

New or Little-known Plants.

Menispermum Dauricum.

THE genus *Menispermum* contains two species which so closely resemble each other that they can perhaps as well be taken for geographical varieties as species. The origin and type of the genus is a native of our northern states, where it is not rare on the banks of streams and in other low, moist situations; the second species, of which a figure is published on page 233 of this issue, is Asiatic, and appears to be common and widely distributed in Siberia, Manchuria, northern and central China, and in Japan. Like its American relative, it is a graceful woody climber, with slender stems which attain a height of eight or ten feet, but the leaves, which are thin and membranaceous, dark green and opaque above and pale below on both the American and the Asiatic plants, are on the latter often more deeply cordate at the base and less deeply angled. In their size and general appearance, however, as well as in the character of the flowers and fruit, the two plants are hardly to be distinguished. Both take kindly to cultivation, and are useful plants for covering small trellises or low screens, stumps or walls, although they make rather a heavy, solid mass of foliage, due to the interlacing of the delicate stems which wind one around another and do not reach out for other supports and so break up the pyramidal outline they form in growing. Both species are hardy in the northern states, and, in cultivation, produce an abundance of their handsome black fruit, which, although hidden under the leaves until these fall very late in the autumn without changing color, is more showy than the small long-stalked clusters of minute yellow-green flowers.

Plant Notes.

Some Recent Portraits.

THE colored plate in a recent issue of *The Garden* is devoted to a group of the hybrid Java Rhododendrons, of which a correspondent writes in the columns of our contemporary that "few, if any, greater triumphs of the hybridist could be pointed out than the magnificent forms of Java or tube-flowered Rhododendrons that are now to be found in our gardens, with which the name of Messrs. Veitch is so closely connected."

The first of these hybrids, known as Princess Royal, was raised about forty years ago by crossing the white-flowered *Rhododendron jasminiflorum* with the orange-flowered *R. Javanicum*, the offspring producing pink flowers. This, the type of the race, is still one of the best of its color, and none of the more recent acquisitions surpass it in habit, foliage, or in the abundance of its flowers. Other species have since been used in the establishment of this garden-race, which now contains the blood not only of the two species mentioned, but also of *R. multicolor*, *R. Brookeanum*, *R. Lobbi*, *R. Malayanum* and *R. Teysmanni*. The offspring of these crosses produce scarlet, pink, yellow, white and rose-colored flowers, and the plants have the merit of remaining in bloom almost continuously throughout the year, provided they are subjected to a sufficiently high and moist temperature. They are not, however, very vigorous plants, and their habit often leaves much to be desired. Most of these hybrids produce single flowers, although among them is a small group with double flowers, to which the name of *R. balsamineflorum* has been given, from their fancied resemblance to the double Balsam-flowers. This double-flowered race originated from one bloom, which showed a tendency to make a double corolla, and which, being fertilized with its own pollen, produced seeds from which the double-flowered plants were raised. They are distinctly inferior to the single-flowered kinds in beauty, although they last much longer.

The writer of *The Garden* recommends the following varieties: Luteo-roseum, Primrose, *Jasminiflorum carmina-*

tum, Duchess of Edinburgh, the Prince Leopold, Princess Royal, Duchess of Teck, Militaire, Aphrodite, Princess Christian, Brilliant, Favourite, Lord Woolsey, Princess Alexander, Queen Victoria, Triumph and Ophelia. All of these and many others may be found in some of the best American collections, notably in Mr. Hunnewell's garden at Wellesley, where the cultivation of all Rhododendrons is made a specialty; and apparently they thrive in this country and give as much satisfaction as they do in England.

A Double-flowered Cyclamen.

AMONG the so-called garden varieties of plants those with double flowers often attract attention. These flowers are not only in many cases handsome, but often they have some interest to the students of botanical science. This character of "double flowering" is, however, attributed to different forms, in which a development of supernumerary organs, such as petals, has taken place. But there are recorded instances in botanical literature of other organs thus developed, especially in Masters' *Vegetable Teratology*. There may, then, be a distinction made between the cases in which an augmentation of parts of the flower has taken place as a result of overdevelopment, the affected organs being repeated over and over again, often without any transmutation of form, and other cases which ought more properly to be classed as examples of proliferation of the flower.

It does not seem to be common for both of these forms to occur on the same individual, yet it has lately been observed in a specimen of *Cyclamen Persicum*, which is cultivated in the United States Botanical Garden. All the flowers were abnormal and somewhat larger than in the ordinary form. In some of these, as shown in Fig. 43 (p. 235), the number of corolla-lobes was increased to eleven, but they all showed the typical form and color, light rose with crimson base, and were distinctly arranged in wreaths, so that no fission of the lobes seemed to have taken place. It was a case of simple multiplication of the corolla. The calyx was perfectly normal, but the number of stamens was increased to seven or eight, which, however, like the pistil, did not show any kind of transmutation of form.

Some other flowers of the same individual were, on the other hand, proliferous. There were developed here, inside the calyx, small whitish flowers, more or less distinctly situated in the axils of the five calyx-lobes and between these and the lobes of the corolla (Figs. 44 and 45). In these proliferous flowers the number of corolla-lobes was seven or eight, situated in wreaths, as in the flower described above. The calyx-lobes, the stamens and pistil did not differ, however, from the normal form.

