

NOTE ON A SHARK AND RAY OBTAINED AT LITTLE  
METIS, ON THE LOWER ST. LAWRENCE.

By SIR WILLIAM DAWSON, F.R.S.

(With Plate IV.)

Some of the summer resorts on the Lower St. Lawrence are not destitute of supplies of fish. In addition to the delicious trout of the lakes and streams, the sea affords, at certain seasons, an abundant harvest of various kinds. At Little Metis, for example, salmon are taken in the St. Lawrence in early summer. A little later, mackerel, herring, and the delicate sardine make their appearance, and flounders, loche or tom-cod, and smelts are taken by juvenile anglers. Now and then the brush wears erected on the shore capture a specimen of the great Albcore or horse mackerel, an excellent fish, and the striped bass is sometimes taken in the same way. Formerly the cod was taken in considerable quantity, but it seems to have deserted the locality, except that a few "rock cod" and young cod, scarcely larger than the loche, are sometimes caught. Of late years, however, the halibut has appeared in sufficient numbers to make a profitable fishery for local use, and it is in connection with the halibut fishery that the animal to which this note refers has made its appearance.

The halibut fishers, using herring or sardine for bait, occasionally hook a large shark, and find little difficulty in capturing it. Five or six specimens, some of them ten feet in length, were thus taken and towed ashore last summer. They are not valued for food, but the liver yields a consid-

erable quantity of oil, and the skin is used as a rasp for dressing wood. I examined and measured one specimen about ten feet in length, and secured, with the aid of Mr. Sim, of Lighthouse Point, the skin of another, which is now admirably mounted by Bailly in the Peter Redpath Museum. I also obtained the jaws and teeth of a third specimen, now in the same museum.

The creature is known to the fishermen at Little Metis as the "Dog Fish," a name not altogether inappropriate, since it belongs to the same family of sharks with the ordinary dog-fish, though much larger than they, and destitute of the bony spines with which they are armed. It seems to haunt the bottom rather than the surface of the sea, and to feed on all sorts of smaller fish and crustaceans. It is apparently sluggish, though muscular and powerful, and is said, when hooked, to make little resistance.

It belongs to a species or group of closely-allied species haunting all the northern seas, and known by a great variety of names. Gunther appears to think that the fishes designated by all the following names belong to one widely distributed species, to which he assigns the name

LAEMARGUS BOREALIS,

With the following synonyms:—

*Squalus carcharias*, Linnæus, Muller and Otho Fabricius.

*Squalus microcephalus*, Bl. Sehn.

*Somniosus brevipinna*, Leseur and Storer, Fishes of Massachusetts.

*Scymnus brevipinna*, Dekay, Fishes of New York.

*Squalus borealis*, Scoresby.

*Scymnus borealis*, Fleming.

*Laemargus borealis*, Muller and Henle.

*Somniosus microcephalus*, Goode, Fish Commission, United States.

In England it is usually known as the Greenland Shark and on the American coast bears the names "Nurse," "Sleeper," "Ground Shark," and "Dog Fish."

Its distinctive characters are thus given by Gunther and Day:—

All the fins small and spineless; two dorsal and a pair of ventral fins; skin uniformly covered with minute tubercles; nostrils near the extremity of the snout; no nictitating membrane to the eye; mouth with a deep oblique groove at the angle; the upper teeth small, narrow, conical, and in several rows (44 to 52 in a row); the lower teeth more numerous, also in several rows, flat, and each tooth having its front so much turned aside, that the inner margin forms the cutting edge, which is not serrated; spiracles of moderate width. The skeleton is wholly cartilaginous.

The colour is either very variable or changes easily under different circumstances. It is usually represented as gray or dusky above and lighter below; and Calderwood states that of two recent specimens which he examined, one, a young individual, was of a dull, slate colour, with a number of small white spots distributed irregularly over the surface of the skin. The other, of larger size, was of a more bluish tint and without white spots. One specimen which I saw at Metis seemed of a general gray or dull brown colour above, with slightly lighter bands on the sides. Another, which had been some time dead, was of a rich deep brownish colour above, with distinct zebra-like stripes of brown on the sides, and creamy white below. The colours probably differ under different circumstances, even during life; and preserved and dried skins usually fade into a uniform gray hue.

