Crabapples in Autumn. The beauty of the Crabapples of North America and eastern Asia in spring when they are covered with their pink, rose color or white flowers has often been described in these Bulletins. That few trees produce handsomer or more abundant fruit is perhaps not yet generally known or the value of these trees for the decoration of the autumn garden fully appreciated. All the Crabapples, including the species from Florida and Oregon, are hardy in the north. They are all indifferent to the presence of lime in the soil and therefore can be grown successfully in parts of the United States where it is impossible to cultivate many plants like Rhododendrons and Azaleas to which the presence of lime is fatal. Of the large groups of shrubs and small trees of general and wide cultivation in this country—Lilacs, Syringas, Crabapples, Viburnums, Hawthorns, and Cornels—none equal the Hawthorns and Crabapples in the size and brilliance of their fruit. The fruit of the American Crabapple is larger than that of the Asiatic species, depressed-globose except in the Oregon species, light green or pale yellow, covered with a waxy exudation, and very fragrant. The fruit of the Asiatic species is red, yellow with a red cheek or greenish, and varies in size from that of a small pea to a diameter of an inch and a half. On some species the fruit falls as soon as it is ripe and on others it persists until spring. There are many natural hybrids of these Asiatic plants and, as is the case in several other genera, the hybrids are often more valuable as garden
plants than their parents; and as all Apples hybridize very freely it is probable that large sowings of the seeds of the plants gathered in a collection like that of the Arboretum, which contains all the species and many varieties and hybrids, will yield forms of greater value as garden plants than those now known.

It is hard to say which is the handsomest of the Asiatic Crabapples at this season of the year. The showiest fruit is perhaps that of *Malus prunifolia*. This tree has been considered a native of Siberia and northern China, but although it has been known in western gardens for more than one hundred and fifty years its home as a wild tree is not yet known. It is evidently one of the rarest Crabapples in American gardens. The fruit is oblong, broader at the base than at the apex, nearly an inch and a half in length, very lustrous, bright red, or yellow with a red cheek. It differs from many of the other Asiatic Crabapples in the large, persistent, erect calyx. In this country at least the fruit is less abundant than that of many other species. The Rinki Crab, which is now believed to be a variety of *Malus prunifolia*, produces large crops of fruit in the Arboretum; this is smaller than the fruit of *M. prunifolia* and is often nearly globose, red, yellow or green on different trees. The Rinki is a native of northern and western China, and for many centuries has been cultivated by the Chinese as a fruit tree. From China it was early carried to Japan where it was generally cultivated for its fruit until replaced by the American and European apples of larger size and better quality. The handsome and abundant fruit of the Rinki should secure for it a place in American gardens.

Among hybrids of *Malus prunifolia* with other species, principally with the Siberian *M. baccata*, are plants which are conspicuous in the abundance and beauty of their fruit which, although somewhat smaller than that of *M. prunifolia*, is equally brilliant in color. This hybrid, which is still without a name, is well worth attention. Plants of *M. floridana* are unusually full of fruit this year which on some trees almost hides the leaves, giving the plant the appearance of fountains of old gold. The fruit on different plants varies somewhat in color and in size; from some it drops in the autumn as soon as it is ripe, and on other trees it remains until spring. Such trees furnish birds with great quantities of appreciated winter food. From many points of view this Crabapple is one of the very best large shrubs or small trees which can be grown in the northern United States. It is perfectly hardy and of excellent habit; for forty years it has never failed to cover itself with flowers which, bright rose color in the bud, are white after the buds have opened; and there have not been many autumns when the fruit has not been as abundant as it is this year. *Malus Arnoldiana*, a natural hybrid of *M. floridana* with some other species, originated in the Arboretum. It has the habit of *M. floridana* but the flowers and fruits are nearly twice as large. Some persons consider this hybrid the handsomest of the Crabapples and there are certainly no more beautiful objects in the Arboretum this Autumn. The different forms of the Japanese *Malus Sieboldiana* are all hand-
some in the autumn. The typical form is a low shrub broader than high with arching stems, and there is an arborescent form of excellent habit. This Crab produces great quantities of fruit which is not larger than a small pea and is bright red on some individuals and yellow on others. It has the merit of flowering later than the other Asiatic Crabapples. The variety calocarpa of M. Sieboldiana has larger flowers and fruit, and is a large arborescent shrub. As a flowering plant and when its bright red lustrous fruit is ripe it is one of the handsomest Crabapples. To Dr. William S. Bigelow of Boston, who sent the seeds to the Arboretum from Japan, western gardens owe this beautiful plant which is not known in a wild state. The small globose fruit of M. baccata, a common tree in northeastern Asia, varies considerably in size and in its shades of red, but all the forms are shapely trees handsome in spring and autumn. A Korean variety, var. Jackii, still rare in gardens, has perhaps the most brilliant fruit of any of the forms of M. baccata. A northern form, var. mandshurica, has larger fruit, and the flowers are more fragrant than those of any other Asiatic Crabapple. Attention may be called again to the value of Malus Sargentii as an autumn and winter plant. This is a shrub from northern Japon which grows only a few feet high but spreads by semiprostrate stems to a wide diameter. The scarlet fruit, which is produced in great quantities, is not apparently appreciated by birds and remains in good condition on the branches till spring. M. transitoria from western China has produced fruit in the Arboretum this year for the second time. It is ellipsoidal in shape, rose pink, darker on one side than on the other, very lustrous and about three-quarters of an inch long. The fruit of few Crabapples is more distinct and beautiful. Only a few plants in the Collection are mentioned in this Bulletin. Many others are equally interesting, and a study of the group will show possibilities for garden decoration which few persons in this country realize. In planting Crabapples it is well to remember that they only really thrive in rich, well-drained soil, that they require plenty of room in which to display their greatest beauty, that they are often attacked by the San Jose Scale which is easily controlled by spraying, and that their leaves are preyed on by the caterpillars which feed on the leaves of the Apple-trees of orchards.

