

Maneater

Carcharodon carcharias (Linnaeus) 1758

[Bigelow and Schroeder, 1948 p. 134.]

[Garman, 1913 Pl. 5, figs. 5-9.]

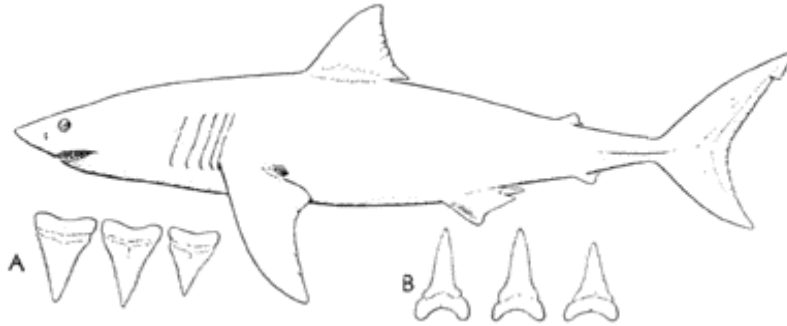


Figure 7. - Maneater (*Carcharodon carcharias*),
Massachusetts, about 7 feet long.

A, first three upper and

B, first three lower teeth, from center of jaw,
from a specimen about 8½ feet long,

Woods Hole, about 0.6 times natural size.

From Bigelow and Schroeder. Drawings by E. N. Fischer.

Description

The maneater is of the general "mackerel shark" appearance, with firm lunate tail, the upper lobe only a little longer than the lower; and with triangular first dorsal of moderate size originating over the armpits of the pectorals, which are sickle shaped, and roughly twice as long as they are broad. The second dorsal and anal fins are very small, the former a little in advance of the latter; and the root of the tail bears a single well-marked keel on either side. The snout is conical, moderately pointed.

Unfortunately, there is no obvious field mark to distinguish a small maneater from a large porbeagle or from a large mako when seen swimming at any distance. Once captured, however, no confusion could arise, for instead of the slim catlike teeth of the porbeagle and of the mako, we find the maneater one of the best armed of all sharks; its teeth large and triangular, and similar in shape in the two jaws, except broadest in the upper, with nearly straight cutting edges and strongly serrated margins. As a precaution, any large active shark, upwards of 10 or 12 feet long, with the tail not long, out of ordinary proportions, should be looked upon with suspicion, for it might prove to be a maneater. If it were sluggish, resting with the dorsal fin high out of water, it would be no doubt a harmless basking shark.

Color

Maneaters up to 12 to 15 feet long are slaty brown or leaden gray above, sometimes almost black, shading more or less abruptly on the sides to dirty white below. There is a black spot in the armpit of each pectoral fin, and the lower surfaces of the pectorals are black toward their tips, usually with some black spots adjacent. The pelvics are white below, but olive along their anterior edges. Larger specimens (we have seen none) have been described as dun colored above or very pale leaden, and they may lack the black spot at the armpit of the pectoral fin.[43]

Size

This is one of the largest of sharks. A gulf of Maine specimen about 3 feet long is the smallest, apart from embryos, that has been seen; one of about 5 feet the next smallest. So far as known it does not mature sexually until it has grown to a length of 12 to 14 feet. Among larger ones, from one place or another, the exact measurements for which have been reported, four have been between 14 and 16 feet long, two between 16 and 18 feet, and three between 19 and 21 feet. The largest on record was 36½ feet long;[44] the next largest about 30 feet, but perhaps not measured exactly.

Maneaters of a given length may vary widely in weight, because of variations in their condition. Thus one specimen 8 feet 2 inches long weighed only 342 pounds, but another of 8 feet 3 inches, weighed 600 pounds. Five, weighing between 910 and 1,000 pounds ranged from 9 feet 8 inches in length to 12 feet 6 inches. Three, of 13 to 13½ feet, weighed 1,291 to 1,344 pounds, but another, from South Africa of 13 feet 3 inches scaled 2,176 pounds, doubtless a very fat fish. A 15-foot 2-inch specimen weighed 1,720 pounds; and one of 21 feet, the largest that has been weighed so far, 7,100 pounds, its liver 1,005 pounds.[45]

Habits

So few maneaters are seen that little is known of their way of life, apart from their voracity. Most of the records of them have been of specimens taken at or near the surface, and such specimens as visit our Gulf sometimes come very close inshore. Thus two specimens were seined close in, off Swampscott, at the northern entrance to Boston Harbor in 1939; one was harpooned in 1937 about 2 miles off Nantasket Beach, one of the most popular bathing resorts near Boston; another was harpooned about one-half mile off Cohasset, Mass., where the water is not over 20 feet deep; one in 10 feet of water in Provincetown Harbor, many years ago. Some have even been taken in fish traps close to the beach on Cape Cod and near Woods Hole; and in 1916 one was taken in the shallow water of Sandy Hook Bay, N. Y. On the other hand, the largest one that has been weighed yet was caught on a set line off the north coast of Cuba, at a depth of about 700 fathoms.