The measurements of my Little Metis specimen are as follows:—

|   | Feet. | Inches. |
|---|-------|---------|
| Total length.....                           | 9     | 6       |
| Girth behind pectorals.....                 | 4     | 5       |
| Nostrils behind point of snout.....         | 0     | 2       |
| Snout to centre of eye.....                 | 4     | 5       |
| Do. to first gill opening.....              | 1     | 5       |
| Width of mouth.....                         | 0     | 8       |
| Length of series of five gill openings..... | 0     | 7       |

|  |   |                  |
|--|---|------------------|
| Last gill opening to base of pectoral..... | 0 | 2                |
| Length of pectoral.....                    | 0 | 11               |
| Breadth of do. ....                        | 0 | 6 $\frac{1}{4}$  |
| Snout to base of pectoral.....             | 2 | 4                |
| Do. to first dorsal .....                  | 4 | 0                |
| Breadth of first dorsal.....               | 0 | 9                |
| First to second dorsal.....                | 2 | 1                |
| Length of second dorsal .....              | 0 | 5 $\frac{1}{2}$  |
| Second dorsal to origin of caudal.....     | 0 | 11               |
| Length of caudal.....                      | 1 | 7                |
| Depth of do. about .....                   | 2 | 0                |
| Pectorals to origin of ventrals.....       | 3 | 6                |
| Breadth base of ventral .....              | 0 | 6                |
| Base to points of ventrals.....            | 0 | 10 $\frac{1}{2}$ |
| Ventral to caudal .....                    | 1 | 6                |

The Greenland shark seems to have its headquarters in the seas of that country and Spitzbergen, in which considerable numbers are taken annually for their oil. It ranges southward to Newfoundland and the New England coast, is found also on the west coast of America, and occasionally strays to the coast of Europe. Though a powerful creature, and said sometimes to attain to the length of 25 feet, it seems slow and sluggish in its habits, and haunts the bottom rather than the surface of the water. In addition to feeding on small fish and crabs, it is said to have the habit of devouring cod and other fish when caught in set lines, and is therefore not loved by the fishermen. In the arctic seas it is often seen to feed on the floating carcasses of dead whales, around which these sharks are said to collect in great numbers. Scoresby states<sup>1</sup> that they are able to bite out large pieces of the flesh with their sharp cutting teeth. On the coast of the United States, it is said by the American naturalists cited above, to devour fish offal at the fisheries, and on this account has acquired locally the name of "gurry shark." Its flesh is not eaten on our coasts, but is said to be used as food by the Esquimaux. The liver of a

<sup>1</sup> Arctic Voyages.

large individual will yield as much as five or six gallons of oil.

It does not appear to be dreaded by man on our coasts, but in Greenland and on the Labrador coast the larger individuals seem sometimes to attack boats and canoes. Fabricius<sup>1</sup> states it is much dreaded by the Greenlanders, as it can bite through the skin bottoms of their kayaks and seize the legs of the occupants. Hence, when a solitary Greenlander in his kayak sees one of these animals, he generally takes to flight. They are believed to be attracted by the smell of putrid carcasses, and also by any sound or noise; and as their presence scares away the fish, the fishermen keep silence in order not to bring them near. He remarks that it shows little fear of man, and states that when the Greenlanders are flensing the floating carcass of a whale, the sharks are often as diligently employed in feeding on it below the water. The Greenlanders occasionally take it with hook and line or with the harpoon.

Ballantyne, in his work on Hudson's Bay, tells a frightful story of an Indian who, when voyaging with his family in a canoe, was pursued by a large shark which attempted to upset the canoe, and failing in this, to break it up. The canoe beginning to give way, the terrified Indian seized his youngest child and threw it to the ferocious monster to secure his own safety. It is not, however, quite certain that this story refers to the present species; but if so, it would confirm the impression of the Greenlanders that large individuals impelled by hunger and, perhaps, accustomed to feed on the carcasses of whales, may become dangerous to man. It is not likely, however, that they ever venture so near the shore as to attack bathers.

Calderwood thus describes two specimens taken on the Coast of Scotland and studied by him<sup>2</sup>:—

“The Greenland shark is described by the various ichthy-

<sup>1</sup> Fauna Greenlandica.

