

species of *Anabaena* which lives symbiotically with the Hepatic, *Blasia*, and a *Nostoc* which is similarly connected with *Anthoceros*. Both of these forms occur on the Island of Montreal. Then, there are several species of *Chlorella* which are associated symbiotically with *Hydra viridis*.

Many of the most beautiful Algae are very small and grow in gelatinous films on the leaves and stems of submerged plants. Other minute forms, together with an abundance of *Peridinieæ* and *Copepoda*, abound in the surface waters of lakes and rivers, and constitute a great part of the fresh-water plankton which forms the food of most of the smaller aquatic animals, which, in turn, serve as the food of the lake and river fishes.

Algae exist under very diverse conditions of temperature. Many forms survive freezing. Filaments of *Spirogyra* and *Vaucheria*, which I have melted out of the ice, appear to suffer in no way from the low temperature. Species of the *Cyanophyceæ* and *Bacillariaceæ* are found in the Arctic regions and on mountain tops, forming the principal parts of the snow-flora and passing their entire existence on snow or ice. Other members of the same groups flourish in the waters of hot springs, where the temperature reaches 85°C.

The comparative richness of any district in fresh-water algae depends largely on its physical and geological features. West, in his "British Fresh-water Algae," states that a mountainous region may be expected to show more forms than a flat district. The latter will contain the larger filamentous algae, and an abundance of unicellular forms. On the other hand, a mountainous region will show forms belonging chiefly to the *Cyanophyceæ* and *Conjugatæ*, especially numerous species of *Mougeotia* and *Desmids*. Moreover, he says, "If the mountains consist of the older Palæozoic rocks or the Pre-Cambrian rocks, there is a surprising numerical increase not merely of species but also of individuals, and in comparison a mountainous region of carboni-