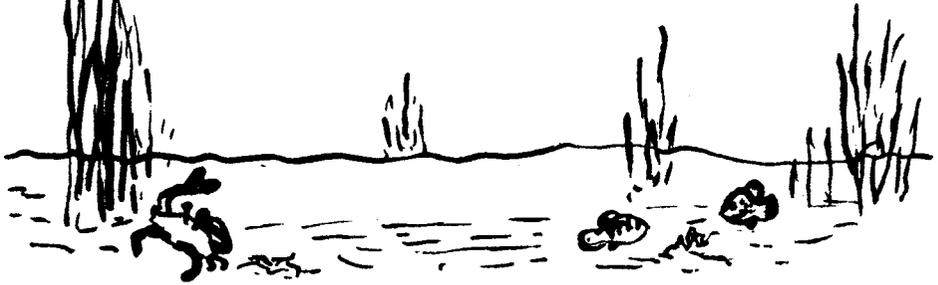


# Quick! over There !!



or

## Collecting Killies in the Wilds of Texas

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Texas has many species of native killies, members of the Family *Cyprinodontidae*. There are populations of **Pupfish**, most of which are protected by state or federal laws, and several species of *Fundulus* to be found in Texas rivers and lakes. Some of these species are: *F. catenatus*, *F. olivaceus*, *F. notatus*, *F. kansae*, and in the south *F. zebrinus*. About the only other states with such a variety of native killies are Florida and Georgia. Another complex of species is found along the Gulf coast, and it was to capture some of these that I launched an expedition, with husband in tow, to the Galveston area at the end of June.

We set off after loading our Pinto to capacity with collecting equipment: fish boxes, buckets, plastic bags, water testing equipment, seine, nets, notebook, reference material, hipboots, towels, extra clothes (in case of slips), plastic boxes for observing the catch, and other essentials. It is about a five hour drive from Killeen, which is about dead center in the state, to Galveston. It doesn't look very far on the map if you aren't acquainted with distances in western states. We stopped overnight in Houston and arose early next day ready to take to the road in quest of **killie** habitat. All along Interstate 45 we passed through torrential showers. It would be clear for a few minutes, then a cloud would pass over and it would pour. Well, at least it wasn't scorching hot, and I figured to get wet anyway. Coaxing Herb out of the car to help me seine was the only problem.

Along I 45 near the bridge which carries traffic onto Galveston Island are a series of tidal marshes, called, for some reason **unfathomable** to me, bayous. Ah Ha! **Killie** territory! Our first stop. These marshy areas have mud bottoms, with little vegetation except algae here and there. The most abundant vegetation is a reed-like salt grass in clumps throughout the flat, and along the edge. We disembarked from the car, booted up,

and were promptly set upon by a cloud of giant mosquitos. They grow 'em big in Texas, and the one thing we hadn't brought was insect repellent!

Our main collecting tool was a six foot seine. The water was clear, but as we walked and dragged the net over the bottom, mud rolled up obscuring the view. It was easy to observe the fish scurrying along at great speed about three feet ahead of the net. After several passes we managed to capture some of the fish which turned out to be *Cyprinodon variegatus*, the coastal cousin of the Pupfishes. The males were in breeding color, beautiful iridescent blue, with bright orange bellies, and coal black edgings on their tail. Unless you have seen these fish in breeding color it is hard to believe how beautiful they are. The only other fishes we caught in this area were *two* young *F. grandis*, a **non-killie** which may have been a small Drum, and lots of Silversides (Family *Atherinidae*). Lots of big blue crabs had lairs along the shore among the grass and were hiding buried in the bottom. They are probably a major predator of the small **piscene** inhabitants of the marshes, along with the many water birds.

