

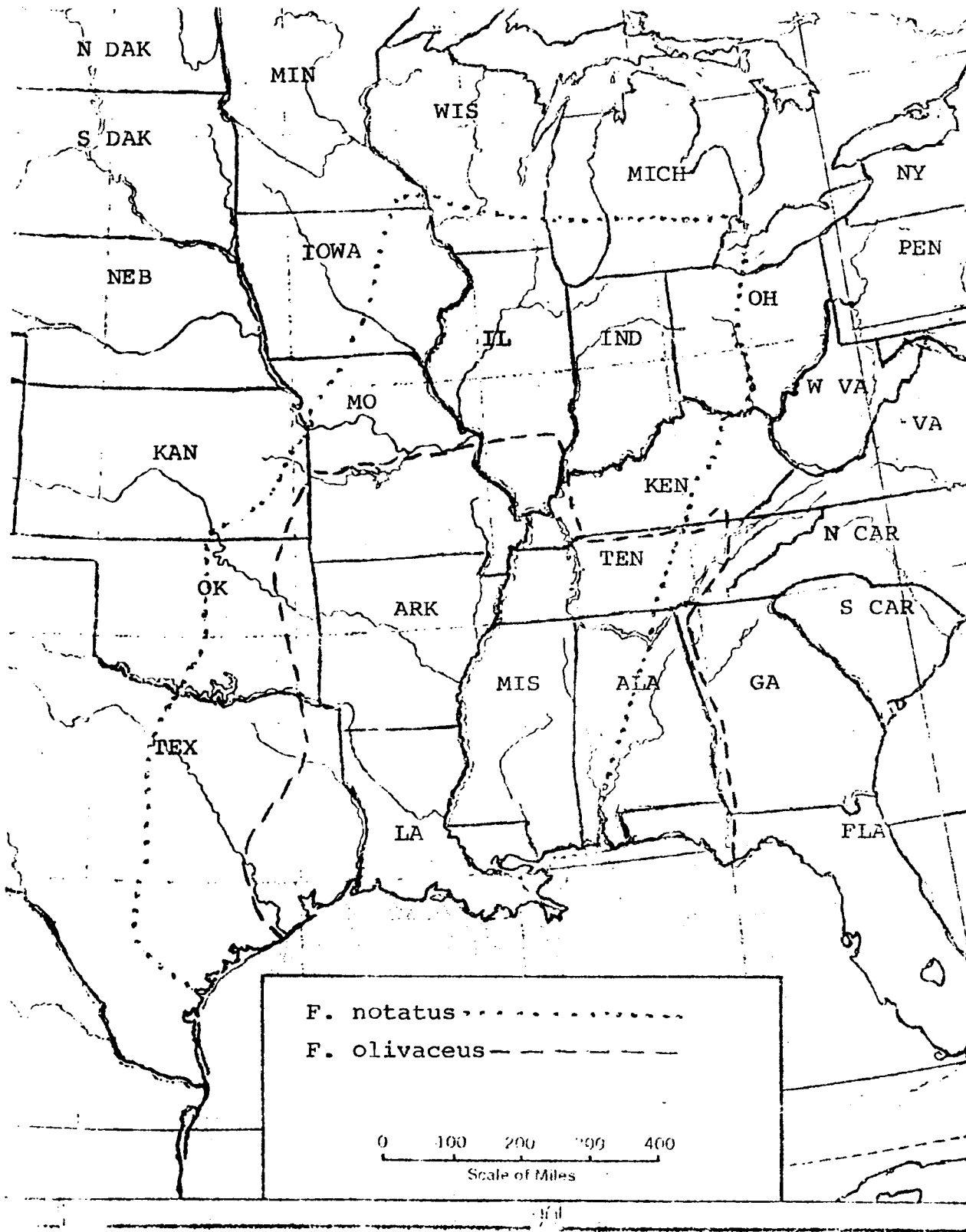
Fundulus notatus and *F. olivaceus* : Two American Topminnows

by Michael Patterson

The North American genus Fundulus comprises a wide array of species which take many forms, colors, and sizes, and which inhabit almost any type of water, including marine, lakes and ponds, and "blackwater", with many euryhaline species. In like manner, the entire spectrum of difficulty of maintenance is represented in the genus. Some species often will spawn in the home aquarium if simply fed well; others are challenging even to maintain in good health. The genus contains many species, most of which offer something of interest to the aquarist, hobbyist or ichthyologist. It is certainly worthy of the attention of both killifish and native fish fanciers.

