

# The Fascinating Fishes of Cape Fear

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**F**or the past 18 years, I have been investigating the North Carolina commercial fishery for reef fish, primarily snappers and groupers. While the snapper-grouper complex consists of about 75 species that are important to fishermen in the South Atlantic, most of their catch is dominated by 10-14 species. Occasionally, they would bring in some small, highly colorful fish for me to identify. I discovered that scientists considered many of these species rare in our area, while others were previously unknown off North Carolina, and sometimes, were new to the South Atlantic. When questioned as to where they were caught, the fishes often answered “The Steeples,” which is an area off Cape Fear named for its high-profile hard bottom. For years, I have wondered what it would be like to actually dive on The Steeples and see firsthand the fishes that I have been studying for years. On September 26, 2001, I finally got the chance.

It was the last dive on this final leg of the Islands in the Stream Expedition,\* so we planned to spend the maximum

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\* *Editor's note:* Islands in the Stream—a cooperative venture between the National Oceanic and Atmospheric Administration, the Harbor Branch Oceanographic Institution of Fort Pierce, FL, and numerous state agencies and university scientists—was a three-month scientific expedition of marine waters from Belize in Central America to North Carolina's continental shelf. “Islands” are the coral reefs and hard-bottom (or “hard substrate”) biological communities found along the course of a massive “stream” of ocean currents connecting the Caribbean Sea, the Gulf of Mexico, and the western Atlantic off North America. The expedition emphasized habitat characterization and an understanding of these islands' “connection” as parts of an interrelated ecosystem. Though separated by large expanses of ocean, the fishes, corals and invertebrates common to these islands may demonstrate that the health and vitality of “downstream” islands are linked closely to those located “upstream.” Operations included submersible and remotely operated vehicle (ROV) work, collection of oceanographic data, and surface, mid-water, and bottom sampling. For details, visit <http://oceanexplorer.noaa.gov/explorations/islands01/background/plan/plan.html>.

amount of time on the bottom, about four hours. The day before, we had made transects through the area searching for the most promising site. One area in particular stood out: the colorscope indicated a large concentration of fishes above a ledge with a profile of at least 80 feet in about 300 feet of water. This was our target as we launched that morning. As we descended, however, the current had other plans. By the time we reached the bottom, we were about 700 feet away from our target. We had landed next to another ledge, which was about 35 feet high. A barracuda and several amberjacks greeted us upon our arrival. While discussing whether we should seek out the target ledge, we noticed that the ledge right in front of us was teeming with fish and had some interesting geologic features.

## “Awestruck”

I felt like a country kid who'd made his first trip to the big city. “Awestruck” sums it up best. I sat in my seat facing a steep limestone wall covered with hard and soft corals, sponges, and bryozoans. Clouds of small fishes, ranging in size from under one inch to about four inches, were everywhere. When the sub lights hit them, they were transformed from silvery gray streaks into beautiful pastels of red, pink, and yellow. Most abundant were roughtongue bass (*Holanthias martinicensis*, Fig. 1) and red barbier (*Hemanthias vivanus*), small species that belong to the same family (Serranidae) as the large groupers. Cruising across the wall slightly above them were several small scamp grouper (*Mycteroperca phenax*), an important commercial fish. A few small manta rays and their remora associates also glided over our sphere.

Attached to the submersible is a moveable arm and suction hose. We used this hose to “slurp up” a number of these



*Fig. 1.* Roughtongue bass are a small member of the grouper family and are one of the two most common fishes encountered on these ledges. The ledge is covered with hard and soft corals, bryozoans, and various invertebrates. Photograph by Fritz Rohde.

small, colorful fishes so that we could determine what they were. This is not as easy as it sounds, and it took some time to get samples. Then we did a transect along the face of the ledge about midway between the top and bottom. As we left the sandy bottom, rubble and boulders revealed where parts of the ledge had collapsed. Some of the rubble was so angular and rectangular in shape that the pilot joked that we had found the Lost City of Atlantis. This ledge was probably formed during low sea levels that occurred during the last Ice Age.

We found another suitable site for sample collecting, where we caught scorpionfish, bigeye, gobies, and some other small, still unidentified fishes. Even though it seemed that we had just started, time was rapidly running out. We continued on our transect until the ledge ended in about 250 feet of water. Notable in this stretch were schools of small vermilion snapper (or beeliners, *Rhomboplites aurorubens*), which are the most commonly caught fish in the area. Also we saw three spanish flag (*Gonioplectrus hispanus*), only a few specimens of which have ever been found off the North Carolina coast. While we waited for clearance to ascend, we set the submersible on the sandy, soft coral-covered bottom above the

ledge and observed many tropical fishes, including blue angelfish (*Holocanthus bermudensis*), damselfish, tattler, grunts, and others.

Some 4-1/2 hours after descending, I gingerly extracted my cramped and aching body from the submersible. It was well worth it! I had just experienced one of the most memorable events in my life. —

### ***Fishes of Tennessee* update available from NANFA**

*The Fishes of Tennessee* has been reprinted with an 8-page list of addenda, including new names, updated sampling records, and recent biological findings. Thanks to the book's senior author, Dr. David A. Etnier, copies of the addenda—plus a 2-page list of corrections that were made for the second printing—are available to NANFA members for \$2 (domestic), \$4 (international). Please send cash, check or money order (U.S. funds only) to NANFA, 1107 Argonne Drive, Baltimore, Maryland 21218. Unsold copies will be distributed at the 2002 NANFA Convention in Ann Arbor, Michigan.