

suddenly ceases on many banks and shoals, commencing again at different localities two and three weeks later.

The cod leave the banks and shoals to meet and to follow the Launce as they approach the coast. In the same manner they meet and follow the Caplin, guided no doubt by the peculiar odor developed by each species at the approach of the spawning season.

But it is the habit of the Sand Eel of burying itself in the sand between tides, or in submerged sand beaches, that leads the mackerel so close inshore.

The Sand Launce, as its name implies, often seeks during the early summer, widespreading and soft sandy beaches, and where these are abundant and other conditions favorable, it lingers for months on the same part of the coast. Dr. Fortin states in his report for 1856, that between Seven Islands and Mingan the Launce appears in the Spring and remains until the Fall.

The fact of this fish burying itself in the sand to the depth of five or six inches during the ebb tides, is one reason why mackerel, and many other fish, are caught inshore during the flood-tide. They come in to feed on the emerging Sand Launce, as well as upon the hosts of other and lower forms of life whose burrowing habits between tides are similar to those of the Sand Launce.

Perley states that it is very abundant on the north shore of New Brunswick.⁽¹⁾ Here there are, as on the north shore of Prince Edward Island, very extensive sandy flats suited to the peculiar habits of this fish. Dr. Carpenter describes the Sand Launce of the British seas as burrowing in the sand to a depth of six or seven inches during the time that it is left dry by the ebb tide.

But it is not the mackerel alone among surface feeders which pursue the Sand Launce with eagerness, it is also a favorite food of the herring.

Prof. Huxley in his 'Natural History of the Herring' embodied in the 'Report of the Royal Commission on the operation of the acts relating to trawling for Herring on the coast of Scotland' states that "the food of the Herring consists of crustacea varying in size from microscopic dimensions to those of a shrimp, and of small fish, particularly Sand Eels, while in the *Matie* (fat) condition they feed voraciously and not unfrequently their stomachs are found immensely distended with crustacea and Sand Eels in more or less digested conditions." Again, "any circumstances which increase or decrease the quantity of crustacea and Sand Eels, for example, must influence in a direct ratio the chances of existence of a multitude of Herring, etc."

The Sand Launce is essentially a cold water fish. Dr. Theodore Gill gives the range of the American species from Newfoundland to Cape Hatteras, but it is not included in the Report for 1871-72, except doubtfully in one case, as having been found in the stomachs of fishes taken off the New England coast and south of New England, and examined by the officers of the United States Commission of Fish and Fisheries.

The list includes thirty different species of fish whose stomachs were examined, including the mackerel and the herring, and all the important food fishes. But the only reference to what may have been the launce is described as a long slender fish (*Ammodytes*) found in the stomach of the common skate.

(1) It is found everywhere on the coast of New Brunswick and Nova Scotia chiefly on beaches under stones. — Perley — Descriptive Catalogue of the Fishes of New Brunswick and Nova Scotia.