LITTLE FISH OF KANSAS, Part II

by Ken Brunson, Platt, KS, Kansas Fish & Game

(This article is adapted from a Kansas Wildlife article entitled "Little Fish." It's a continuation of an adaptation begun in the preceding issue. In the December issue, we published a report on KF&G's program to popularize native fish for the aquarium. Members can obtain a complete version of this article, illustrated with color photos, from Ken Brunson, Stream Biologist, Kansas Fish & Game, Box 54A, Rural Route 2, Pratt, Kansas 67124. AC is reprinting with permission from Mr. Brunson.)

Plains Killifish (Fundulus kansae)

The Plains Killifish is the "exception to the rule," for it exhibits characteristics in its biological needs quite apart from the rest of the subjects of this story. While it, too, bears other common names, such as "Tiger Minnow" and "Zebra Fish," this eccentric of the stream fishes is in the topminnow family, which in Kansas contains only one other noteworthy cohort--the Blackstripe Topminnow. The killifish is special because, unlike so many other Kansas fish, it is found everywhere in Kansas except the southeast section of the state. Some fish species thrive only in pristine water conditions; this species takes up the slack at the other end of the indicator scale. It survives in the main part of the stream current and also in the slack water areas, and is very tolerant of certain extremes in water quality. Like the large, fighting Striped Bass, this fish can live in relatively salty water. In fact, during an extensive fish kill in the Medicine River in Barber County in 1981 due to very concentrated brine spilled from an oil-drilling accident, the only fish found alive a short distance downstream from the insurgence of saltwater were numerous individuals of this species. They were scurrying about in shallow pools on the edge of the brunt of the pollution. And, when the water returned to normal, guess which species of fish had the stream almost to itself? The Plains Killifish has other attributes, though. It is used as a bait minnow, though it isn't quite as popular as Fatheads and shiners. And, being a topminnow, it characteristically lingers immediately under the water's surface to snatch floating insect prey. In fact, it may be an underrated mosquito-larvae control organism.

Blackstripe Topminnow (Fundulus notatus)

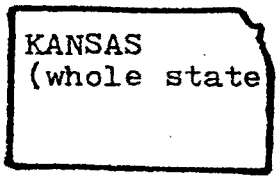
The other common topminnow in Kansas is the Blackstripe Topminnow, which inhabits that part of Kansas that the Plains Killifish avoids. This more colorful topminnow exhibits similar feeding habits to the Plains

Killifish, but there the similarity weakens. The name points out the most striking feature of this fish, the broad black stripe extending from its mouth to its tail. Being a little more selective in its habitat, the Blackstripe Topminnow prefers fairly clear water and is rarely found in mainstream currents. It is a rare sight to catch one of these males in top breeding form, with its iridescent light blue flanks.

Mosquitofish (Gambusia affinis)

The Mosquitofish, or "Gambusia," is the Kansas wild guppy. It is the only fish in the state that bears its progeny as free-swimming young, skipping the egg-laying stage. According to Dr. Cross, the leading midwest expert on small fish, the Mosquitofish is probably not as important in mosquito control as its name implies, especially when compared to the topminnows. This is a very productive fish, rearing several broods of young through the summer. It is a common resident of stillwater pools in streams of southern Kansas and does not tolerate cold weather well. Larger individuals display a subtle but pretty blue on their sides. Like most small Kansas fish, Mosquitofish seldom live longer than two years, and, if produced early enough in the first year of their life, can grow to reproduce that first summer. The male Gambusia is markedly smaller than the female, and has a lower fin adapted to aid sperm transport in the mating act.

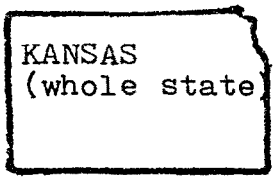
Fathead Minnow (Pimephales promelas)



The Fathead Minnow is probably the most widely used bait fish in Kansas. Whether imported from outstate hatcheries or obtained locally, this hardy fish is usually sold according to size from seventy-five cents to $2.00 per dozen in marinas and bait shops across the state. Fatheads are known by such aliases as "Minnesota blacks," "chubs," or just plain "crappie minnows." The popularity of this minnow is not only related to its ability to live a long time on a hook, but also to its promiscuous spawning abilities and ease of culture. Dr. Bill Pflieger reports in his book, The Fishes of Missouri, that a female Fathead Minnow "may spawn twelve or more times in a single summer and produce 4,000 or more offspring." An amazing production record by anyone's standards. Other factors that contribute to this fish's success include an extended spawning season (April through August) and its tolerance to a wide range of water conditions. The Fathead is a filter feeder just like the shiners, but also takes in signfi cant amounts of algae and other plant materials along with some aquatic insects. Dr. Cross classifies this species as a"pioneer" fish, since it is one of the first "to invade intermittent drainage channels after rains, and it commonly progresses upstream into farm ponds via

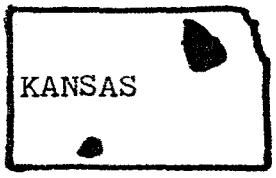
their spillways...one of the last species to disappear from small, muddy, isolated pools that remain in stream channels during droughts." During peak spawning periods, the male Fathead develops tubercles on its head and distinctive dark brown and black bands on its sides.

Central Stoneroller (Campostoma anomalum or oligolepis (?))



