In Search of the Mangrove Killie, *Rivulus marmoratus*

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by

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When I moved to Key West in 1988, I knew I was in the range of *Rivulus marmoratus*. I figured that with a little searching and poking around, I'd find it. Right? Wrong! I looked in salt ponds, waded through 6-12" of muck, and netted through mangrove leaves. Nothing!

Then I saw an article in *Flordia Naturalist* by D. Scott Taylor called "The Least Seen Fish in Florida." The title should have warned me, but instead it suggested another game plan. Mr. Taylor said that *Rivulus* was unknown until 1880, and was first found in Florida in 1927 at Key West.

Mr. Taylor was collecting them in land crab burrows. So I went to a place in town where I knew there were lots of crab burrows near a canal. I tried dangling a small piece of shrimp into the holes to lure the *Rivulus* up where I could see and catch them. I looked in a lot of crab holes. Still, no *Rivulus*!

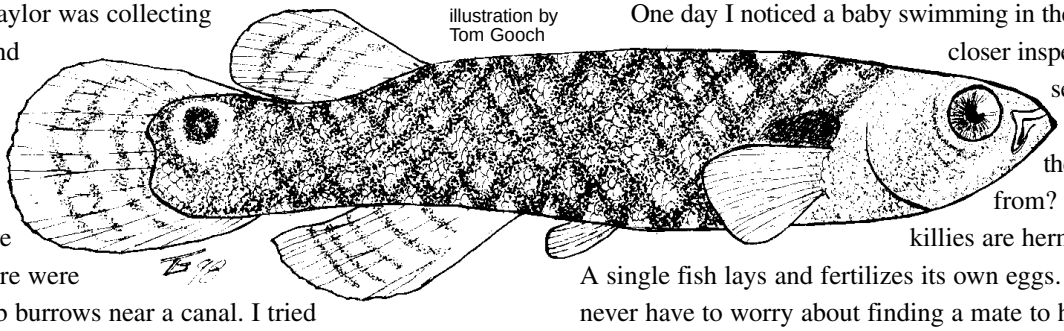

illustration by Tom Gooch

Then one spring day eight years later, I was dipnetting in some small ditches that run off a canal, in mangrove leaf litter over black mud, when I pulled up a small, 1-1/2" dark fish. On first glance, I thought it was a marsh killifish (*Fundulus confluentus*), which are common in the ditch. It squirmed from side to side like a salamander. On closer examination, I could see the black ocellus, or eye spot, on the caudul peduncle. Finally, I had collected the elusive *Rivulus*.

I collected water from the ditch, a few mangrove leaves, and headed home. I put some crushed coral into a one-gallon round Plexiglass tank, filling it with water from the site. I placed mangrove leaves on the coral and introduced the *Rivulus* to the tank.

The fish adapted very well and was eating the next day. Its coloration was light brown, scattered with darker pigment spots, and a black ocellus on the caudul peduncle. It fed well on brine shrimp, chopped shrimp, clam, even flake food. It grew to two inches and was quite robust.

One day I noticed a baby swimming in the tank. Upon closer inspection, I saw seven more. Where did they come from? Mangrove killies are hermaphroditic. A single fish lays and fertilizes its own eggs. So you never have to worry about finding a mate to have a pair.

I've since observed the *Rivulus* mouthing the gravel on the bottom, and then vibrating close to it (like a pair of spawning killifish, only solo). It deposits amber-colored eggs deposited about 1/4" below the gravel's surface. When the fry hatch, they wriggle up through the gravel and stay close to the bottom. They take powdered food and frozen baby brine shrimp.

For a fish that was so hard to find, *R. marmoratus* has proven easy to keep and breed. Well worth the wait.

Editors' note: R. marmoratus *is protected in Florida. Mr. Borgia collected his specimen with permission from the Florida Game and Freshwater Fish Commission.*
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