Micropterus punctulatus</i>
Spotted Sunfish	<i>Lepomis punctatus</i>
Warmouth	<i>Lepomis gulosus</i>
Elassomatidae, pygmy sunfishes	
Banded Pygmy Sunfish	<i>Elassoma zonatum</i>
Everglades Pygmy Sunfish	<i>Elassoma evergladei</i>
Percidae, perches	
Carolina Fantail Darter	<i>Etheostoma brevispinum</i>
Savannah Darter	<i>Etheostoma fricksium</i>
Swamp Darter	<i>Etheostoma fusiforme</i>
Tessellated Darter	<i>Etheostoma olmstedi</i>
Turquoise Darter	<i>Etheostoma inscriptum</i>
Sooty-banded Darter	<i>Percina westfalli</i>
Yellow Perch	<i>Perca flavescens</i>

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Figure 18. Springfield, SC. Top: Mary's County Kitchen, where we *planned* to have lunch; bottom: the Springfield Speedstop, where we actually *had* lunch. (Google Streetview)



Figure 19. Species seen on NANFA's Saturday field trips. Top: Rosyside Dace; bottom: Redlip Shiner from Deep Creek in Chesterfield County. (Photos by J. Kruckenberg)

Sunday was a clear but chilly day in South Carolina. The air temperature in Columbia as we checked out of the hotel about 8:00 AM was in the low 40s F. The Minnesotans and Wisconsinites in our group, however, would not be deterred from collecting on the Tyger River by a bit of chilly weather (Figure 21).

The Tyger River produced several interesting species, including Fieryblack Shiner and two of South Carolina's non-*Cyprinella* looking *Cyprinella* species: a Santee Chub and a Thicklip Chub (Figure 22).

After getting the fish ready for transport, we departed from the Tyger River in late morning and began our long road trip back to the north country.

During the day's long drive, Jenny once again mentioned her childhood dream of having horses in a Kentucky pasture with blue-colored bluegrass. Late in the day, we decided to overnight at a Super 8 motel just south of Indianapolis; we arrived there at about 8:30 PM.

MONDAY, MARCH 20: THE HOME STRETCH

We got an early start on the last leg of our journey and were on the road by 8:00 AM. We had an 8-hour drive ahead of us to Ray's house in Onalaska, WI, and the rest of us would have an additional 3 to 5-hour drive from Onalaska to our respective homes.

We arrived at Ray's house in Onalaska in mid-afternoon. After unloading the van, and after replacing the van's rear seat, we said our good-byes (Figure 23).



Figure 20. The Tyger River at Nesbitt Shoals Nature Park, Spartanburg County, SC. The Tyger is a tributary of the Broad River and is in South Carolina's Santee River drainage.



Figure 21 Collecting on Sunday at the Tyger River, Spartanburg Co. Ray and Jenny are holding the seine; Jonathon (holding a minnow bucket) and Pat Johnson (from Ohio) are the fish herders. All are bundled-up against the cool morning air.

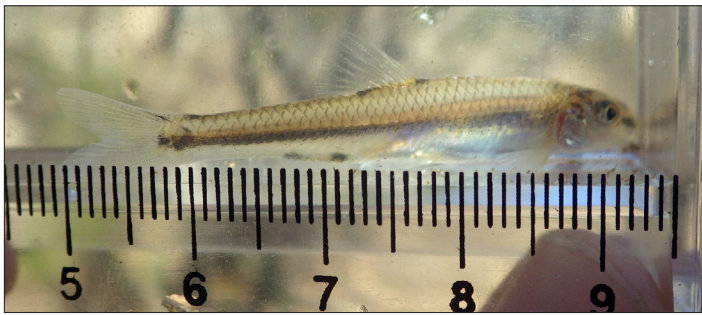


Figure 22. Fishes from the Tyger River, Spartanburg Co., SC. Top: Santee Chub; bottom: Thicklip Chub.

On my late afternoon drive with Ric from Ray's house in Onalaska to Ric's house in Lansing, IA, we noticed the still-frozen backwaters of the Upper Mississippi River and the late season ice fishers.

EPILOGUE

Our 1,120-mile drive in the van to and from Columbia for NANFA 2023 was more or less of a challenge: more for the older folks in our group (such as myself) and probably less for the younger. Despite the cramped travel conditions, all in our group remained in good spirits.

The NANFA 2023 convention was outstanding, from the presentations, banquet, and auction to the NANFA-led field trips. In addition to seeing and reconnecting with NANFA friends, the upside of our riding for 34 hours in a 15-passenger van was the opportunity to see a number of South Carolina's native fishes that most in our group had never seen. Seeing fishes from the Atlantic Slope that are similar to Upper Mississippi basin fishes—including species in *Nocomis*, *Lepomis*, *Etheostoma*, and *Percina*—was fascinating and was a hands-on lesson in adaptive radiation of species. Prior to NANFA 2023, I had no idea that species in the genus *Cyprinella* could look so non-*Cyprinella*-ish. Seeing the pygmy sunfishes and the *Enneacanthus* sunfishes was great as was seeing my first representative of the cavefish family, Amblyopsidae (Swampfish). The variety of stream/river types in the South Carolina's physiographic provinces—landforms that are geologically much older than those in the upper Midwest—were all very interesting. By nearly overtopping my chest waders twice within five minutes, I gained an intuitive feel for the considerable depth variations possible in South Carolina's blackwater streams of its Sandhills region. Speaking only for myself, the fish fauna and streams of the Upper Mississippi River basin now seem a bit less interesting than they did before the 2023 NANFA convention.

At the end of our trip, as we were unloading the van and preparing to depart from Ray's house in Onalaska, the issue was

raised of whether we would travel to future NANFA conventions in a 15-passenger van. The opinions on this issue ranged from “hell no” to “sure!” with the age of the respondent being a factor in the type of response.

ACKNOWLEDGEMENTS:

Thanks to Bryn Tracy for providing a species list for Thursday's boat electrofishing demonstration on the Congaree River in Columbia. Thanks also to Stephan Beaman for the species list for Coastal Plain field trip on Saturday. Jay Hatch (St. Paul, MN) generously provided transportation for Konrad and me on Saturday's field trip. Dustin Smith provided fish identification confirmations for several species collected on the Lower Sandhills field trip. And a special thanks to our fellow traveler Jonathon Newkirk who, in addition to renting the van (and getting a good deal on the fee), was the person who had to clean up the van before returning it. After all those miles and munching on snacks, especially the delicious cookies sent along with us by Ray's wife Lisa, I'm sure that the clean-up was quite a chore.

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Figure 23. Back in Wisconsin at Ray's house. L-R: Ray Katula, Ric Zarwell, Konrad Schmidt, John Olson, Matthew Kvam, Jonathon Newkirk, and Jenny Kruckenberg. Everybody's smiling, so it must have been a good trip! (Photo by Lisa Katula)