

Biology on the Fly

THE FRESHWATER SCULPIN

Story and photos by Ken W. Davis

Mike Mercer, in his wonderful new book, *Creative Fly Tying*, states that sculpin are appallingly unattractive, and that "If they grew to the size of salmon, wet wading would be a thing of the past, and Sims would be making armored, not breathable waders."

I strongly disagree. Sculpin are my favorite fish because they are basically cute, have some redeeming parental qualities and have the interesting habit of seeking refuge in submerged beer cans. Alas, they do more than just hide in the rusting receptacles. Male sculpin are known to lure amorous females into discarded aluminum cans, coax them to have sculpin sex, and then chase them away after the eggs are laid. In their defense, the male sculpin will fan the eggs to keep them oxygenated and protect the young until they are big enough to eat.

Beer cans are small when you consider that some males romance numerous females and have been known to protect 30,000 eggs in one nest, although the number is typically



A Madison River sculpin shares a rocky perch with a stonefly.

How is all this going to help you catch more fish or tie more effective flies? Let's discuss some of the possibilities, starting with "drifting" behavior. That's right – young sculpin launch themselves into the current and drift downstream, frequently into estuaries and lakes. This is unusual as sculpin do not have swim bladders and are bottom dwellers as adults.

For sculpin, drifting begins at an early age. After the eggs hatch and the egg sac is absorbed, the tiny fish are called larvae. At about 10 days old and 10-12 mm long, some of the little sculpin move into the water column and drift downstream. Researchers have documented in some coastal rivers that sculpin drift by the hundreds of thousands into estuaries, mostly at nightfall. The behavior is repeated by slightly larger fish two to three weeks

later. The larvae of some species drift into lake systems and have been documented in one Canadian lake moving in a band on the surface next to the shoreline.

The initial behavior to give up their relatively safe rock heavens and enter the trout-filled water column is thought to ensure wide dispersal of the young sculpin and keep populations limited in spawning areas. Obviously,

this behavior presents the small fish as prey for a variety of hungry fish including trout and salmon.

Size and coloration: Even at the small size of 15 mm in length, the post-larval fish have the basic shape of their parents. Some have the mottled coloration at least on their backs. Also called muddlers, freshwater sculpin have the ability to take on the coloration of their native substrate, usually a dark, rocky, cobble-strewn habitat. While the size range is highly variable in different species, the adults are typically 50-70 mm in total length.

Movement: A couple years ago, during a fishing trip to California's famed Fall River, a friend recommended a fly pattern that was supposed to mimic a leech. As usual, before I fish, I netted the river for readily available fish food. When the only leeches or leech-like organisms found in the Fall River were light colored, I suspected that the trout were seeing the dark-mottled pattern as another organism. Alas, the aquatic net yielded other organisms that were probably the reason for the acclaimed success of the pattern – several marbled sculpin. In the Fall River, where weed beds are common, the sculpin survive in the massive beds of aquatic plants and along the black-lava bottom of the river.

