Davidia involucrata. Near the top of Bussey Hill, close to the Azalea Path, Davidia involucrata, the Dove Tree, is flowering (May 11-23). This is the first time that it has borne at all profusely in the Arnold Arboretum and even now it is floriferous on only one side. D. involucrata is a native of China, having been discovered some sixty years ago by Abbé Armand David in Szechuan on the borderland of Tibet. Subsequently the range was extended to Hupeh and Yunnan. The first botanical description was published by Dr. Henri Ernest Baillon in 1871 when the genus Davidia was launched and dedicated to its discoverer. In 1897 it was introduced to European horticulture by Père Farges, who sent seeds to Maurice L. de Vilmorin. In 1906 the first flowers were produced in France. At this time, in “Revue Horticole”, the flowers and habit of the Vilmorin plant were figured.

Davidia is classed with the Tupelo, Nyssa sylvatica, in the family Nyssaceae. Originally it was thought to be a close ally of the Flowering Dogwood, Cornus florida, and was given the status of a distinct sub-family in the family Cornaceae. The inflorescence is remarkable, because the solitary female flower, protruding laterally from a bisexual inflorescence, is surrounded by the closely massed male flowers and appears to be lost in a wilderness of dehiscing anthers. One wonders what the course of evolution has been which resulted in a solitary pistillate flower being encompassed by numerous staminate flowers. Surely the prodigality of pollen under such circumstances indicates self-sterility and an assurance that there shall be sufficient pollen produced to reach, unfailingly, the stigmas of the solitary pistillate flower in a near-by or distant inflorescence. But with regard to this we have not yet succeeded in finding any information.

For technical details regarding the genus, one may turn with profit to Rehder’s article on Davidia in Bailey’s “Standard Cyclopedia of Horticulture”, or to W. J. Bean’s “Trees and Shrubs Hardy in the British Isles”, where a thoroughly satisfactory treatment is given, together with historical notes.
The specimen in the Arnold Arboretum is a small, shrubby tree about twenty feet high with a spread of fifteen feet near the base. It has the aspect of having suffered severely from winter killing in the early years of its development, as it consists of several obliquely erect stems rising from and near the ground. As the flowers mature the stamens elongate, and the filaments become whitish. When the flowers are young, the anthers are deep purple, forming a dense pompon-like cluster subtended by large showy bracts. It is these bracts, usually two, although sometimes three in number, which constitute the chief attraction of the plant. These bracts are thin and flaccid with irregularly toothed margins and, when the anthers dehisce, are whitish with hardly a tinge of green.

The accompanying illustration was drawn from the plant now flowering in the Arboretum and represents the var. *Vilmoriniana*. The variety differs from the species in having smooth, rather than felted, leaves. Our plant is a descendant of the only one raised by Vilmorin at Les Barres from the thirty-seven seeds sent by Pére Farges in 1897 from China. In 1901, before Vilmorin's solitary plant flowered, four cuttings and one layer were made from it and in 1902 the layer was sent to Professor Sargent. This record authenticates our plant as true var. *Vilmoriniana*.

There is some question, however, regarding the validity of the variety. Indeed the transitional stages that may be traced between hairy and smooth leaves are of a nature to cast suspicion on the value of the characters that have been used to separate the variety from the species. E. H. Wilson believed that trees with smooth leaves were different from trees with hairy or lanate leaves, although he found both kinds commingled when he collected seeds for Veitch, 1899-1902. It has been stated that the variety is horticulturally inferior to the hairy leaved *D. involucrata*, but there is hardly enough evidence to substantiate this statement.

We are told that in its native land, when laden from top to bottom with enormous white floral bracts, some of them attaining a length of eight inches or more, *D. involucrata* presents a wonderful aspect. But from an aesthetic point of view it has little to recommend it. Its claim to a place in the garden rests on the bizarre form rather than on the beauty of the inflorescence. As an ornamental it is surpassed by Flowering Dogwood *Cornus florida*. Botanically, however, it is among the most interesting of the introduced species which depend for their beauty on the development of showy bracts subtending the flowers and is a curiosity deserving to be included in every collection of woody plants.

As yet *Davidia* is rare in American gardens and it is impossible to give reliable information regarding its hardiness and amenability. Our experience indicates that Boston is about the northern limit for its cultivation. In Rhode Island *Davidia* has proved more tractable than in Massachusetts and it is our opinion that success will attend efforts to introduce it in regions where the winter climate approximates that of southern New England. It is highly probable that some plants will prove to be constitutionally more hardy than others and that skillful
selection may be rewarded by the discovery of resistant strains. As seeds are now being offered by seedsmen, an opportunity for comparative observation is at hand. The origin of the seeds, however, should be ascertained, as in its native country plants of *D. involucrata* from the southern part of the geographical range may prove less hardy than those that grow near the northern boundary of distribution.

Propagation is by seeds, cuttings in summer of half ripened wood grown under glass, and by layers. It is said that propagation by seedlings is more satisfactory than by cuttings as the plants resulting from cuttings show reduced vigor. Germination of the seeds is rather slow. Indeed some of the records indicate that from one to two years may pass before the seedlings appear after sowing of seed. Seeds should be frozen before being placed in the ground as freezing seems to shorten the period of dormancy. Frozen seeds will usually germinate in from twelve to fifteen months.

EXPLANATION OF THE PLATE

Davidia involucrata Vilmoriniana. A drawing from the plant sent to Professor Charles Sprague Sargent in 1902 by M. L. de Vilmorin. The inflorescence at the left shows a supernumerary bract. *(Drawn May 22, 1931, by Blanche Ames Ames.)*