

Rare Fishes of North Carolina (Part Two)

by

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More than 200 species of freshwater fishes occur in North Carolina waters. Through the generosity of the North Carolina Endangered Wildlife Program, we have been given the opportunity to survey for fishes throughout much of the state. Previously we wrote about two rare fishes that are endemic to the Carolina Sandhills (*American Currents*, Spring 1997). This time we will consider five state-listed fishes that are restricted in North Carolina to the Dan River system, as well as a number of other species that occur there. The Dan is a scenic river, and consequently it is a Mecca for canoers, kayakers, tubers, and fishermen. This article emphasizes those little-known wonders that live in this river, many of which are so beautiful and interesting that we believe many NANFA members would give their eyeteeth to have them in their aquaria.

The Dan River is the major southern tributary to the upper Roanoke River. It originates at an elevation of over 3000 feet on the Blue Ridge Escarpment in south-central Virginia, west of Martinsville. After a short distance, the river enters a narrow, labyrinthine gorge about 29 river miles in length that it has cut through this escarpment. Downstream of this gorge (called Kibler Gorge locally) the river meanders to the southeast through the Inner Piedmont for about 50 river miles, and along the way it

crosses into North Carolina. The river bottom throughout the gorge and this region consists of gravel, cobble, and boulders, with occasional areas of sand and rock outcrops. The Dan flows near two North Carolina scenic areas—Pilot Knob and Hanging Rock—both of which are disjunct remnants of the easternmost Appalachian Mountains. At a point above Winston-Salem, it turns sharply to the northeast as it enters a different geologic

region, one with a softer bedrock. Here the bottom is primarily of sand and gravel, with occasional cobble. After crossing the NC/VA border several times, the Dan terminates at Kerr Reservoir, in the state where it began, a distance of 184 river miles from its headwaters.

We first explored the Dan in the summer of 1992, spending a week sampling in Stokes County, North Carolina.

Because of the pronounced river current, we knew that our tried-and-true collecting with

seines wouldn't be too effective, except for downstream sweeps for minnows. So we brought an old, smelly, gas-powered backpack electroshocker we had borrowed from a friend. It worked great. The junior author operated the shocker while the senior author held a 10-foot seine downstream. We made six additional trips with various groups of students, the presence of whom made our work much easier.

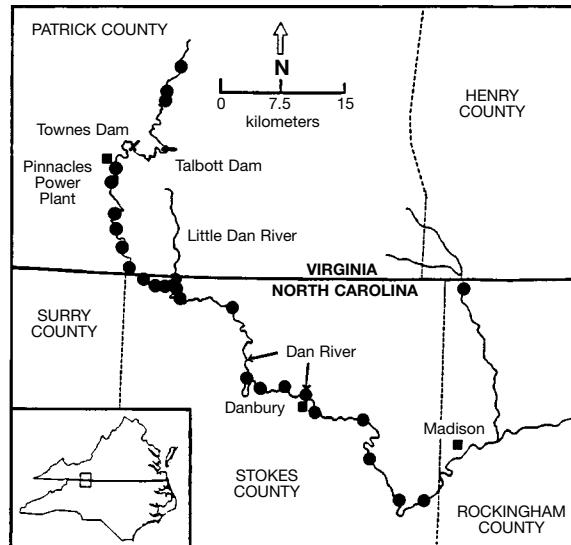


Fig. 1. Sampling sites in Dan River.



Fig. 2. Mountain redbelly dace (*Phoxinus oreas*). Photo by Fred C. (Fritz) Rohde.

Our initial plan was to survey the upper part of the Dan in North Carolina for the five state-listed fishes that occur there: cutlips minnow (*Exoglossum maxillingua*), rustyside sucker (*Thoburnia hamiltoni*), bigeye jumprock (*Scartomyzon ariommus*), orange fin madtom (*Noturus gilberti*), and riverweed darter (*Etheostoma podostemone*). The first of these three are listed as “endangered,” the other two as “species of special concern.” But we were so intrigued with the distribution of these and other fishes, that we ended up making a survey of the river from its headwaters in Virginia to just downstream of the abrupt bend it makes to the northeast. Thus, we eventually made a total of 30 collections at 23 sites (Fig. 1). As part of our study of the longitudinal succession of fishes in the Dan, we also used data from 94 collections made by other researchers at 19 additional sites, many of them further downstream.