Autumn Flowers. A few flowers can still be seen in the Arboretum, although the number of trees and shrubs which bloom in Massachusetts during the first weeks of October is not large. Aralia spinosa, the Hercules' Club of the middle and southern states, is still covered with its great terminal clusters of white flowers. These great flower-clusters and its compound leaves three or four feet in length give this tree an unusual and tropical appearance in northern woods. This Aralia is now well established in the Arboretum at the northern base of Hemlock Hill in the rear of the Laurels where it is spreading into thickets. Indigofera amblyantha, discovered by Wilson in western China, has been often referred to in these Bulletins, but it is interesting to note that it is still covered with its small rose pink flowers
which have been opening during the last three months. *Laspezea formosa*, also collected by Wilson in western China, is the handsomest of the late Autumn-flowering shrubs in the Arboretum. Its arching stems, light green leaves, and innumerable small pea-shaped rose-colored flowers, make it a beautiful object at this season of the year. Often confounded with other species and burdened with an almost hopeless load of synonyms, *Indigofera formosa* appears to be little known in gardens.

**Autumn Foliage.** The Autumn change of color in the trees and shrubs is later this year than usual and, owing to the dry summer, will probably be less brilliant than usual. As a general rule the bright colors appear earlier in the autumn on American than on allied Asiatic plants, but there are exceptions, of course, to this phenomenon; and the three plants in the Arboretum which have been most brilliant during the last week are *Acer ginnala*, *Evonymus alatus*, and *Rhododendron (Azalea) japonicum*. The Maple is a small, shrubby tree, sometimes thirty or forty feet high with pointed, deeply divided leaves, and compact clusters of fragrant flowers. A native of eastern Siberia, where it is common in the neighborhood of Vladivostok, it was one of the first Siberian plants introduced into the Arboretum from whence it came from St. Petersburg. The leaves of no American tree assume more brilliant tones, but this brilliancy lasts only for a few days for the leaves fall early. *Evonymus alatus* from Japan is without a rival in the brilliancy of the deep rose color passing to scarlet of its autumn foliage. The habit of this shrub is excellent when it has an opportunity to spread out in the sun but the flowers and fruits are inconspicuous. The value of this Burning Bush as a decorative plant is now appreciated and it is found in many American nurseries, but it must not be forgotten that it requires a large space in which to develop its greatest beauty. A form of this shrub raised from seeds collected in Korea by Mr. Jack is handsomer even than the Japanese form with its larger fruit and even more brilliant autumn foliage. In their autumn color of old gold the leaves of *Rhododendron japonicum* are more beautiful than those of any of the Azaleas in the Collection, and this autumn color greatly adds to the ornamental value of this shrub which when in flower is the handsomest of the Asiatic Azaleas which are hardy in this climate.

An illustrated guide to the Arboretum containing a map showing the position of the different groups of plants has been published. It will be found useful to persons unfamiliar with the Arboretum. Copies of this guide can be obtained at the Administration Building in the Arboretum, from the Secretary of the Massachusetts Horticultural Society, 300 Massachusetts Avenue, Boston, from The Houghton, Mifflin Company, 4 Park Street, Boston, and at the office of the Harvard Alumni Bulletin, 18 Plympton Street, Cambridge. Price, 30 cents.