

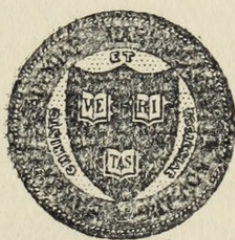
ARNOLD ARBORETUM

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Hawthorns have been largely planted in the Arboretum and many of these interesting trees and shrubs are now in flower. The principal collections are between the boundary wall of the Arboretum and the Shrub Collection near the Forest Hills Gate, and on the eastern slope of Peter's Hill. The multiplication of the species of Hawthorn (*Crataegus*) in eastern North America is remarkable, and nowhere else beyond the tropics is there a genus of woody plants represented by so many distinct forms. Much attention has been given at the Arboretum in the last fourteen years to the collection, study and cultivation of these plants, and some three thousand lots of seeds of wild plants from different parts of the country have been planted. Among the seedlings raised are, of course, many duplicates, but between six and seven hundred species raised in the Arboretum are now established on Peter's Hill where plants of between fourteen and fifteen hundred of the seedling numbers have been planted in small square beds. Many of these plants are already flowering, and this collection promises to be in a few years one of the important features of the Arboretum both from an educational and an ornamental point of view. It will now repay examination.

The American species of *Crataegus* fall into some twenty natural groups, and on Peter's Hill the species of the different groups are arranged together. In eastern North America Hawthorns are distributed from Nova Scotia and the valley of the St. Lawrence River to central Florida and western Texas. The number of species is greatest, perhaps, in the territory adjacent to Lake Ontario and the streams flowing into it. They are very numerous in the St. Lawrence Valley, in the lower peninsula of Michigan, in southern Missouri and Arkansas, and in the foothill region of the southern Appalachian Mountains. The genus is poorly represented in the Rocky Mountain region and reaches the northwest coast with a single species. Some species are found over thousands of square miles; others are very local. The American Hawthorns vary greatly in size; some species are trees which on the fertile bottom-lands of streams flowing into the lower Mississippi River are sometimes wide-branched and fifty or sixty feet tall, and others are shrubs often not more than two or three feet high. In the Arboretum some species begin to flower at the end of April or early in May and it is the middle of June before the flowers on some species open. No plants hardy in New England produce such abundant crops of beautiful fruits. The fruit of some species ripens in August and from August until November there is a succession of ripening fruits on some of the plants; and on some species the fruit remains in good condition during the entire winter. The species which flower the earliest belong to what is called the Mollis Group from one of its species. These are shapely and often large trees; they all have large flowers, large leaves and large, brilliantly colored and often edible, usually scarlet fruits.

Examples of this group are *Crataegus Arnoldiana*, first found growing wild in the Arboretum, and *C. arkansana* from northern Arkansas; both of these trees can be seen in the group near the Forest Hills Gate, and *C. Arnoldiana* has been largely planted in different parts of the Arboretum. Of *C. arkansana* there is a large specimen on the

left-hand side of the South Street entrance. The fruit of the first ripens in August, that of the latter in October.

One of the most interesting of the natural groups for the decoration of gardens and shrubbery borders is the Intricatae. The plants of this group are nearly all small, late-flowering shrubs, although the group contains a few small trees from the southern Appalachian region. These little shrubs produce very large flowers usually in few-flowered clusters; their fruit is often showy and their leaves turn brilliantly in the autumn. The largest number of the species of the Intricatae have been found in Pennsylvania and Michigan; they occur also in western New England, in New York and Ontario, but are extremely rare in all the region west of the Mississippi River. The plants of this group are arranged together on the lower side of the road at the eastern base of Peter's Hill and will soon be in bloom.

In the old collection, near the Forest Hills Gate, several other groups are well represented by flowering and fruiting plants; the Crus-galli by *C. fecunda*, a large wide-spreading tree from the neighborhood of St. Louis; the Dilatatae by *C. coccinioides* from the same region, well distinguished by its very compact clusters of large flowers; the Virides by *C. nitida* from the bottom-lands of the Missouri River in Illinois, opposite St. Louis, a handsome, flat-topped tree with wide-spreading branches; the Pruinosae by the type of the group, *C. pruinosa*, a widely distributed eastern tree and one of the most beautiful of the genus both in its flowers and fruits; the Flavae, a group confined to the southeastern states, by *C. aprica* from the neighborhood of Asheville, North Carolina; and the Tomentosae by several forms of *C. tomentosa*, by the beautiful *C. succulenta* with its drooping clusters of brilliant fruits, and by *C. prunifolia*, a plant which, although it has been cultivated in England for more than a century, has not yet been found growing wild.

