

### III.—THE APPEARANCE OF MACKEREL IN THE GULF OF ST. LAWRENCE. <sup>(1)</sup>

The mean temperature of the season governs the time of the appearance of mackerel at the surface in different parts of the Gulf, and in this respect it follows the same law which guides the movements of all kinds of fish and marine life in these waters.

That the mackerel spends the winter months in a torpid condition near to the locality where the schools first show themselves on the coast has already been adverted to. (See page 70-80 Part I.) The "scale," or film over the eye, often noticed by fishermen on the Atlantic coasts of the United States, Nova Scotia, Cape Breton, in the Gulf of St. Lawrence, and on the Newfoundland coast, with the alleged resulting partial blindness of the fish on its first arrival, coupled with the fact already noticed that it is taken in the winter from muddy bottoms, is strongly suggestive of a winter habit of torpid hybernation, possessing greater or less duration according to the marine climate of the region where the fish is found.

The following curious notice of the habits of the mackerel occurs in Shaw's "General Zoology or Systematic Natural History," published in 1803. The four disputed points in relation to the natural history of this fish are there asserted, namely its local habits, its torpidity during hybernation, the film over the eye and the fact of its being partly imbedded in the soft mud or sand during its winter sleep.

"This long migration of the Mackerel, as well as of the Herring, seems at present to be greatly called in question; and it is thought more probable that the shoals which appear in such abundance round the more temperate European coasts, in reality reside during the winter at no very great distance; immersing themselves in the soft bottom, and remaining in a state of torpidity from which they are awakened by the warmth of the returning Spring, and gradually recover their former activity. At their first appearance their eyes are observed to appear remarkably dim, as if covered with a kind of film, which passes off as the season advances, when they appear in their full perfection of color and vigour." \*

James de Kay notices in his "Zoology of the State of New York," the film covering the eye of the Mackerel when first it appears in the Spring of the year. He considers it to be a nictitating membrane, or third eyelid, similar to the nictitating membrane

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(1) Mackerel fishing with the hook commenced in the Province of Nova Scotia about the year 1821, and was prosecuted with great success from some of the harbors in the Bay of Fundy. (2) About the year 1847, mackerel were very abundant in the vicinity of Sable Island, and the Fisheries Committee of the House of Assembly urged the granting of a bounty to all vessels engaged in the deep sea Mackerel Fishery, which was not adopted by the House.

The export of mackerel from the Port of Halifax during the years 1839 to 1846 inclusive, show that considerable attention was given to this Fishery on the coasts of Nova Scotia thirty years ago. (3)

YEAR.	NO. OF BARRELS.
1839.....	19,127
1840.....	25,010
1841.....	35,917
1842.....	54,118
1843.....	71,854
1844.....	50,693
1845.....	38,230
1846.....	82,645

1. Journal and Proceedings of the House of Assembly of the Province of Nova Scotia, 1857. Appendix No. 75.

2. Ibid.

3. Inspected.

\* Of this Count de Capede adduces the testimony of an eye-witness; viz., Mons. Pleville le Peley, who, about the Coasts of Hudson's Bay observed