<sup>2</sup> Appendix to Fourth Annual Report of the Fishery Board for Scotland.

ologists as a fish rarely straying to the British shores. Its natural home is doubtless in the colder waters of the Arctic Circle, where it is said to occur in considerable abundance; but when its occurrence is compared with that of the more truly British sharks, it would appear to be at least as common in our waters as any other. Since 1803 there are records of its capture which go to prove that scarcely a year passes without one or more specimens being obtained, and it is worthy of note that nearly all these specimens were captured on the East Coast. The most southerly point from which this shark is recorded is the Seine, where one was taken in 1832. Three were caught off the Bell Rock in 1873, and two at Scarborough in 1878. Three specimens are recorded from Aberdeen, and two from the Dogger Bank, besides a number of single ones from different parts of the coast.

“The two which I dissected were caught, within a few days of each other, in January of this year. The first was a fine specimen 11 feet long, which was brought up by one of the trawlers of the General Steam Fishing Company 8 miles S.E. of the May Island. When it was slung up clear of the water, a cod and three baited hooks with snoods attached fell out of its mouth, and I afterwards found a large cod hook fixed in the gullet. Its stomach contained one herring, five cod, one conger eel, and a considerable quantity of partly digested fish.

“The second shark was only 5 feet long, and was caught by line fishermen. The stomach of this one contained three herrings and about a score of cuttle fish beaks.”

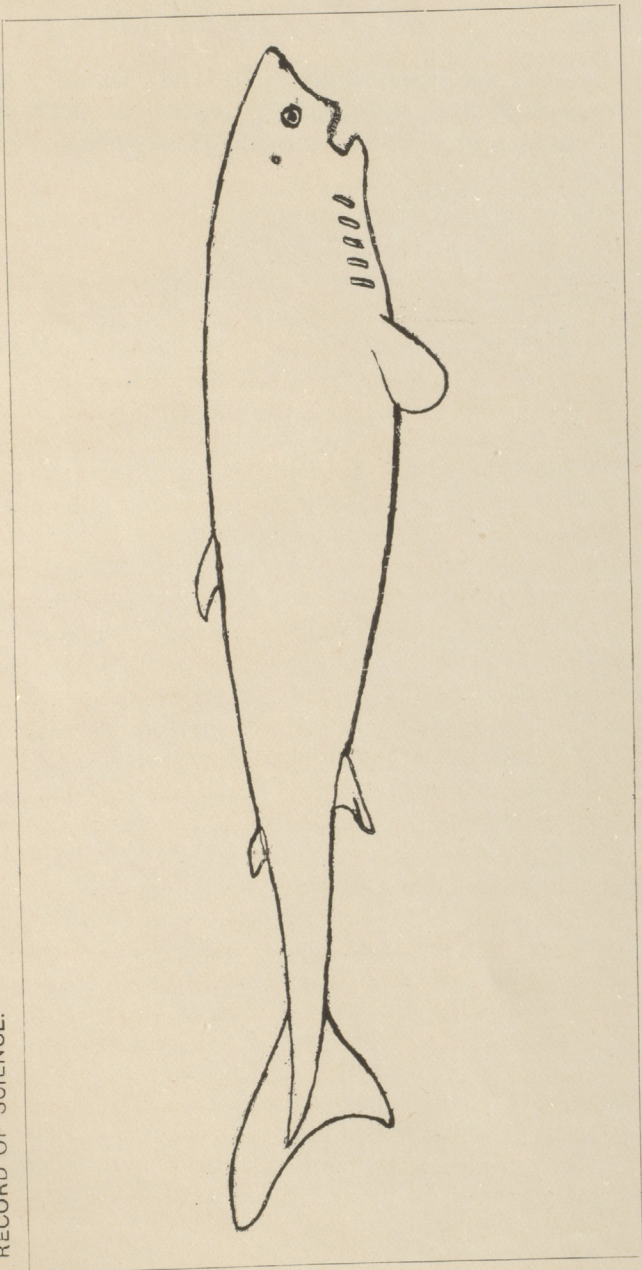
The figure (Plate IV.) is an accurate outline of the specimen now in the Peter Redpath Museum.