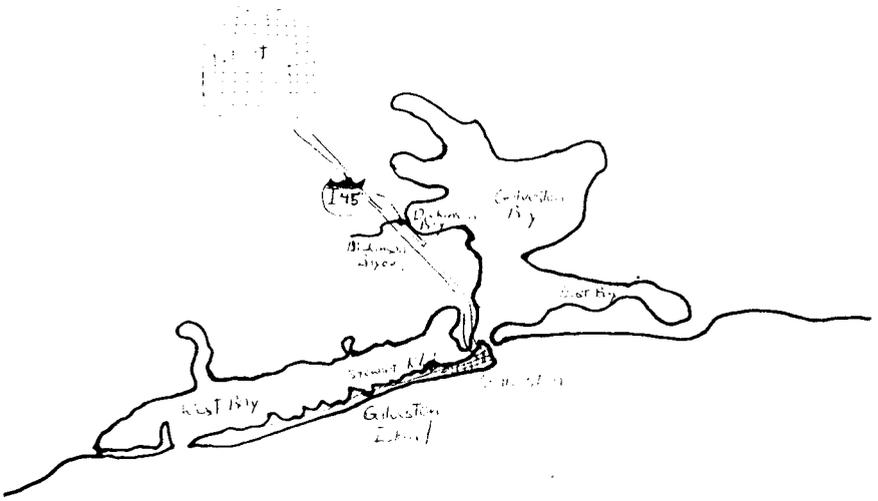
After a couple of hours in this spot, we piled back into the car, proceeded to Galveston, continued through and out Galveston Island on Stewart Road. Galveston Island is a low barrier island, between the Gulf and an inner channel beyond which is the mainland. Numerous creeks, really tidal inlets, cross the island and are havens for small fishes.

We stopped at the first little bridge. The water in these streams is muddy, so it is not possible to see where you are stepping, or what you are chasing. This little ditch looked about two inches deep, but we got out the seine anyway to see if we could find anything alive amongst the trash thrown out by passing motorists. I didn't want to step in the water, as the bottom looked deep and silty, and there's nothing quite like the aroma of swamp mud. I saw a rock in the middle so I decided to use it to get a better sweep with the seine. Well, the rock was really a piece of camouflaged trash. As I stepped on it I sank up to my knee in **ucky** mud, fell down, and managed to crawl out the other side only half covered with an inch thick layer of stinking goo. I had dropped the seine. After climbing out I lifted out the net and a miracle had occurred. It was teeming with fish, tons of them, mostly mollies and a few *C. variegatus*.

After rinsing off the worst of the mud I got back in the car and we went on to the next stream. Along the way we saw that the marsh, which was the origin of the ditch we had just collected from, was filled with an unusually large flock of Roseate Spoonbills. Usually occurring in flocks of a few to six birds, this gathering may have been the reason why that little ditch was packed with mollies like sardines in a can; they may have been fleeing from the birds.

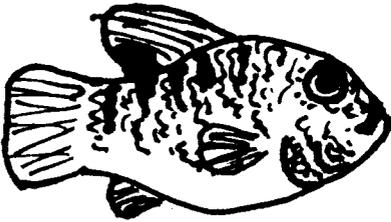
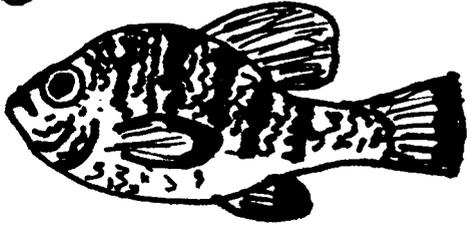
The next ditch looked more promising, being wider and having a harder bottom, making it easier to seine. Here we caught more mollies and *C. variegatus*.

The third stream was much larger than the other two, about 30 feet wide. There was a drop-off the bank to two feet deep, but it was fairly level out towards the middle, where a channel made it too deep to seine. We