If we examine one of these small flowers (Fig. 46) which has been removed from the specimen illustrated in Fig. 45, we see that there is no calyx, and that the very irregular corolla has eight separate lobes which are not distinctly arranged in spiral, and are not bent backward as in the normal corolla. These small supernumerary flowers were merely in bud, while the main flower was in full bloom, and the stamens and pistil were merely present as rudiments.

U. S. National Museum, Washington, D. C.

Theo. Holm.

Cultural Department.

Winter Protection in Mild Climates.

I HAVE been much interested in some experiments in protecting tender and half-hardy plants. In this climate the rhizomes of many Cannas will usually pass through the winter in the ground without any particular protection. This is particularly true of *Canna flaccida*, which is rapidly becoming a weed by running under fences and invading neighboring grounds. Those varieties which make very stout and short rhizomes of a more fleshy character are liable to be injured unless covered. *C. Ehemanii* keeps much better protected in the open ground than it does lifted, as its rhizomes will not endure drying as others will, and if lifted it must be put into a greenhouse and some degree of growth kept up. In the open ground it comes through in fine condition when covered with coarse manure or with sawdust. The Crozy Cannas came through with the same kind of protection.

Caladium esculentum did finely with a sharp mound of soil over the corns. So also did Tuberous Begonias. A sharp well-beaten earth-mound I prefer for these, as preventing too much access of water. *Amaryllis Johnsoni* and its allies all sur-

vived well with the coarse manure cover. Dahlias are commonly left in the ground here, but the losses are heavy from freezing of the buds from which the new growth is made. This could be prevented by the earthen mound, but I can see no advantage in keeping Dahlias over winter outside. I much prefer to lift and divide the roots after sprouting, and this sprouting I defer until as late as possible, so as to delay the flowering to a season more propitious for their flowers than our



Fig. 43.—A Double-flowered Cyclamen, natural size.—See page 234.

hot midsummer. In the warm lands near the coast I have seen Dahlias, that had been left out all winter, in bloom in spring, and the flowers there were fine, but here such tubers will get into bloom in June in our hottest weather, and are poor. By keeping them back as late as possible we can delay the bloom until August, and generally get fine flowers all the fall.

In the matter of trees and shrubbery we have still much to learn about winter protection. Abutilons, with a high mound of soil or sawdust around their base, will usually be killed back only to the top of the mound, and will grow strongly from the base. It is better, however, to cut them down as soon as the frost checks them to within a foot of the ground, and then cover all with earth. Erythrina Crista-galli does finely the same way, but I usually prefer to pot some and start early in the greenhouse for early bloom.

Figs, with large Pine-boughs stuck in the ground around them, hardly lose a bud, while those fully exposed are badly frozen. Tender evergreens, of course, cannot be covered with soil, but I find that Pine-boughs tied closely around Neriums and Gardenias bring them through in fine condition. I have one Gardenia florida on the east front of our college building, in a projection which shelters it from the morning sun, that has been otherwise unprotected, and is all right. The high brick walls around it doubtless absorb much sun-heat during the day and radiate it at night. In the warmer sections of the

