

selves with reproducing diagnoses that have been published long ago, instead of submitting the plants to a renewed study, whereby surely some new characters would be discovered; the only thing "new" to be found in such systematic works seems to consist in nomenclatorial changes: new combinations and new genera, based on specific rather than generic characters.

It is therefore to be hoped that Canadian botanists will undertake the work of studying such plants of their own, which need a revision, and, for instance, the *Violaceæ* would no doubt prove to be interesting from a biological view-point, besides that a close study of the various organs might reveal new characters of importance to the distinction of several critical species.¹ Some of these characters may be sought in the structure of both the perfect and cleistogamic flowers, in the leaf-variation, the structure of the rhizome and in the development of root-shoots. Having studied the genus from time to time, the writer thought that the publication of some observations upon the structure of these organs might be of some interest to Canadian botanists, besides that these notes might indicate the line of work to be pursued. We might begin with

THE FLOWERS.

Two kinds of flowers are known to occur in the genus *Viola*: the perfect, which we know is to be found in all the species, and the cleistogamic, which is far from uncommon, but which, nevertheless, seems characteristic of certain species, or perhaps better of certain sections of the genus; it is absent in *Viola pedata* and *tricolor* for instance. The perfect flower is, as we remember, hermaphrodite and zygomorphic, *i.e.*, symmetry in one plane; the sepals are prolonged backwards beyond their point of insertion, they are glabrous or hairy, often ciliate, and we have noticed much variation in their shape and in the length of their appendages; the corolla is polypetalous with the anterior petal larger and, sometimes, of a different outline from the others,

¹ The very work suggested by Dr. Holm is now being carried on at the Central Experimental Farm by Dr. James Fletcher, who has under cultivation there all the Ottawa species and many from other parts of Canada. The results of Dr. Fletcher's studies will doubtless be given to the Club when they have been completed.—EDITOR.