

THE GOOD, THE BAD, AND THE VERY UGLY SCULPINS

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Bottom fish have always fascinated me, probably due to their odd shapes, interesting cryptic color patterns, and secretive habits. Darters and madtoms certainly fit into this category. Another group of bottom fishes, best described as ugly, are sculpins of the family Cottidae.

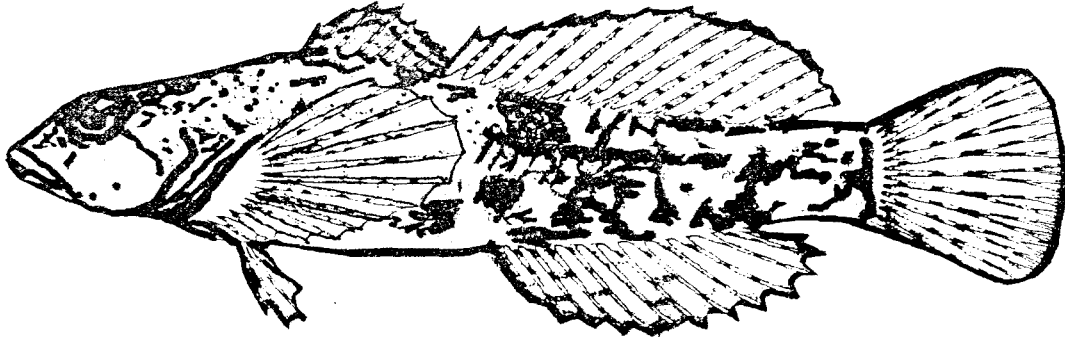
They appear to be relics of a different age, though they are actually supposed to be of recent piscine evolution. My children have dubbed them "frog fish." With their characteristic large heads and bulging eyes (the fishes', not the children's), that certainly is a good name. In Southeastern Minnesota, the locals refer to them as stonerollers, and on the West Coast they are called bullheads, both names overlapping unrelated types of fish. In some areas, they are called muddlers. But by whatever name, I would like to expound on my observations of these unusual fish.

Besides the species I'll go over individually below, I have attempted to keep other species, but only briefly. Most species demand cold, well oxygenated water that would be very difficult for most hobbyists--myself included--to maintain. Unless one has a very expensive refrigeration system or a very cool basement year-round, these species are probably best left to the experienced aquarist. There are, however, sculpin species that adapt quite readily to the home aquarium, and I will concentrate on these. I am sure that there are other suitable ones that I have not listed; single species may occupy various habitats, and naturally those from warmer habitats are more amenable to captive living.

The Set-Up

In establishing a sculpin tank, several things have to be taken into account. First, the cooler the location the better; I suggest a basement or air-conditioned room. Second, since they can be rather aggressive, especially among themselves, crowding should be kept to a minimum. A ten-gallon aquarium decorated with numerous caves can usually support four adult-sized 3" fish adequately. Most species prefer many caves, rocks, and crevices to hide in. Dither fish such as larger minnows will help to coax them out of their hiding places. Madtoms, or catfishes of the family Ictaluridae are not good tankmates, as they will want to take up residence in the sculpins' favorite haunts. Conversely, darters are often put to flight by the more aggressive sculpins. Third, an efficient filtration system and as much aeration as practical will help maintain the clean, well oxygenated water that sculpins require.

MOTTLED SCULPIN
(*Cottus bairdi*), one of the
most widespread N.A. fishes.
In breeding, often orange band
in first dorsal. Sketch from
Atlas modified for visibility.



Plants are not necessary for sculpins' well-being, but pose no harm if the aquarist desires their decorative value. I've rarely seen sculpins directly associated with aquatic vegetation.

Their slow, docile appearance is deceiving; their mouths are quite capable of consuming fish, including their own kin, of almost equal size. Despite all the drawbacks, the native-fish enthusiast owes himself the opportunity to keep these intriguing, ugly fish.

Capture

Sculpins are probably the easiest of any native fish to catch. Before getting started, however, check on legal collecting methods and what species may be taken; some sculpins are threatened or endangered. Daylight collecting is usually more difficult, as these nocturnal fish retire to their hidden homes. Kick-seining is probably the most effective way to catch sculpins, but I use what I feel is just as efficient and less destructive of habitat. I locate bridges crossing a stream. If the light underneath is diffused enough, there often are sculpins out and foraging. If none are seen, then locate a medium-sized rock or stone with an apparent cavity underneath it. Place a large dipnet by the opening, usually on the downstream side, lift the rock, then lift the net quickly. You should have something in it. This technique works well with dace and numerous other stream-dwelling fish as well.

Best results are obtained at night. Shine a flashlight on a specimen. This will temporarily blind it. Dipnet it or chase it into the net with a free hand.

The sculpins should be kept cool and well covered during their transport home, which should be as fast as possible. During long transports, I've used ice sparingly to keep their water cool, but this must be done with extreme care.