Overall, 65 species of fishes are now known from the Dan River, many of which are suitable for aquaria. Most common were 20 species of minnows and 11 suckers. The most commonly seen minnows were the rosieside dace (*Clinostomus funduloides*); bluehead chub (*Nocomis leptocephalus*); satinfin shiner (*Cyprinella analostana*); rosefin shiner (*Lythrurus ardens*); crescent shiner (*Luxilus cerasinus*); and redlip shiner (*Notropis chiliticus*). Our favorites in this family are the crescent shiner, with its pearly-pink coloration, and the redlip shiner, in which males can develop a red body and

yellowish fins. Even when not feeling romantic, the redlip is an attractive fish. Although not widespread or abundant, the mountain redbelly dace (*Phoxinus oreas*, Fig. 2), with its red, black, silver, and brown body, and yellow fins, is colorful. The connoisseur hobbyist might appreciate the cutlips minnow with its olive green body and bizarre lower jaw with three fleshy lobes. Although this fish is

widespread in the northeastern United States and adjacent Canada, it reaches its southernmost limit in the Dan River in North Carolina, and thus is endangered in that state. Prior to our work, it was known only from only one site a mile downstream of the Virginia border. We subsequently found it at five sites over a distance of 13 miles downstream from the VA/NC border (Fig. 3). In addition, we collected it at six sites upstream from the VA/NC border, as far as 14 miles into the Kibler Gorge. It prefers fast-flowing runs or pools, near larger rocks or boulders. Several that we maintained

in an aquarium readily ate worms. The Dan River supports a rich community of suckers. Most abundant but less interesting than others are two species of redhorses, the golden (*Moxostoma erythrurum*) and the V-lip (*M. pappillosum*). Both reach a length of 16 inches, are relatively colorless, and would not generally be thought of as desirable for aquaria. The really neat guys are the jumprocks. However, all attain greater than “minnow” sizes and require large

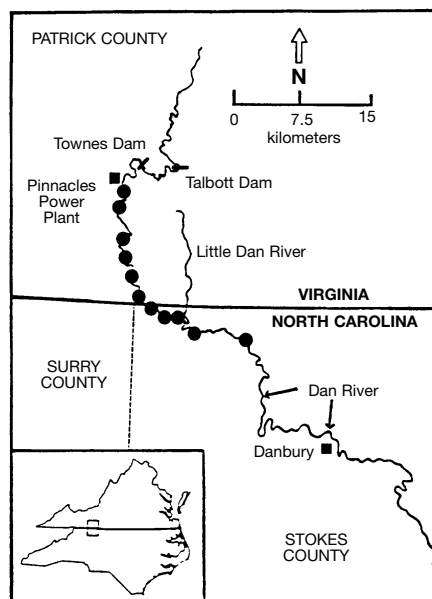


Fig. 3. Cutlips minnow distribution.

waters, and thus would not be suitable even for the above-average aquaria. The black jumprock (*Scartomyzon cervinus*) has a fairly restricted distribution in Virginia and North Carolina, but it is common and widespread in the Dan River in riffles and runs. With its black and gold body stripes, orange pectoral and pelvic fins, and black tips on the dorsal and caudal fins, it is a very attractive sucker. It is also relatively small (to 7 inches).

The big-eye jumprock is restricted to the upper Roanoke River drainage. We found it at eight sites over a 26-mile stretch of river in North Carolina (Fig. 4). We took adults in deep runs and heads of pools, usually near large boulders and rock outcrops, and juveniles in shallow gravel riffles and a sandy-bottomed pool. The rusty-side sucker is possibly the rarest fish in North Carolina. It is endemic only to the Dan River system in Virginia and North Carolina. In North Carolina, it is known only from one site in the most downstream part of the Little Dan River, a tributary to the Dan.

We captured one adult here, as well as three more adults in the Dan upstream in Kibler Gorge in Virginia (Figs. 5 and 6). It is attractive with its red-orange lateral band, but its scarcity and protected status further preclude it from becoming an aquarium fish. The Roanoke hogsucker (*Hypentelium roanokense*) is encountered commonly; it is smaller and more attractive than its cousin, the northern hogsucker (*H. nigricans*), which also occurs here.