Within this genus, the twin species Fundulus notatus (the Blackstripe Topminnow) and F. olivaceus (The Blackspotted Topminnow) represent one of the more attractive groups. The fish are rather elongate. Although neither species is spectacularly colored, both have a grace of form and simplicity of color pattern which lend them a subtle attraction. The fins and dorsal region are olivaceous, the belly is white, and a fairly wide, velvety black longitudinal stripe runs from the tip of the snout, through the eye, to the distal end of the caudal peduncle. The overall effect is that of a sleek, swift fish. These species, fortunately, are quite easy to maintain and spawn in the home aquaria. A special note is required here: F. notatus and F. olivaceus are interfertile; therefore, care must be taken to maintain and breed the two species separately.

There is little special preparation necessary in order to spawn either species; as for most two-week killifish, temperatures in the mid seventies and heavy feeding with good quality foods (but even flake foods are relished by them and are taken eagerly) while the sexes are kept apart for two or three weeks is all that is required. Males are readily distinguished from the females by the dorsal and anal fins; females possess rounded fins whereas those of the male sweep back somewhat and may even point slightly. Both species reach three inches and more; therefore, individuals selected for breeding should approach this length. A bare ten gallon tank furnished with a filter and a floating spawning mop which trails to the bottom is sufficient to house three or four pairs. Gravel, sand and such should not be used since many killifish can and at times will deposit eggs in gravel, even if they are "plant spawners", as are the two species under discussion. The pH can range slightly on either side of 7.0 The fish should be housed for about a week in such a set up and should be fed during this time. There is apparently little danger of the eggs being eaten; nevertheless, the mop should be checked daily and any eggs found removed to a bowl containing water from the breeding tank. Acriflavin can be used to tint the water a light yellow to discourage fungus and daily checks should be made for fungused eggs, which should be removed immediately. Most of the eggs will develop eyes within a week and be ready to



Distribution of *F. notatus* and *F. olivaceus*

hatch in two. The fry require either a pulverized flake food or infusoria, and can probably take newly hatched brine shrimp at the end of one week. Growth is not very rapid, but within six weeks the fry will be miniature duplicates of their parents.

The geographical ranges of these two species overlap to a great extent, each generally centered around the Mississippi River (see map). This, however, does not mean that the two are syntopic; rather, the reverse is the rule. A stream or lake containing F. notatus rarely contains F. olivaceus at the same time, and vice versa. No governing factor for this is as yet apparent. That F. notatus is rare in "blackwater" while F. olivaceus is common in that type of habitat appears to be the only general principle which holds true. So, although the two species are interfertile, natural hybrids are rare and both are maintained as separate species by differences in habitat and spawning partner preferences.

The most reliable criterion for distinguishing the two species (short of scale and fin ray counts) is the dorsolateral spots, although, of course, the location of collection, if known, and whether or not the collection was from "blackwater" can play an important part in identification. The number and distribution of spots vary from male to female and from individual to individual; in general, however, F. olivaceus has larger, regular black spots on a lighter background whereas F. notatus has fewer (at times none), irregular, lighter spots or blotches on a darker background.

Either species is to be found cruising at the surface of the water, frequently along the edges, at times in pairs or small groups. They are, therefore, easily collected with hand nets. Even larger individuals are quite peaceful and make good aquarium occupants. F. notatus and F. olivaceus are very hardy and apparently extraordinarily resistant to velvet. Since any serious aquarist can either collect F. notatus and/or F. olivaceus for himself (if he is fortunate enough to reside in that area of the United States), or can obtain them from other aquarists, either of these two species can provide a pleasant and rewarding introduction to both native fishes and killifish.

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