Four Species

Now I will discuss four species of sculpins I've had good fortune with. You will notice most are from California. The Far Western states are not well endowed with fish species, but sculpins are the exception. For some reason they have diversified into numerous species, particularly in Northern California, Oregon, and Washington. Members in this area should have access to a fair number of species.

Mottled Sculpin (Cottus bairdi Girard)

Found in Eastern Canada, the Eastern U.S. east of Minnesota, the Ozarks, and disjunctly in the west, primarily in Western Colorado, Idaho, Washington, and Oregon. Largest size I've seen is about 5", though most specimens observed are around 3". Relishes live earthworms, live brine shrimp, and no doubt live tubifex worms. Takes frozen brine shrimp, but for me reluctantly.

I've collected these fish in streams of extreme southeastern Minnesota as well as several lakes in Northern Wisconsin. They seem to prefer cold brooks and creeks. Apparently they spawn in late spring as fry are seen bank to bank, quite literally, in late June. For the most part, the young seem to be less adaptive to captive life than are the adults. At temperatures below 75°F they appear to acclimate readily. Males of this species show more pink in their first dorsal fin in comparison to any other species I've kept. Body color is mottled black and gray, but is highly variable, as are most sculpins.

Prickly Sculpin, Cottus asper Richardson

Ranges in coastal streams from southern Alaska to the Ventura River in southern California. Often abundant in streams entering the ocean. Most of the sculpin requirements previously mentioned in the introductory paragraphs can be thrown out when referring to this species' needs. Prickly Sculpins are mainly found in low-elevation areas in warm water. I have found specimens to endure above 80°F for weeks at a time with no apparent ill effects. After proper acclimation, I've managed to induce them to take "Doramin" from the hand!

They grow to a large size (I've seen many 6" specimens), thus putting a dent in the food budget, but Gordon's food mixture is a good, cheap food alternative to live goldfish. I've kept these sculpins with much more aggressive sunfishes of similar size with few problems. Hiding places are

essential for such a set-up, and Pricklies must get their share of the groceries. This means hand-feeding.

Pricklies are often caught over mud, sand, or gravel substrates. Pricklies superficially resemble Riffle Sculpins; given the variation within species themselves, distinguishing the two kinds is sometimes difficult. Knowing the source often helps, as Riffles prefer headwater streams, but they are occasionally found together. Pricklies to me appear more slender and more gray rather than brown. For positive identification, it is probably necessary to acquire a copy of Inland Fishes of California by Peter Moyle. This is definitely a species for the beginner to try. It also makes a nice addition to a community tank of larger natives.

Riffle Sculpin, *Cottus qulosus* Girard

Found in numerous areas of California from Morro Bay north to the Noyo River, then disjunctly from the Coquille River, Oregon, north to Puget Sound, Washington. Although not quite as hardy as the Prickly, it still withstands a lot of abuse. When California streams dry up into intermittent pools during drought years. These sculpins are confined to such pools, where temperatures become quite warm and disease is rampant among the surviving fish. Often I see some good-sized specimens (5") with very large stomachs, obviously the result of dining on California Roaches (*Lavinia symmetricus*) and young-of-the-year California Suckers (*Catostomus occidentalis*).

In aquaria, they do quite well at room temperature and tolerate short hot spells well; they appreciate some aeration in the tank. They like live or frozen meaty foods, and of course larger specimens will indulge themselves by eating smaller fish. These are the only sculpins I've attempted to spawn. The only results achieved were males constructing territories underneath rocks, forming semicircular depressions in front of their rocky homes.

Riffle Sculpins are primarily caught over gravel rubble and rarely in riffles. They are by far the most abundant species in central California. In my opinion, they are surviving well despite much habitat destruction and greatly reduced water flows.

Pacific Staghorn Sculpin (*Leptocottus armatus* Girard)

Ranges in Pacific Coast and nearby waters from southern Alaska to southern California. This species is primarily marine and is only rarely encountered in fresh water. In spring, young fry abound in brackish estuaries. This is when I do most of the collecting for this species. In the wild and in the home aquarium, this species occurs in more open waters

above sand substrates. They are often sold as live bait in California, an excellent idea in freshwater habitats; when released or escaped into fresh water, they may survive but evidently cannot reproduce. This prevents unnatural permanent introduction of species. My specimens when brought home are put into almost pure fresh water, though some rock salt is always used. On the two occasions I've kept this species, the gradual salinity changes took one month.

Upper body color is gray or silver in young, and turns black in larger specimens. Below the middle of the body, the entire ventral region is white.

Room temperature suits them fine, but they are picky about what they eat. The only thing I fed them was live brine shrimp. They grow quite rapidly and can reach a pretty good size. In fact, I've often caught them when fishing from ocean piers. Local fishermen tell me that they can be eaten, though the thought has not appealed to me yet.

References

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