

Linnaeus, in his *Species Plantarum*, described dozens of violets, giving their characters from the shape of the leaves and their general appearance. In only one case, however, did he mention the flower and fruit, and this was done solely because of the extraordinary biological feature encountered in a species which he called *V. mirabilis*. This species, which is found from Southern Sweden to the Alps of Switzerland, was described as follows:— "*Viola caule triquetro, foliis reniformi cordatis, floribus caulinis apetalis.*" To this description was added especially: "*Viola floribus radicalibus corollatis abortientibus, caulinis apetalis seminiferis.*" The mere description of this violet, which is now known as *V. mirabilis* L. indicates that Linnaeus considered it one of the wonders of the plant kingdom just because of its peculiar mode of fructification. Its showy spring flowers, proving themselves perfectly useless for the propagation of the species, contrasted singularly with the inconspicuous and seemingly imperfect flowers, which were developed later in the season from special shoots. But these inconspicuous flowers, although in their general aspect not betraying their importance, proved themselves capable of safeguarding the existence of the species. Small wonder that the name *V. mirabilis*—The Wonderful Violet—was given to this species.

In North America little attention seems to have been paid to the morphology and the biological and systematical importance of cleistogamy in violets by the early botanists. Its general occurrence in acaulescent violets, as far as the authors have been able to ascertain, was first accentuated by Dr. Edward L. Greene, whose observations dating from 1896, shed much greatly needed light on the morphology and biological relationships of North American violets. In the year 1896 Dr. Greene stated (according to extracts from *Cybele Columbiana* Vol. I, No. 1, 1914, p. 7) that "the very most common of our so called acaulescent violets, continued long after their short season of showy vernal flowering to put forth apetalous flowers from which are produced all or nearly all the seeds by which individuals are multiplied and the species perpetuated."

As the production of seed in the capsules of the apetalous flowers is the result of a process of self-fertilization and as furthermore the flowers in which this takes place, never open, it is evident that the seed developed in the cleistogamous flowers necessarily is perfectly pure, i.e., that it gives when sown a progeny of plants having the characters of the parent plants. In other words, through cleistogamy the pure lineage of the various species is infallibly upheld.

¹Linnaeus, Sp. Plant. 2, 936. 1753.