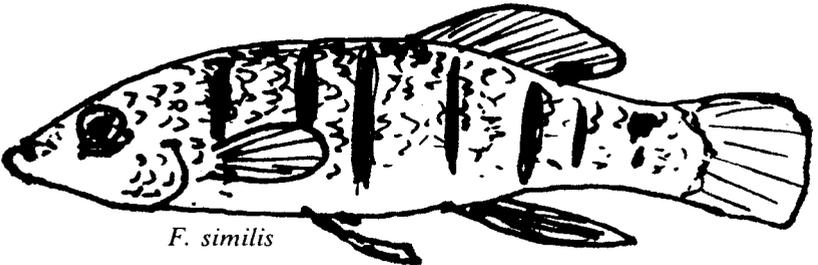


*Adinia xeneca*  
male

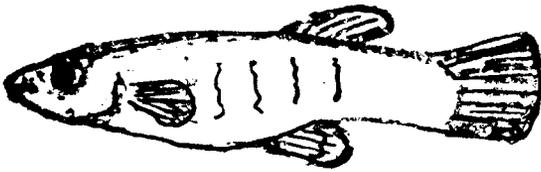
*C. variegatus*  
male



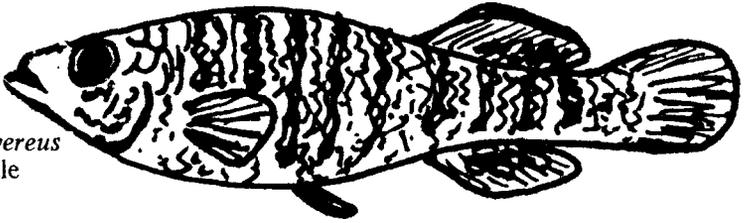
*C. variegatus*  
female



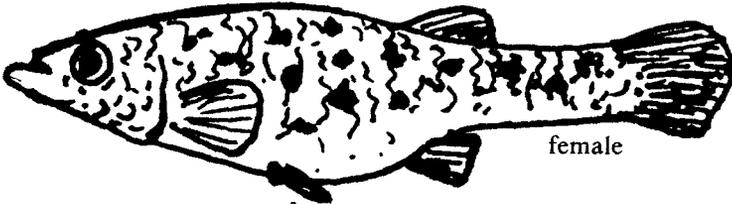
*F. similis*



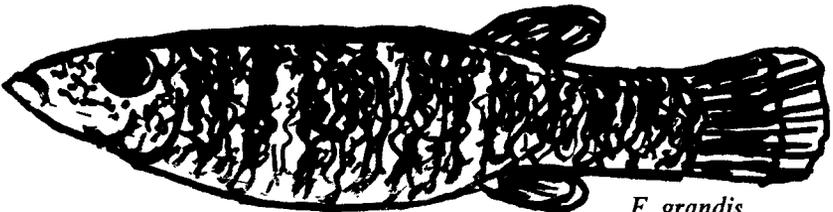
young *F. grandis*



*F. pulvereus*  
male



female



*F. grandis*  
male

didn't find any killies in the main part of the stream. In grassy side ditches which drain the side of the road after several passes we came up with a pretty yellow, blue and black colored fish. A male *F. similis* in breeding color. Unfortunately he lost his pretty coloration after being put in a tank. After several more passes with the seine in the same area and a similar ditch on the other side of the road, we had caught three more *F. similis*; a youngster two inches long and two big females, both about four inches long. *F. similis* is supposed to live around tidal sand flats. This grassy ditch is a long way from the sandy saline habitat they are supposed to prefer. Also, they are supposed to breed with high tides on sandy areas. Well, they must breed some other way in this area, as Gulf tides are rarely more than one foot, which would not be much impetus for them to breed. The presence of gravid females and a male in the peak of breeding

coloration leads me to speculate that they may have been spawning in the grass, however I have not researched their breeding habits very much, and I don't think much scientific study has been made of them. These *F. similis* did conform to reported behavior by diving into the substrate, here the grass, making it difficult to seine them.

Tired and swamp covered we bagged up our catch and headed for home. On our way back we made a detour through Dickinson. Where Route 3 passes the public boat ramp, we stopped to explore Dickinson Bayou. This bayou is a river with accompanying swampy area. The filled-in area near the boat ramp made for easy seining. We captured several schools of young *F. grandis* which seemed to be especially numerous in the amber colored nearly fresh water. We also caught many *Gambusia*, a pipefish (the Gulf variety is often found in fresh water), and believe it or not a female *F. chrysotus*. In a paper by Simpson and Gunther 1956 (see Literature Cited) surveying the brackish Texas killies, *F. chrysotus* was not found in any of their collecting areas, which included Dickinson Bayou. Since *F. chrysotus* is found in lakes above Houston, it may have spread south, or been introduced or carried inadvertently to the bayou.

We had another "incident" here. While seining in the dark water, my husband in one of his more gallant moments took the "deep" end of the seine. We were proceeding in grand style, when Herb took a step and suddenly found himself neck deep in the water, hip boots not withstanding. He had walked off a submerged retaining wall made to keep the water deep by the dock. In the dark water he had walked right off the edge, completely submerged, and never touched bottom, it was so deep! Sloshing back to the car, we decided to call it quits for the day.

Our trip wasn't a total success as there were several species I wanted to find that we didn't see "hide nor hair of." Some of the brackish killies we couldn't find were *F. pulvereus*, the Bayou killie; *F. jenkinsi*, a rare species originally described from Dickinson Bayou; *Adinia xenica*, the Diamond killie; and *Lucania parva*. Killies can be elusive, but they are fun to chase, and they make excellent tank inhabitants. t



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Eddy, Samuel

1974. **How to Know the Freshwater Fishes**, Wm. C. Brown Company, Sixth printing.

Simpson, D.G. and  
G. Gunther

Notes on the habits and life histories of Texas salt water Cyprinodontes. **Tulane Studies in Zoology** 4:115-134.