

Common Sea Robin

Prionotus carolinus (Linnaeus) 1771 [60]
[Jordan and Evermann, 1896-1900, p. 2156.]

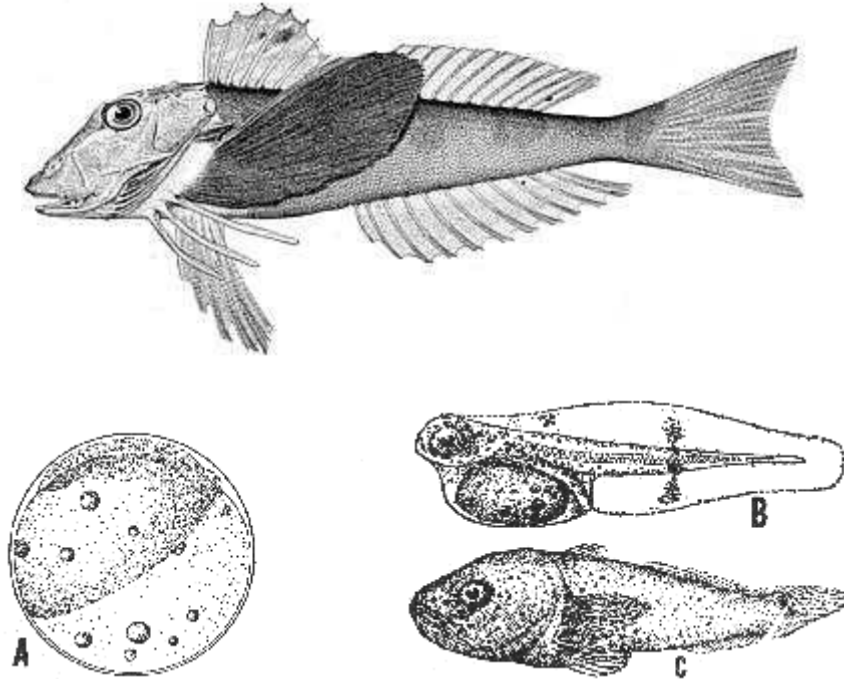


Figure 245 - Common sea robin (*Prionotus carolinus*).
Adult, New Jersey; from Goode. Drawing by H. L. Todd.

- A, egg;
 - B, larva, just hatched, 2.8 mm.;
 - C, young, 9 mm.
- A-C, after Kuntz and Radcliffe.

Description

The large head, tapering body, and fanlike pectoral fins of the sea robin somewhat suggest a sculpin. But the robin is distinguished from all the sculpins by the incasement of its entire head in bony plates; by its smaller mouth; by the flat depressed dorsal profile of its snout; by its large ventral fins; and by the fact that the three lower rays of each of its pectoral fins are separate from the rest of the fin and modified into three independent feelers with slightly dilated tips, a very noticeable and distinctive feature. Furthermore, the front margin of the upper jaw is concave in outline when viewed from above, not convex as it is in most other fishes, which gives the nose of the robin a characteristic aspect. The head plates are rough and there is one sharp spine on each cheek at the angle of the gill cover; two short spines over each eye pointing backward; a spine on either side of the neck; and one on each shoulder above the base of the pectoral fin. The spiny and soft-rayed portions of the dorsal fin are separate, but they are so close together at their bases that they are almost in contact. The spiny dorsal has 10 spines, is rounded in outline, and higher than the soft dorsal (13 rays); but the soft dorsal is considerably longer than the spiny dorsal.

The caudal fin is of moderate size, its margin slightly concave. The anal fin (1 spine and 11 rays) is similar in outline to the soft dorsal, under which it stands. The pectorals (their 3 lower rays as just noted) are rounded in outline and are so large that they overlap the anal and the second (soft) dorsal when they are laid back. The ventral fins (each of 1 stiff spine and 5 rays) stand close behind the pectorals.