Nothing is known of its breeding habits, beyond the bare facts that it is ovoviviparous like others of the mackerel shark tribe.

The maneater is one of the most voracious of all the fish tribe, feeding indifferently on large prey and on small. Other sharks, 4 to 7 feet long and practically intact, have been found repeatedly in maneaters' stomachs; and a young sea lion of 100 pounds in one on the coast of California, while seals, sturgeons, and tuna have been found in maneaters no longer than 8 to 9 feet. In southern seas they are described as feeding regularly on sea turtles. But they also devour smaller fishes of whatever kinds are available, including small sharks and chimaeroids, also squids. When they come in on the fishing banks, they are known to take fish that they find hooked on long lines as porbeagles do. Thus the mouth of one of 9 feet 8 inches, taken near Cohasset, Mass., and examined by us, carried several hooks with the snoods still attached, while its stomach contained a spiny dogfish (*Squalus acanthias*) that evidently had been torn off a hook. And a large Florida maneater, caught on a set line, contained 2 brown sharks (*Carcharhinus milberti*), 6 to 7 feet long, that had evidently been torn from hooks on the same set line on which the maneater was hooked. The maneater, like the Tiger shark, is not above feeding on slaughterhouse waste or other garbage.

General range

This is an oceanic shark, widespread in the tropical and warm temperate belts of all oceans, including the Mediterranean. In the western side of the Atlantic it has been recorded as far north as St. Pierre Bank south of Newfoundland, and as far south as Brazil.[46]

Occurrence in the Gulf of Maine

The man-eater is usually looked on as a warm water shark, doubtless correctly so. None the less, it has been reliably reported from the southwestern part of the Gulf of Maine more often than it has from any other coastal sector of comparable length on the Atlantic coast of North America. At least 10, for example, were actually captured or were harpooned and lost in Massachusetts Bay alone during the period 1935 to 1948. We ourselves examined three of these, one that was netted at Swampscott; a female of 9 feet 8 inches weighing 980 pounds that was harpooned within half a mile of the land off Cohasset, in August 1940; one of about 3 feet, that was harpooned in July 1948 near Boston Lightship, this last being the smallest that is on record to date (p. 26), and one about 14 feet long, weighing 1,050 pounds dressed, which sold for 10 cents a pound, was taken in a trap at North Truro on November 9, 1952.

Carrying the record back to earlier years, a 15-foot shark, taken at Monomoy Point at the elbow of Cape Cod in the autumn of 1928, appears to have been a man-eater, and one of about 16 feet, taken in a trap at East Brewster, October 16, 1923, and identified by Dr. Samuel Garman, certainly was, while one of 7 feet 2 inches, taken in Massachusetts Bay, about 1910, was the basis of Garman's (1913, pl. 5, fig. 5) beautiful illustration. Earlier still, a 13-footer, taken at Provincetown, Cape Cod, in June 1848, was described by Storer as a new species, atwoodi, while two small ones were mentioned by him as taken by Massachusetts fishermen between 1820 and 1850. And Capt. Atwood reported seeing four, caught in mackerel nets at Provincetown many years ago.[47]

Proceeding northward, we find scattered records from the vicinity of Portland, Maine, most recently, a 13-footer caught in a gill net off Casco Bay in November 1931; one from Eastport, Maine, many years ago; a very large one (estimated as about 26 feet long) taken in a wier at Campobello Island, November 23, 1932[48] it was suggested locally that it may have been the same specimen that had attacked a fishing boat off Digby, Nova Scotia, the preceding July; one from Deer Island, New Brunswick, taken in a herring weir, August 24, 1949;[49] and one from Digby, on the Nova Scotian shore of the Bay of Fundy, July 2, 1932. And there are several reliable records for St. Margaret Bay on the outer coast of Nova Scotia, perhaps also for Halifax.

