

Europe. Mr. Putnam says that "the northern limit of the mackerel is the Strait of Belle Isle;" while, according to Professor Reinhardt, the cod, halibut, and herring are found in Greenland, but the mackerel is not. In the European species there is no air-bladder. Like the cod, the mackerel is very voracious, and seems to take readily all kinds of animal food. Besides devouring small fishes of various kinds, like the herring it feeds also upon such marine animals as float on or near the surface of the water.

By the use of the towing-net during the last summer, a fair general idea of this surface fauna has been gained. These floating animals may conveniently be divided into two groups—those which are purely oceanic, and those which are washed out to sea from the shore. To the first of these divisions belong jelly fishes, of many genera and species, and minute crustaceans. In Gaspé, the fishermen call jelly fishes "mackerel bait," and floating crustaceans "whale bait." The "red" and the "white" herring meat of Mr. Boeck (see page 114 of this report) belong to this group. What is practically the "red" herring (and mackerel) food is abundant in the St. Lawrence, although the genera and species in the two countries may not always be the same. The "white" meat also may be not unfrequent, for the number of marine worms in the Gulf is very large. Our second division includes all those creatures which live on or among the larger sea weeds which originally grow near low-water mark, but which get drifted out to sea. Amongst these weeds may be found small fishes of two or three kinds, the fry of the common sea mussel, and a few species of sea snails, amongst them naked gilled sea slugs of the genus *Doris*. The crustaceans are for the most part the fry of the common crab, and full-grown examples of beach fleas, which belong to the order Amphipoda of zoologists. The weeds are also more or less covered with parasitic barnacles, and zoophytes belonging to the orders Hydrozoa and Polyzoa. The "black" meat previously spoken of has not yet been detected upon algæ in the St. Lawrence. In Europe, the species of *Rissoa* are very numerous, and several kinds live in shallow water near the shore. In Canada, only six kinds of *Rissoa* are known north of the Bay of Chaleurs, and five of these are peculiar to comparatively deep water, while the other is not very common. Not a single adult specimen of the latter was observed, although quantities of floating masses of weed brought up in the towing-net were carefully examined. Besides the two groups just described, in which the animals are strictly marine, large numbers of land and fresh-water insects are drifted out to sea in the summer months. These belong to many orders and species, and are not unfrequently taken alive.

It is said that fish which are killed and bled as soon as they are caught are much better than those which are allowed to die a natural death. Some methods of killing fish are stated to offer peculiar advantages. The Dutch plan is to sever the spinal cord and arteries of the neck, just at the back of the head, with a knife. Nothing of the kind is ever dreamt of by the Lower Canadian fishermen, who allow the cod they have caught to suffocate in a lingering way, often under a hot sun.

In a short time, the fishery clauses of the Treaty of Washington will, doubtless, come into practical operation. No opportunity can be more fitting than the present for an examination into the existing laws relating to the fisheries, to see if they are capable of amendment or improvement. It is desirable on the one hand to try and check any waste of the bountiful supplies with which our coasts now periodically teem, and on the other to teach the fishing population the best and most approved methods of preserving the fish they catch. That no little waste of valuable food has hitherto taken place is undeniable, and there is too much reason to fear that this evil may reach to still graver dimensions, and that the fisheries may be exhausted or impoverished, unless precautionary measures be taken to prevent such a calamity to the dwellers along our sea board. It has been recently stated by Montreal merchants, in the daily papers, that the quality of some of the salt fish prepared on the coast is so bad as to make it almost worthless in the market. This circumstance, however, may be attributable to the unusual amount of rainy and wet weather experienced in the Gulf last summer.