#### RAIAERINACEA, Mitchell.

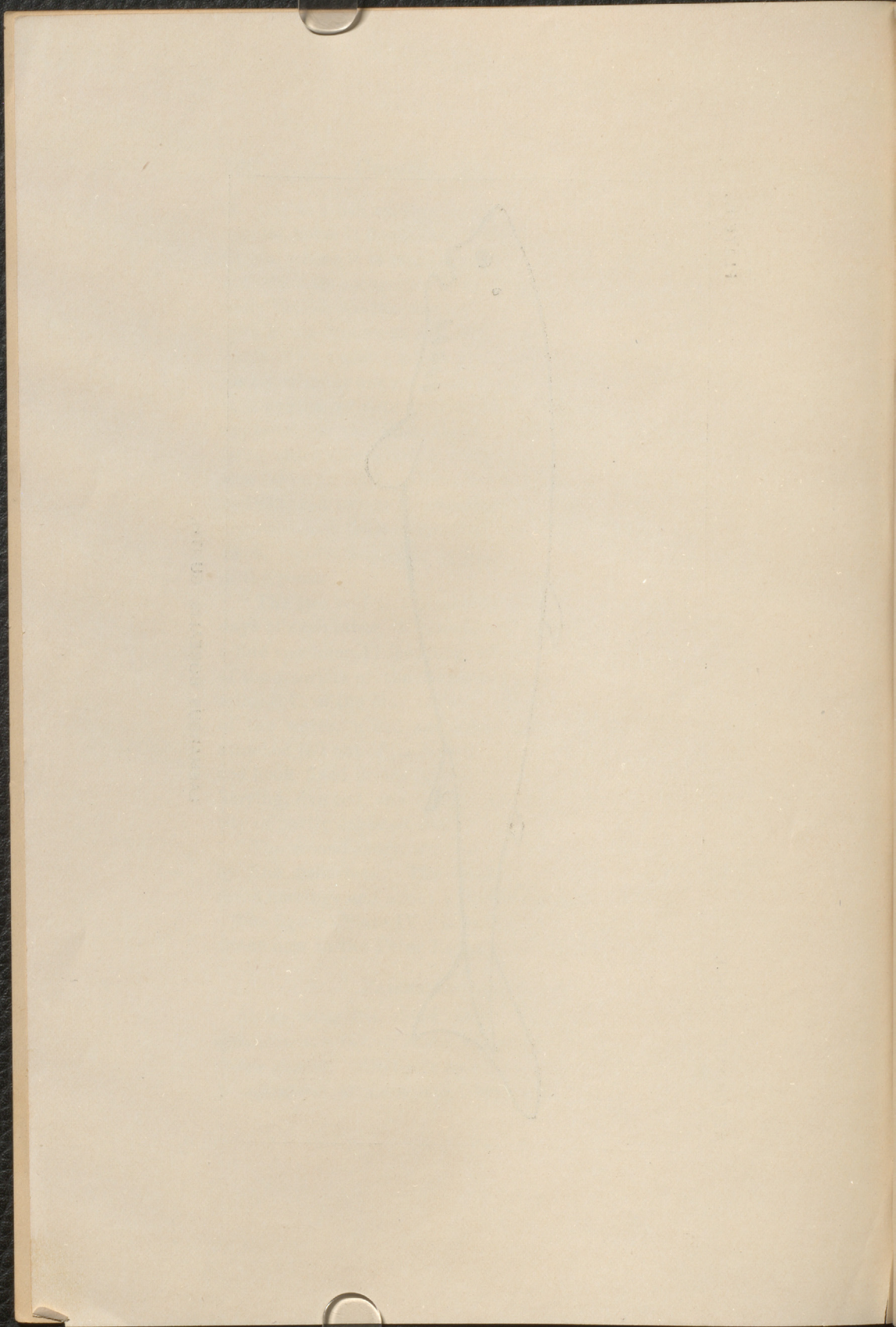
Along with the shark above described, I obtained a specimen of a ray, or skate, which appears to be the species above named. Mitchell's species is referred by Gunther to *R. eglantheria* of Lacepede. My specimen is, however, so

PLATE IV.

RECORD OF SCIENCE.



LAEMARGUS BOREALIS. GUNTHER.





different from the typical *R. eglanteria* that I am inclined to think it may be distinct. It is found at Little Metis, and is sometimes taken in the wears, or in fishing for halibut.

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