Sunfishes of 10 species are common, particularly in the lower part of the Dan, but since none are unique to the region, we will pass on commenting on them here. Also well-represented are the catfishes, especially the madtoms. The Dan River contains more margined madtom (*Noturus insignis*) per square foot than any other river we've sampled, often up to 100 individuals per sample. Such large numbers tend to lead to unpleasant experiences. My wife, Sharon Rohde, who

doesn't often go on collecting trips, did go on several trips to the Dan. The first time was after Thanksgiving one year, and at our first site in Virginia, with light rain and sleet falling, she slipped and fell into the river. Unfortunately, for her, we didn't stop until we had our sample, about an hour later (she claims it was much longer). The next day, after an all-night rain, was even

worse; she was nearly swept away several times, and we had to quit. On her second—and, we hope, not last—trip with us, she was getting fishes out of the seine and transferring them to a jar. In spite of using extreme caution, one of those little devils got her under a fingernail with one of its venom-

loaded spines. Sharon was

unhappy! Regardless, there is a spotted form of the margined madtom which occurs in the Kibler Gorge portion of the Dan River, and this population merges with the plain-colored population downstream, although all individuals of this madtom in this river are attractive, with a

distinct black edge on the fins. The orangefin madtom, like the bigeye jumprock, is restricted to the upper Roanoke River drainage. Prior to our survey it was found over a 28-mile section of the Dan in the two states (Fig. 7). We did not find it at four of the lowermost sites where it had been previously collected, and we suspect that it is having some trouble in this river system. Because of its scarcity, it is now protected in both states.

Although not showing great species diversity, the six species of darters in the Dan are abundant. The attractive and widespread Roanoke darter (*Percina roanoka*) was the fourth

most abundant fish taken in our samples. The reproductive male develops a bright blue side, orange belly, and an orange first dorsal fin. Almost equally attractive is the riverweed darter, with its rows of dark spots on the side and an orange cast on the breeding male. This species is

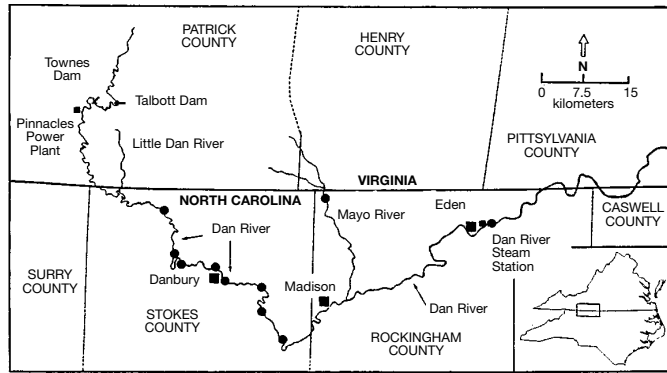


Fig. 4. Bigeye jumprock distribution.

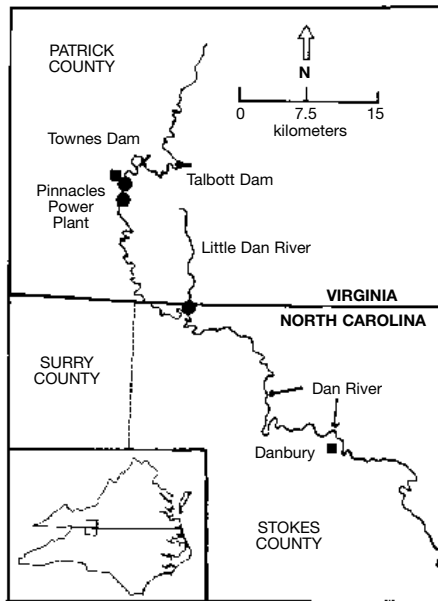


Fig. 5. Rustyside sucker distribution.

