

THE OTTAWA NATURALIST

VOL. XXVII.

November, 1913

No. 8

THE HAUNTS OF SOME OF OUR NATIVE FERNS.

By A. COSENS, M.A., Ph.D., Toronto.

A plant is dependent on its surroundings for the raw materials of the food necessary for its nutrition, also the energy required to manufacture this food is supplied from agents that are without the body of the plant. Even the important functions of pollination and seed dispersal are left very largely to the care of external forces.

A consideration of these facts leads us to see that each plant has definite and vital relations to the various components of its environment. These life relations are often so numerous and complicated as to be only partially understood. As the component factors of any environment are never stable for any considerable length of time, the welfare of the individual plant is dependent on the fact that it exhibits a certain degree of plasticity in relation to its surroundings. If a plant is to exist it cannot present an unyielding front to the forces surrounding it. A certain structure is transmitted to a plant by its ancestors; an ever changing environment tends to vary this transmitted form. This feature of plant life is of such universal application that we may consider a pathological condition as a variation from the normal to such an extent that the life of the plant is endangered.

The study of the habitats of our native ferns presents several points of interest and opens up many avenues for investigation. As a rule these plants do not exhibit plasticity of structure to nearly the same extent as our ordinary flowering plants. As a consequence of this the conditions under which the various ferns can flourish are much more restricted.

The chief factors of the environment of these plants, arranged in the order of their importance, are: light, water, drainage, soil; of less importance are heat and wind. Their relations to other plants will be considered in connection with light, as many of the plants with which they are associated have important shade producing qualities.