When presented with the results of

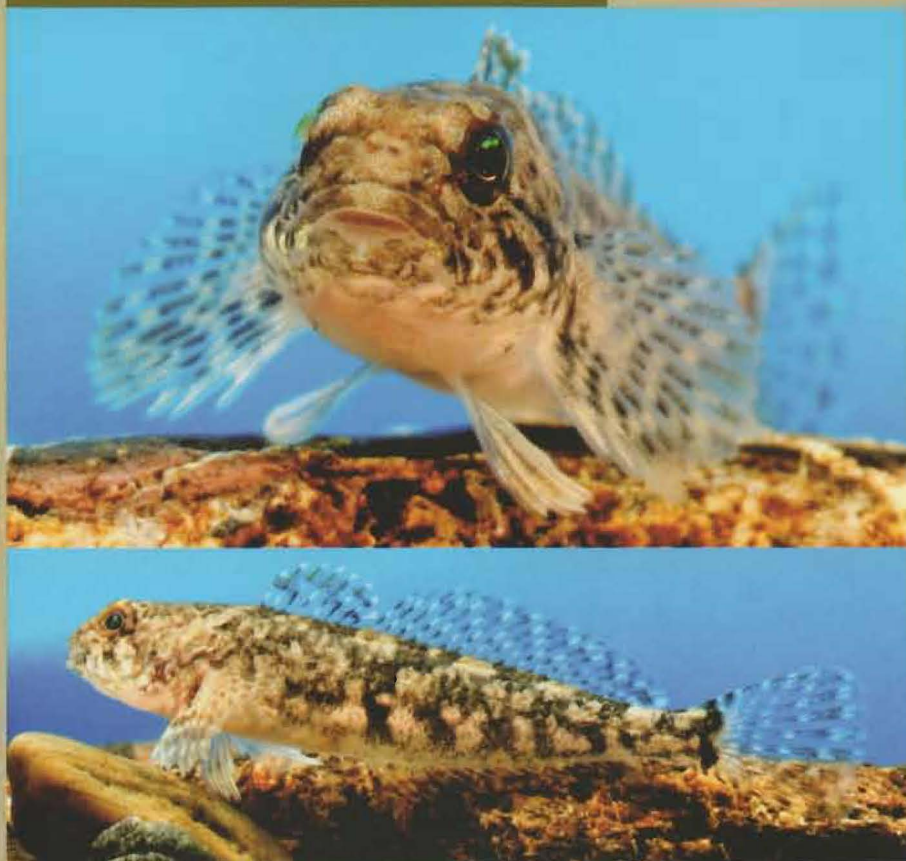


Sculpin often hide in submerged aluminum cans. Here, a sculpin has just exited a can. Notice how it closely matches the coloration of the substrate.

much smaller.

Prior to the aluminum recycling movement, one study in a California river revealed that 103 of 252 submerged cans held riffle sculpin. They hide in the cans during the day and leave at night to forage on caddisfly, mayfly and other larvae. When discarded beverage cans are not available, the males make nests in small underwater caves or under logs.

This prickly sculpin has the ability to take on the coloration of the surrounding substrate. Note the translucent fins which also aid the sculpin in blending in with the rocks.



my quick survey, my fishing partner proclaimed: "So what? What difference does it make to a trout?" Actually, the difference in movement and behavior is monumental: I showed him how sculpin move in an observation tank. When exposed or threatened, sculpin move from one refuge to another in quick, darting motions, typically within 2-6 feet. They act like some game birds and flush at the very last moment before they are exposed or caught. I see this behavior almost daily when I'm conducting surveys in shallow waters. A quick count of my survey records shows that I've caught well over 1,000 sculpin during the last year. When feeding, they make shorter, dart-like trips from their rocky havens and return. In contrast, leeches are not nearly that fast, and they move along the river bottom in an inch-worm fashion or in a snake-like motion through the water column.

Despite Mike Mercer's opinion about sculpin being appallingly unattractive, many anglers revere – for

various reasons – his rag-sculpin pattern. At a recent meeting a couple of Mike's devotees laid some Mercer-tied rag sculpin on the table in front of me and proceeded to pet them as they would tiny puppies. They claimed the pattern was a big-fish magnet but made it clear that they couldn't fish the rag pattern because the furry flies were too cute. 🐾

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Eco Mystery

Answer to the Eco Mystery in the Summer 2006 issue (page 40): It was yellow jackets that were patrolling the spider webs ahead of me and eating the mayflies held captive by the webs. Answers received by e-mail from FFF members included birds, bats, raccoons, and one individual even suggested that a speedy biologist might have removed the mayflies from the spider webs.

FLY TIPS



Hook a Leaf to catch a Trout

By C. Boyd Pfeiffer

Big trout are found in impossible places, such as hidden under overhanging banks, along edges covered by dense brush, under tree limbs or in gnarly roots. There is a way – albeit unconventional – to get a fly to that trout location. It works for any fly and any fish in a current, but is best with streamers and big nymphs.

For this fall tip, select a leaf fallen from a streamside tree and hook your fly into the outer edge of the leaf. The leaf will already be weakened by the coming cool weather and natural shedding from the tree. Best of all, fish will not be spooked by leaves on the water at this time of year.

Work upstream of the trout lie and watch other leaves as they float downstream to locate the best current to take your leaf to the right location. Then drift your leaf with the hooked fly downstream with the current. When the floating leaf arrives at the trout location, use a quick, sharp twitch to pull the fly hook from the leaf and drop the fly into the trout lair. Then twitch the fly and get ready to strike!

C. Boyd Pfeiffer is an award-winning outdoor writer and photographer with thousands of magazine articles and 24 books to his credit. A frequent contributor to *FlyFisher*, Boyd lives with his wife, Brenda, in Phoenix, Maryland.