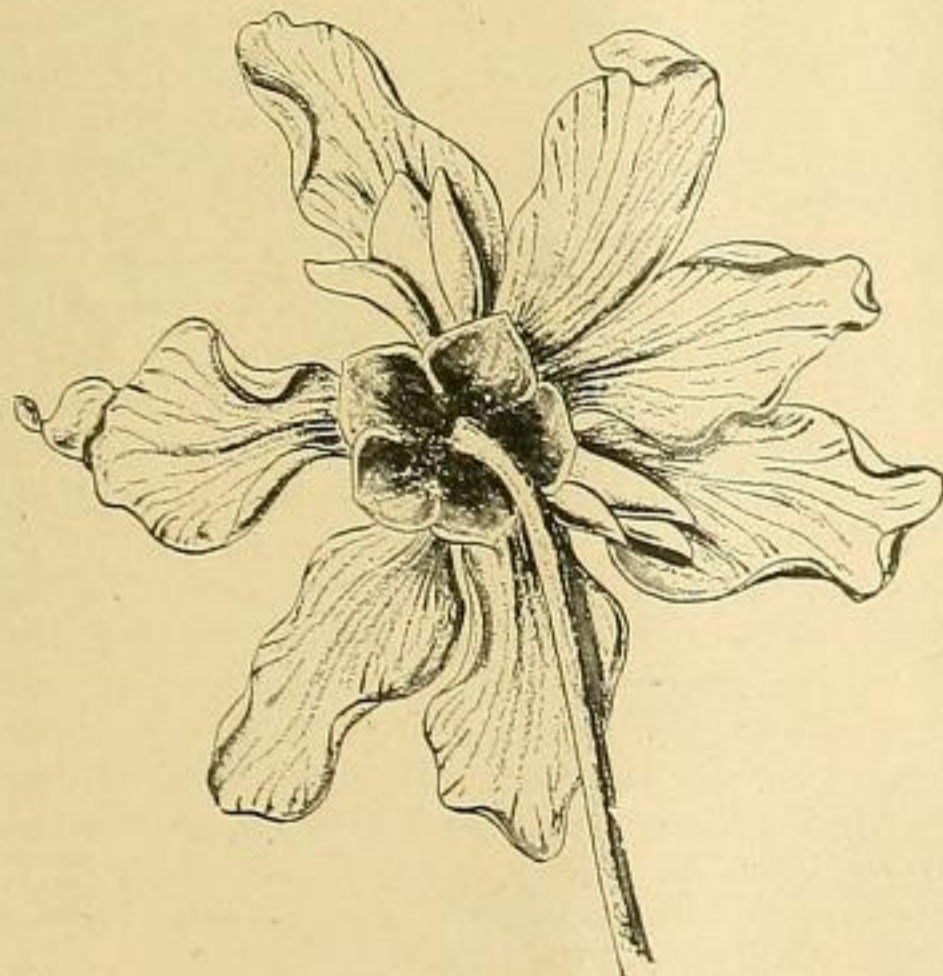


Fig. 44.—Proliferous flower of Cyclamen, natural size.

coast country the Gardenia grows almost to a tree-like stature wholly unprotected. Double-flowered Camellias seem more liable to lose their buds in winter than the single-flowered ones. While single-flowered red Camellias are comparatively plenty, it is rare to find a good double variety in the open air. I am sure the trouble mainly arises from planting on the south exposure, as most people are apt to do with half-hardy things. Placed where the morning sun does not strike them, or pro-

tected by evergreen boughs, Camellias would do well in all of southern and eastern North Carolina up to the centre of the state. The perfect hardiness and fine growth of Azalea Indica here makes me wonder that so few are planted. They are largely used in South Carolina, but seldom seen here. The Azaleas which have been blooming this spring in my front yard have attracted much notice, and I have continually to be telling people what they are.

Agave Americana came through the winter without protection in full exposure to sun and north wind, but in a badly battered condition. With a board shelter to keep off sun and rain, it winters finely in dry ground. Musa Sapientum survived with a hogshead inverted over the crown and packed with dry firm straw. We are planting some Richardia Æthiopica in a Lily-pond, with the purpose of letting the roots remain in the mud next winter for summer flowers. In this same pond we had last summer a lot of Pontederia (Eichornia) crassipes. A friend told us they had lived over winter in his pond. We doubted it, and put some of them in a tub in the greenhouse. All that were left in the pond perished, as we expected. Lantanas, cut back and mounded with earth like Abutilons, are all right, and will doubtless prove very efficient with this mode of treatment.

Maltese Oranges of large size, in tubs, wintered perfectly in our cold grapery, and are blooming much better than they ever did in a heated house. Winter-garden possibilities under glass here are immense. There are so many things which the simple glass roof will preserve in beauty that I wonder that so little is attempted in this way. There are, of course, some flowers, such as Violets, Hyacinths and Daffodils, all winter outdoors, but there are times when they are much injured by frost, while the simple glass roof would keep them in constant beauty. Phlox Drummondii blooms all winter in our cold



Fig. 45.—Proliferous flower of Cyclamen, natural size.



Fig. 46.—A small flower from the same plant, twice the natural size.

grapery, as also does Candytuft, Sweet Alyssum and Mignonette. Pansies are gorgeous in the Vine-borders.

It would be easy to make a long list of plants that could be used in an unheated conservatory here, and I have often been surprised that our enterprising proprietors of winter hotels have not struck the idea of a glass-covered garden for invalids as they have the glass-enclosed hotel verandas. I cannot imagine anything more attractive than a large airy conservatory, with everything planted out in a natural way on a lawn of Selaginella. We have a plan on foot to secure such a resort on our beautiful Capitol Square in Raleigh.

Raleigh, N. C.

W. F. Massey.

Garden Strawberries.

MR. BLACKNAL'S experience with certain varieties of Strawberries, in North Carolina, differs so widely from ours in New Jersey, that I am tempted to offer a few suggestions about the best garden Strawberries. Crystal City has been my favorite kind, notwithstanding it costs twice as much to raise as the average berry, and so long as I could do no better, I was willing to raise it at twenty-five cents a quart for its exquisite flavor for table use. It is a week earlier than any other berry, but if Michel's Early continues to do as well as it did last season, I shall depend upon that for a first early until we get some new variety still better, because, while it lacks a little of the sprightliness of Crystal City, yet it is very sweet and yields largely. I have never found a better second early kind than May King. It is a remarkably healthy and vigorous grower, with berries large, well colored, and as regular as though turned in a lathe. It is fairly productive and very sweet. Bubach No. 5 is a satisfactory mid-season berry, if given high culture, and under such circumstances it makes runners quite freely, but the runners are short-jointed, and where such a variety as Gandy will stretch out its runners two feet between plants, they would be only six or eight inches in Bubach, and this peculiarity causes it to make a handsome, compact bed. For a late fruit Gypsy has more good points