Color

Usually the body is grayish or reddish brown above, with about five dark saddlelike blotches along the back, and is dirty white or pale yellow below. The dorsal fins are grayish, marked with pale spots and stripes, with a black spot between the fourth and fifth spines. The [page 469] caudal fin is uniform grayish or brownish; the anal plain brown; the ventrals plain yellow to brown. The pectorals are yellow or orange, strikingly marked with two broad dusky bars, one of them crossing the middle of the fin, and the other crossing its outer third. The pectoral filaments are orange.

Size

The maximum length is 15 to 16 inches, but few of them grow to be more than a foot long.

Habits

Sea robins, like the sculpins, tend to keep to the bottom. But they swim actively, usually with the pectorals closed against the body. They are often hooked close to the surface; we have caught them when trolling for mackerel, and many anglers have told us of similar experiences. When on the bottom they often lie with the fanlike pectorals spread. If disturbed they bury themselves in the sand, all but the top of the head and eyes, and they are said to employ the feeler-like rays of the pectorals in stirring up the weeds and sand to rout out the small animals upon which they feed. They are usually found on smooth hard grounds, less often on mud or about rocks.

Along southern New England, where robins are far more plentiful than they are farther north, a large part of the population appear inshore in May or June, to pass the summer there; some close to tide line, but others remaining in depths of 5 to 30 or 40 fathoms, or deeper. Like many warm-water fishes, they disappear from the coast in October, to pass the cold season well out on the shelf, as recently proved by catches made at 50 to 55 fathoms off southern Massachusetts by the dragger Eugene H in late January,[61] in 1950, also at 21 to 93 fathoms off North Carolina, in that same month and the next, by the Albatross III.[62]

The fact that the Albatross III trawled up to 83 sea robins per haul off New York and off southern New England at 22-61 fathoms as late in the season as mid-May of that same year suggests that some of them may remain well offshore until into the summer, if not all summer.

Notwithstanding this inshore and offshore migration, some at least of the sea robins experience a temperature range of nearly 30° F. with the change of the seasons, for those that come closest inshore are in water as warm as 68°-70° at the end of the summer, while some that were trawled along the 30- to 40-fathom zone in May were in water as cold as 40.2° to 41.4°.

The sea robin is a voracious fish, feeding indifferently on shrimps, crabs of various kinds, amphipods (crustaceans are its chief diet), squids, bivalve mollusks, annelid worms, and on small fish, such as herring, menhaden, and small winter flounders. Seaweed has also been found in sea robin stomachs. They bite greedily on any bait, and are often taken with a spinner, or other artificial lure.

About Woods Hole the common sea robin spawns from June to September with July and August as the peak of the season.[63] But some may spawn earlier, for we have examined females taken at 50-55 fathoms off southern New England at the end of January with eggs so large as to suggest that they would be spawned by April or May. Unlike the sculpin tribe, the robin produces buoyant eggs, which are 0.94 to 1.15 mm. in diameter, slightly yellowish, with a variable number (10 to 25) of oil globules of various sizes, usually arranged in a more or less definite ring. Incubation occupies about 60 hours at a temperature of 72°, but any eggs that might be spawned in the cooler water of our Gulf would be slower in hatching. The newly hatched larvae are 2.5 to 2.8 mm. long, with two transverse yellow cross bands, one of these close behind the pectoral fins, the other midway between vent and tail. The yolk is absorbed, the mouth formed, and the yellow markings no longer prominent in 5 days, at a length of 3 to 3.4 mm. The dorsal and anal fin rays are visible and the lower pectoral rays have separated from the remainder of the fin at about 9 mm., and young fish of 25 to 30 mm. are darker, with transverse bands, and already show most of the distinctive characters of the adult.

General range

Coastal waters of eastern North America from the Bay of Fundy to South Carolina; chiefly west and south from Cape Cod.

Occurrence in the Gulf of Maine

Plentiful though the sea robin is off southern New England,[64] only a few are taken north of Cape Cod.