On the south slope of the Overlook on Bussey Hill there is a group of several plants of *C. punctata*. This is a large, wide-branched, flat-topped tree and one of the commonest and most widely distributed of American Thorns, growing from the St. Lawrence Valley to North Carolina and to Illinois. This species is interesting because some individuals bear red and others bright yellow fruit.

Species of *Crataegus* are few in western Europe and in all of Asia, but there are a number of handsome species in southeastern Europe, Asia Minor and the Caucasus. Nearly all the Old World species and many of their varieties are now growing more or less well in the Arboretum and can be seen both in the old collection and on Peter's Hill. Among the exotic species none is more beautiful here than *Crataegus pinnatifida* from northern China and Manchuria. This is a plant with large and very deeply divided lustrous leaves. Growing wild it is a medium-sized shrub with comparatively small fruits, but it has been long cultivated in orchards in northern China as a fruit tree, and by cultivation it has been developed into a tree with large and edible fruits.

Many of the North American Hawthorns grow naturally in limestone soil, but in cultivation they thrive in all soils, grow rapidly, and many of the species begin to flower when very small. They suffer, like many other plants of the Rose Family, from the attacks of the San Jose scale, and the leaves are often disfigured or killed by the larvae of a

leaf-mining insect which causes them to turn brown in early summer. These, however, are pests which can be controlled, and the American Hawthorns, the existence of many of which was not even suspected a dozen years ago, seem destined to play an important part in the decoration of American and European parks and gardens.

Another North American genus of the Rose Family, *Aronia*, sometimes considered a section of the genus *Pyrus*, also contains plants valuable for the garden and the shrubbery. There are three species, all widely distributed in the eastern part of the country, *A. melanocarpa*, *A. atropurpurea* and *A. arbutifolia*; they all have small white flowers in erect compound clusters, showy fruits and handsome foliage. The typical *A. melanocarpa* is a shrub 12 or 18 inches high with stems spreading into a broad mat. There is a form of this species (var. *elata*), however, which is much more common and grows into a tall, broad shrub from 6 to 10 ft. tall, and another form (var. *grandifolia*) with broader leaves, also a tall shrub. The fruit of these species is black and lustrous, and drooping on long stems remains on the plant until the beginning of winter. *Aronia atropurpurea* is also a tall erect shrub, in general habit and foliage like the var. *elata* of the first species. The fruit, however, is dark vinous red and ripens and falls earlier. The leaves of these two species turn orange and red in the autumn before falling. *Aronia arbutifolia* is a tall, slender and more irregular growing plant with later flowers, smaller leaves and erect clusters of smaller bright scarlet fruits which remain on the plants without change of color well into the winter. The brilliant fruit and the bright scarlet of the autumn leaves make this late in the season one of the most beautiful of the native shrubs. All the forms of *Aronia* take kindly to cultivation and are now in flower in the Shrub Collection. They have also been largely planted in the shrubberies along the Arboretum roads.

The Highbush Blueberry, *Vaccinium corymbosum*, has never flowered more abundantly in the Arboretum than this year, and it is desirable to call attention again to this wonderful plant which is beautiful in its flowers, its abundant edible blue fruits, and in the splendid scarlet of its autumn leaves. The Highbush Blueberry, which grows naturally along the moist borders of swamps and other low places where it occasionally reaches the height of twelve or fifteen feet, is easily cultivated and grows freely in good garden soil. On the plants in the Arboretum, where they have been largely planted, the flowers differ considerably in size and in the time of opening. They vary, too, in the size and quality of the fruit, but all the forms are equally valuable as garden ornaments. For its fruit, which is the best of all Blueberry fruits, for the beauty of its flowers and its autumn leaves, this shrub cannot be too often planted. There are several plants on each side of Azalea Path near its entrance from the Bussey Hill Road, and the Highbush Blueberry can be seen now in full flower in many of the roadside plantations.

The Arboretum will be grateful for any publicity given these Bulletins.



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