The most northerly positive record for it on the Atlantic coast of North America is for St. Pierre Bank, south of Newfoundland, where one attacked a fisherman in a dory many years ago, leaving in the sides of the boat pieces of its teeth, from which Dr. Garman was able to identify it.[50]

Westward and southward from the elbow of Cape Cod, we find nine or ten definite records for Nantucket and for the vicinity of Woods Hole (never more than two in any one year), with one of five feet (second smallest on record) netted at Sakonnet, Rhode Island, May 30, 1939. Man-eaters are also reported occasionally near New York, notably one of about seven feet, taken in Sandy Hook Bay, July 1916, to which we recur below.

Relation to Man

So few man-eaters visit our Gulf that they would deserve only the briefest mention were this not the only shark that is ever likely to attack human beings there. Strong and active, equipped as it is with a most terribly effective set of cutting teeth, it has borne an unsavory reputation as a man-eater from the earliest times, and it is probable that the 7-foot specimen listed earlier from South Amboy, Sandy Hook Bay, was the cause of the shark fatalities along the New Jersey beach in July 1916. A fatal attack on a swimmer at Mattapoisett, on Buzzards Bay, on July 25, 1936, may also have been by a man-eater, though in this case the shark was driven away without being identified.

This is also perhaps the only shark against which unprovoked attacks on small boats are proved by identification of their teeth, embedded in the wood. One such instance, from the Newfoundland Banks, was reported by Putnam[51] many years ago. A recent local case is of a very large one that attacked a fishing boat in the Bay of Fundy off Digby Gut, Nova Scotia, July 2, 1932 and left in her keel or lower planking several of its teeth, by which it was identified.[52] Storer[53] wrote of a case where one (apparently the 13-foot specimen that he had described earlier as *atwoodi*) turned furiously on a boat, but was lanced to death and brought into Provincetown. And a 15-foot shark, probably this species to judge from the illustration of it that was published,[54] that was killed off Monomoy Point by two fishermen in November 1928, overturned their dory before it was subdued. And one of about 15 feet (similarly identified by teeth left in the planking) attacked a boat, from which it had been harpooned, in St. Margaret's Bay, Nova Scotia, on June 27, 1920.[55] Hence, so long as maneaters wander within [page 28] our limits more often than had been realized previously, the possibility is always open of attacks on bathers along the Massachusetts shores of the Gulf.

Despite its ferocity, muscular strength and size, the man-eater does not put up so spectacular a resistance when hooked as does a mako, neither running so fast nor having the habit of jumping. Neither does it put up as strong a fight, pound for pound, as a tuna ordinarily does, or any of the swordfish tribe. Thus a 1,329-pound maneater was landed on rod and reel by an Australian angler in 53 minutes. One of 2,176 pounds, caught from the shore in South Africa, is the largest fish ever landed on rod and reel that has come to our notice.[56]

[43] Information from Stewart Springer, from large Florida specimens.

[44] This Australian specimen, the jaws of which are in the British Museum, is the basis for repeated statements that the maneater grows to 40 feet.

[45] For further details, see Bigelow and Schroeder, *Fishes Western North Atlantic*. Pt. 1, 1948, pp. 137-138.

[46] For details and references, see Bigelow and Schroeder, *Fishes Western North Atlantic*, Pt. 1, 1948, pp. 140-141.

[47] Putnam. *Bull. Essex Inst.*, vol. 6, 1874, p. 72.

[48] Piers, *Proc. Nova Scotian Inst. Sci.*, vol. 18, 1934, p. 198.

[49] A female 12 feet, 8 inches long, weighing 1,299 pounds, reported by Scattergood, Trefethen, and Coffin, *Copeia*, 1951, p. 298.

[50] Putnam, *Bull. Essex Inst.*, Salem, vol. 6, 1874, p. 72.

[51] *Proc. Essex Inst. Salem*, vol. 6, 1874, p. 72; teeth identified by Dr. S. Garman.

[52] Reported by Piers, *Proc. Nova Scotia Inst. Sci.*, vol. 18, 1934, p. 198.

[53] *Fishes of Mass.*, 1867, p. 248.

[54] Reported in Witman and Lee Co.'s Market Letter for Nov. 8, 1928; called to our attention by Dr. Lewis Radcliffe of the U. S. Bureau of Fisheries.

[55] For details of this occurrence, see Piers, Proc. Nova Scotia Inst. Sci., vol. 18, 1934, pp. 196-198.

[56] London Illus. News, July 14, 1928, p. 53; photograph recorded as a mako but shown by its teeth to have been a maneater.

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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