Following the coast we find them reported at Truro, Cape Cod; Prof. A. E. Gross has informed us that he often saw as many as a dozen sea robins taken in the trap at the entrance to Barnstable Harbor in a single tide in the early summer of 1920;[65] one now in the Museum of Comparative Zoology was trawled 12 to 15 miles off Plymouth, at 30 fathoms, on November 20, 1943; the sea robin has been reported off Lynn and Salem; and in 1913 Welsh saw several in a trap at Manchester, on the North Shore of Massachusetts Bay on June 29. North of Cape Ann it has been taken at Anisquam; at Newburyport at the mouth of the Merrimac River, whence one about 1 foot long was brought in to the Museum of Comparative Zoology on August 14, 1949; also at the mouth of the Saco River. And Dr. W. C. Kendall saw more than 25 taken from the traps near Small Point, Casco Bay, between July 4 and 14 in 1896.

The only records for it for the coast east of Small Point are, however, for a single specimen caught at Campobello Island in the mouth of the Bay of Fundy in August 1911, and another in August 1949,[66] one taken in a weir in Passamaquoddy Bay at St. Andrews, October 2, 1935,[67] and of another taken in the Bay of Fundy, near Minas Channel, during the late summer or early autumn of 1951.[68]

Enough sea robins also range eastward across the South Channel for trawlers to have picked up a few (never more than a dozen or two on a trip) on Georges Bank during the summer of 1913. But it is probable that the deep channel between Georges and Browns Banks form its easterly limit, for sea robins are not known on Browns Bank or off the west coast of Nova Scotia.

It is not likely that the sea robin ever succeeds in reproducing itself in the Gulf, unless in restricted localities such as Casco Bay, where summer temperatures may be high enough. We have never taken its rather characteristic eggs in our tow nets anywhere in the Gulf, nor have its young fry ever been reported there. But when wandering fish do find their way around Cape Cod from the south, they may remain there, wintering offshore in deeper water, as they do farther south.

Importance

The sea robin is edible, and its near relatives, the gurnards, are table fish in Europe, but it is too scarce in the Gulf of Maine to be of any potential commercial importance there. Off southern New England, where it is abundant, it is a nuisance to anglers, taking bait planned for other fishes.

[60] Jordan, Evermann, and Clark (Rept. U. S. Comm. Fish. (1928) Pt. 2, 1930, p. 407), place this species in the Genus *Merulinus* which was proposed by Jordan and Evermann in 1898 as a subgenus.

[61] We saw these catches which ranged from 0 up to 5,000 fish per haul, in 54 trawl hauls.

[62] One to one hundred and thirty sea robins per haul.

[63] Kuntz and Radcliffe (Bull. U. S. Bur. Fish., vol. 35, 1918, p. 105-109) give an account of its embryology and larval stages, subsequently confirmed and supplemented by Welsh.

[64] A catch of 1,000, in a day, in one trap, is recorded for Vineyard Sound, and of as many as 3,000 to 5,000, per trawl haul, at 50 to 55 fathoms off southern Massachusetts in winter. See footnote 61, p. 469.

[65] Briefly mentioned in the *Auk*, vol. 40, No. 1, January 1923, p. 24.

[66] This latter fish was reported by Scattergood, Trefethen, and Coffin (*Copeia*, 1951, No. 4, p. 298).

[67] McGonigle and Smith, *Proc. Nova Scotian Inst. Sci.*, vol, 19, 1936, p. 160.

[68] Reported to us by letter by Dr. Huntsman.

Fishes of the Gulf of Maine by Bigelow & Schroeder is the seminal work on North Atlantic fishes. It was originally published in 1925 with William Welsh, a Bureau of Fisheries scientist who often accompanied Henry Bigelow on his research cruises. In the late 1920's, Bigelow began a long association with William C. Schroeder, publishing a number of papers and reports on fishes of the North Atlantic, including the first revision of *Fishes of the Gulf of Maine*. This excerpt is from that 1953 edition.

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