

plants are sometimes classified under fungi, namely, bacteria which contain the smallest living organisms and slime fungi (*Myxomycetes*) which are sometimes considered as belonging to the animal kingdom.

The algæ, almost without exception, occur in water, some being confined to fresh water, others occurring only in the sea. They vary greatly in size, some, such as diatoms and desmids, being one-celled microscopic bodies, while others are several yards in length. Chlorophyll is usually present but in many the green colour is masked by some other pigment. The colour-groups usually recognized are the blue-green (*Cyanophyceae*), green (*Chlorophyceae*), brown (*Phaeophyceae*), and red (*Rhodophyceae*). The *Diatomaceae*, which are sometimes classified among algæ, are of a golden colour, have a flinty covering composed of silica and are found, some in fresh, others in salt water. Both the blue-green and the green algæ have likewise species characteristic of each medium. But the *Desmidiaceae* and allied species as well as the Stoneworts (*Characeae*) occur exclusively in fresh water. Both the *Phaeophyceae* and the *Rhodophyceae* occur exclusively in the sea, with the exception of 3 genera in the latter group.

Section 1.—Phanerogams.

In the 11th edition of Engler and Diels' "Syllabus der Pflanzenfamilien",¹⁸ there are described 314 families of flowering plants (angiosperms). On the same basis of classification, besides 3 families of gymnosperms, there are 124 families of indigenous angiosperms in Canada, but some of these, such as *Dioscoreaceae*, *Acanthaceae*, *Bignoniaceae*, and *Melastomataceae*, whose chief centres of distribution are in much warmer climates, are represented in this country by a single species only.

There are in Canada about 700 genera of indigenous phanerogams of which 10 belong to the group of gymnosperms, and 690 to the angiosperms of which 142 genera are monocotyledons and 548 dicotyledons. It is more difficult to reckon up the number of species owing to the divergence of opinion on the definition of this term. If, however, we employ the term 'species' in the wider Linnaean sense, there are about 35 species of gymnosperms and 4,112 species of angiosperms. About one-fourth of the latter are monocotyledons and the remainder dicotyledons. In the dicotyledonous group, about 346 species are shrubs or trees.

The largest family, as might be expected, is *Compositae* with 630 species, while *Cyperaceae* and *Gramineae* come next each with 352 species. Next in point of numbers come *Rosaceae* with 283 species, *Leguminosae* with 189 species, *Cruciferae* with 152 species, and *Scrophulariaceae* with 151 species.

The largest genus in the Canadian flora is *Carex* with 285 species followed by *Salix* with 96 species. Seven other genera contain over 50 species. These, in order of numerical importance, are *Aster*, *Potentilla*, *Saxifraga*, *Ranunculus*, *Solidago*, *Poa*, and *Polygonum*. There are 7 genera with 40 to 50 species each, and 26 genera with 20 to 40 species each. An estimate of the number of species in each genus will be found in the author's "Guide to the Genera".¹⁹

In the study of phanerogams, under the diverse conditions of plant life existing in a country so extensive as Canada, it is convenient and necessary to divide the country into various regions or zones, each of which, because of circumstances of climate, latitude or topography, tends to exhibit a flora characteristic of that region and differing in important aspects from that of other regions.