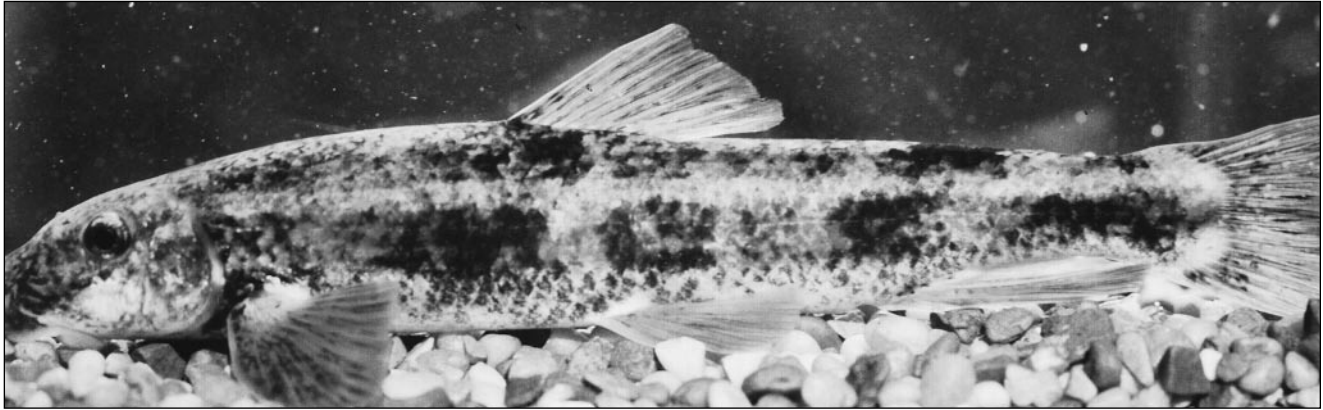


Fig. 6. Rustyside sucker (*Thoburnia hamiltoni*). Photo by Fred C. (Fritz) Rohde.

also restricted to the upper Roanoke River drainage, where it is common. We found it to occupy a 78-mile stretch of the Dan, especially in areas of shallow riffles and with a gravel/cobble substrate (Fig. 8). It is related to

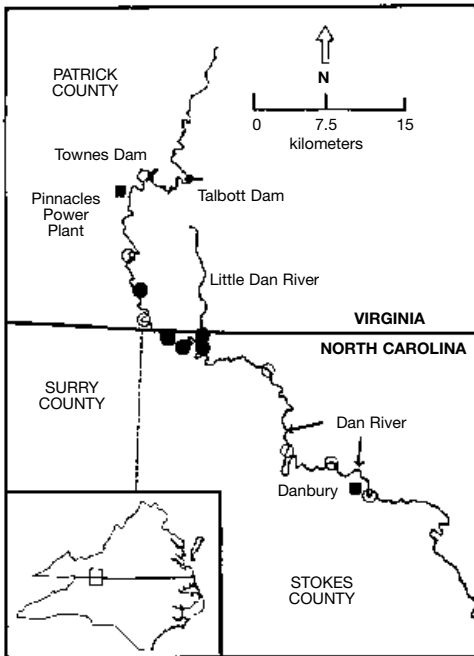


Fig. 7. Orangefin madtom distribution. Open circles are extirpated sites.

the johnny darter (*Etheostoma nigrum*), and it does well in the aquarium.

We noticed definite species associations and changes in species compositions as we moved from upstream to downstream in the Dan River. In its headwaters occur one group of small species such as rosyzide dace, mountain redbelly dace, creek chub (*Semotilus atromaculatus*), blacknose dace (*Rhinichthys atratulus*), and mottled sculpin (*Cottus bairdi*). An intermediate group is found in abundant numbers below the gorge; it includes the blue-

head chub, redblip shiner, crescent shiner, and johnny darter. Another group in and near this area includes the margined madtom, Roanoke darter, and riverweed darter. Finally, in the downstream and slower portion of the river is a group that includes the satinfin shiner, white shiner

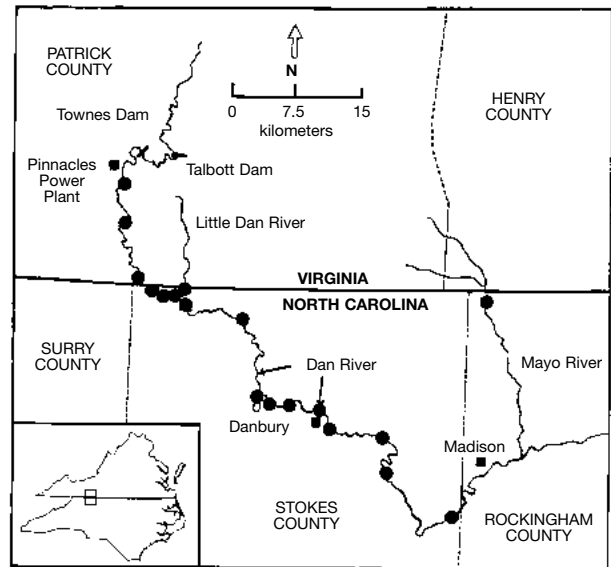


Fig. 8. Riverweed darter distribution.

(*Luxilus albeolus*), rosefin shiner, bull chub (*Nocomis biguttatus*), and redbreast sunfish (*Lepomis auritus*).

The Dan River is a beautiful stream with many attractive and common fishes. We recommend it to all NANFA members who want to see and to maintain some of these little gems. Please be sure that you obtain any required collecting permits or fishing licenses before you try to collect. North Carolina requires a fishing license to use a seine with which to collect "bait fishes." Remember also to first obtain landowner permission, and to not excessively disturb this beautiful river.