Believe it or not, the Central Stoneroller actually does "toss" small grains of sand and gravel aside during its pre-spawning activities. I have observed numerous large six- to eight-inch males busily routing sand in their nest preparation and very aggressively defending their own micro-territory with swift side attacks, using their grossly-adorned head armament of menacing pointed tubercles to best advantage. Male stonerollers get quite attractive in their breeding colors, especially the back fin, which has bands of brilliant dark orange emphasis, making the entire fish an unquestionably attractive specimen for the females he spends so much energy courting. This species is very common throughout Kansas and spawns usually from March to May.

Southern Redbelly Dace (Phoxinus eos)

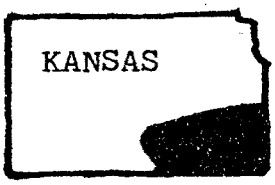


This is another good example of an indicator species. The Southern Redbelly Dace prefers relatively clear, unpolluted streams, and is caught many times right next to a spring or groundwater seepage. The male dace becomes an absolute knockout when in peak breeding form, competing for available females in early spring. Their fins are pleasant light yellow, their gold side stripes are set off by two dark lines from nose to tail, and their whole underside turns a crimson red. Few other fish reach this height of brilliant coloration. The range of this species is split between its major distribution in the Flint Hills streams of Wabaunsee, Geary, and Pottawotomie counties, and to a lesser extent in an isolated area in southern Pratt and Kiowa counties. The latter area is about 150 miles from Mill Creek, west of Topeka, where Southern Redbelly Dace abound, and may represent one of those repeated cases of "minnow bucket" range extensions, the result of human interference. This dace seems intolerant of certain stream disturbances, and, since it appears closely associated with a natural resource often greedily eyed by man--clean, spring-fed creeks--it seems natural to cast an alarmed glance at this fish's distribution, even though it currently is not on the state's threatened and endangered species list. As Dr. Cross has remarked, "Unless the remaining springs are preserved

in their natural state, undisturbed by livestock or by cultivation of adjacent lands, this handsome fish may disappear from Kansas." Normally, dace live but a few summers. However in at least one case, an individual kept in an aquarium by Dr. Don Distler at Wichita State University lived almost eight years, and, when the fish finally succumbed to old age, it revealed three or four more yearly growth rings in its scales laid down before it was initially caught and domesticated. The nearly twelve years tallied by this single fish had to be some sort of record, and is certainly well above the normal life span for the species.

Brook Silverside (Labidesthes sicculus)

"Different" is about the best way to characterize this fish. It is similar to the topminnows in that it feeds near the surface of the water, but it has an entirely different body form. Its streamlined shape is adapted to fast water, but, surprisingly, the silverside is found in sluggish stream pools and some ponds and lakes of southeast Kansas. When seen in the water, it appears almost transparent; its bones and some of its internal organs are visible. Its name refers to its most obvious color pattern--a striking silver stripe along its side. The Brook Silverside also has a pretty light green on its back. The beak-like mouth is excellently formed for slurping prey insects from the water's surface. The Kansas Fish & Game Commission has experimented with a close relative of this species, the Mississippi Silverside (?), to determine its ability to provide abundant late-year forage for young Walleye, White Bass, and other game fish. Another interesting feature of this critter is the manner in which it carries its forward fins. In normal swimming motion, the fish seems to use these pectoral fins like wings, gently altering their pitch as if to control vertical roll, reminiscent of the way in which saltwater flying fish utilize their greatly exaggerated fins for gliding short distances above the ocean's surface. Silversides are very attractive fish, but also very sensitive, and do not tolerate handling and transportation well. For this reason, they don't adjust well to aquarium life.



Aquaristics

Since there is a growing interest in keeping native fish in homes, which of these species do make good aquarium fish? Orangethroat Darters make surprisingly good aquarium pets. An aquarium kept for freshwater tropical fish at room temperature suits these darters just fine, though they do better in water temperatures lower than seventy-five degrees. They are very interesting to observe, and tame quickly on a diet of frozen

brine shrimp, dried tubifex worms, and even a little flaked fish food. They keep their colors better in cool water, even though they will never approach the brilliance seen in their natural habitat. If darters are kept, the aquarium hobbyist should provide a natural sand and gravel substrate. The bottom may not look as pretty as red and blue rocks, but it will provide a pleasing natural setting for owner and fish alike. Red Shiners also make great aquarium fish. If you obtain good-sized males, they are colorful, inexpensive, and easily tamed, though they are more excitable than darters. Redbelly Dace are a little harder to come by, but they can provide a colorful addition to your native-fish complement; however, like darters, dace do better on a diet of brine shrimp. Plains Killifish and Blackstripe Topminnows both make good aquarium pets, and, like any shiners, they can be fed plain flake food. Mosquitofish also eat flake food, and, along with the topminnows, they provide a good complement to the shiners and darters, since they hang around the upper parts of the tank. Another addition might be the Slender Madtom, which provides an interesting contrast to the rest of the aquarium life, with its whiskers and its fluid, snake-like swimming. All of these species will feed voraciously on brine shrimp. As with any other aquarium, the tank of little fish should not be overstocked. As a general rule, no more than one individual small minnow per gallon of aerated water is a safe limit, and proper water-quality care should be observed.