

the lakes of Central Canada has an economic interest as well as a biological interest. The fisheries of Manitoba are justly claimed to be the largest fresh-water fisheries in the world. Last year (1923) the fish taken from lake Winnipeg alone weighed 7,213,900 pounds, and this was not a record year".* From these figures one can draw certain conclusions as to what the total might be for all the lakes and rivers on the earth's surface. Then there are the countless miles of sea coast (not to speak of deeper water) where fish find shelter as well as food and where the larger seaweeds have various industrial uses, being used as food, or as manure for growing crops, or for other purposes.

As in the case of fungi, no general list of algæ, either fresh-water or marine, has up to the present been compiled for Canada. But a considerable amount of attention has been devoted to the elucidation of both groups as a glance at the various papers mentioned in the literature dealing with the subject will show.

As practically all the species of algæ occurring in fresh water are different from those found in the sea it is more convenient to consider both groups from the point of view of the medium in which they grow. Before dealing with their distribution reference may be made to two other groups which are frequently classified as algæ, namely, *Characeae* and *Diatomaceae*.

Characeæ.—The Stoneworts, as the *Characeae* are popularly called, owing to the fact that many species have a deposit of lime in their tissues which makes them brittle, are confined to fresh water. They can be readily recognized by their odour which resembles that of garlic. Very little attention has been devoted to their study in this country but 2 genera, namely, *Chara* and *Nitella* are known to occur. Apparently the only accounts dealing with their distribution in detail are those of Robinson⁸³ who mentions 11 species of *Chara* as Canadian, and the earlier work of Allen.⁸⁴

Diatomaceæ.—Diatoms are found both in fresh water and in the sea, the species occurring in the two habitats being with few exceptions quite different. The most comprehensive list of diatoms, both fresh-water and marine, so far published is that of Bailey⁸⁵ who states: "to prepare anything like a complete list of the diatoms of Canada is an impossibility. Not only is the region of enormous extent, embracing the whole breadth of America where that breadth is the greatest and extending northwards into Arctic regions, but it also presents a great diversity of physical conditions to which these plants, notwithstanding their minuteness and comparatively simple structure, must, like other plants, respond to a greater or less degree. Some of the interior lakes of Canada, like the Quill lakes in Saskatchewan, are saline, and in these quite a number of typically marine genera have been met with in great abundance". Bailey further states that up to 1907 probably not over a hundred species have been listed and these only from Nova Scotia and New Brunswick, while the present list contains the names of 550 species. These are grouped under 98 genera of which the largest by far is *Navicula* with 169 species, followed by *Nitzschia*, *Surirella*, and *Coscinodiscus*, with 48, 32, and 29 species, respectively.

A list of marine diatoms from the Arctic Region identified by Mann⁸⁶ contained names of 42 genera and 227 species. Of these *Navicula* was the largest genus with 64 species, while *Coscinodiscus* contained 23 species.

* According to the latest figures compiled by the Dominion Bureau of Statistics the weight of fish taken from lake Winnipeg in 1936 was: summer, lake Winnipeg, 7,079,500 lb.; winter, lake Winnipeg and Red river, 5,140,200 lb.; total, 12,219,700 lb.