

Marine Algae from Bering Strait and Arctic Ocean collected by the Canadian Arctic Expedition, 1913-1916

By FRANK SHIPLEY COLLINS *

*Some what less than two years after the lamented death of Mr. Collins on May 19th, 1917, portions of algae and his more or less unfinished manuscripts on the algae passed into the hands of the New York Botanical Garden in New York City. His report on the algae of the Canadian Arctic Expedition was left by him virtually complete except for the typing of a few pages, though there even remained that he would have expanded his introductory discussion of this arctic flora, had his life been spared. After an unexpected delay in the preparation of a companion report on Hudson Bay algae by the writer of this present note, Mr. Collins' paper is now offered to the publishers essentially as he left it except for very slight changes of a clerical or proof-reading character. This, perhaps unfortunately, leaves the nomenclature, in some cases, different from that adopted in the Hudson Bay report and probably, in a few instances, different from what would have been employed by Mr. Collins himself, had he lived until the present day. However, such seems to be the only fair course to follow in the case of a posthumous manuscript, the only one that leaves the original author wholly responsible, both for his determinations and for his choice of names.—Marshall A. Howe.

In attempting some general classification of the 57 species, varieties, and forms included in this list, only a few observations may be made.

Certain species evidently constitute a short-lived vegetation of warm lagoons and pools. Such are *Lyngbya aestuarii*, *Anabaena* sp., *Paludicoccus marinus*, *Ulothrix flava*, *Stichococcus marinus*, *Enteromorpha percursea*, *E. torta*, *E. prolifera*, *E. micrococca*, *E. micrococca* var. *subsalsa*, *Isoa fulvescens*, and *Rhizoclonium implexum*. All are plants of similar stations in the North Temperate Zone. *Prasiola Johansenii* and *Phormidium papyraceum* occur in a warm station, though not in a lagoon.

Four species and forms of *Fucus* appear to be littoral plants. All of the other genera and species are either dredged or found washed ashore and may be considered sublittoral. Four of these are parasites, attached each to a particular species.

At Port Clarence, Alaska, occur two species, *Chondrus affinis* and *Perosiphonia bipinnata*, characteristic of temperate Pacific shores, here apparently reaching their northern limit (69° 35' N.). Here were also two species of *Ceramium*, *C. tenuissimum* and *C. cubrum*, both of temperate zone distribution in both the Atlantic and Pacific.

Enteromorpha intestinalis and *Hildenbrandia prototypus* are practically cosmopolitan. The remainder of the list, thirty-three in all, are characteristic northern forms, of which *Laminaria solidungula* and *L. groenlandica* are limited to arctic regions, while the others extend for varying distances into the temperate zone. *Delesseria sinuosa*, for instance, reaches New Jersey and France on the two sides of the Atlantic.

The list is so short that no conclusions should be drawn from the absence of any species known elsewhere as arctic. It is, however, of interest in two ways. First, as showing the continuity of distribution of species before known in the North Atlantic and North Pacific; secondly, as showing the occurrence in high latitudes, in the warm lagoons in summer, of an assemblage of species much the same as may occur in similar stations in the temperate zone.

LIST OF COLLECTING STATIONS

The localities in which marine algae were collected on the Canadian Arctic Expedition, 1913-16, are the following, arranged from west to east:—

1. Teller (Port Clarence or Grantley harbour), Alaska. Latitude 65° North, longitude 166° 30' West. Stations 20b-c, 20d.
2. Northwest coast of Alaska, between Cape Beaufort and Point Lay. Latitude 69° 35' North, longitude 163° 27' West. Station 22.