The Arboretum has not as yet greatly suffered from the severe drought which has prevailed in New England, only thirty minutes of rain having fallen here since the 1st of October. The autumn color of the leaves of many plants has never been finer than it has this year, but the leaves have already fallen from most of the trees, even from the Oaks which are the last to make a great show. The leaves of the Blueberries and Huckleberries which turn scarlet late in the autumn still make a display, and as a ground cover in native woods there are no more beautiful plants than the three dwarf Blueberries of the eastern states, Vaccinium pennsylvanicum, V. canadense and V. vacillans.

Many other shrubs which make a showing with their crimson leaves in the late autumn, especially when covered with the scarlet fruit, are conspicuous. Of the species closely related to the common Barberry, Berberis vulgaris, the handsomest perhaps in the collection is the Japanese B. Regeliana, a large shrub with large pale flowers, large fruit and leaves which turn orange and scarlet. Although still rare here, this plant was brought to the United States more than fifty years ago and was long cultivated in the Parsons Nursery on Long Island as Berberis Hakodate. The Chinese B. diaphana is now perhaps the handsomest of the species known here with dark autumn foliage. This is a low round-topped shrub, broader than high, with large solitary flowers, which rarely produces fruit. The only objection to this shrub is that the leaves unfold so late that the plants appear dead when other Barberries are covered with fully grown leaves. Among the Chinese species a most beautiful Barberry is Berberis circumserrata, a small
round-topped shrub with large solitary flowers and leaves which in early November turn to as brilliant shades of scarlet as those of any other plant in the Arboretum. Other species which are particularly attractive in the autumn are *Berberis koreana*, *B. lucida*, *B. amurensis*, *B. dictyophylla* and *B. Vernae*.

A few shrubs still retain the summer color of their foliage. In addition to *Ligustrum vulgare* mentioned in a recent Bulletin are the two Japanese vines of *Akebia*, *quinata* and *A. lobata*. *A. quinata*, with leaves composed of five leaflets, and with small dark purple flowers, is well known in American gardens, *A. lobata* is less well known in this country; it differs from *A. quinata* in the three, not five, rather larger leaflets which turn late in the autumn just before falling to a handsome dark bronze color. In this country the Akebias rarely produce fruit, which resembles in shape a short thick banana and is pale violet in color and contains many small seeds embedded in sweet juicy pulp. Of that of *A. lobata* the Japanese are fond as the fruit is found in great quantities in the markets of northern Japan. This species has never produced fruit here in the Arboretum, and occasionally has been killed nearly to the ground in severe winters.

**Lonicera Maackii** var. *podocarpa*. Of the plants conspicuous in late October and early November for the beauty of their bright green leaves and scarlet fruit none perhaps is more beautiful than this Honeysuckle which was introduced by Wilson from central China. It is a large, vigorous and hardy shrub with wide-spreading branches and open habit. The flowers are larger than those of most Honeysuckles, are white, and in one form are slightly tinged with rose color. It is still covered with bright green leaves, and the large scarlet lustrous fruits are only just ripe. The best specimen of this Honeysuckle in the Arboretum can be seen in the collection of Chinese shrubs on the southern slope of Bussey Hill. The type of this species, *Lonicera Maackii*, is a native of eastern Siberia and is an old inhabitant of the Arboretum where it is growing in the Shrub Collection. It is a narrow shrub with stems more erect than those of the form from central China. The flowers are pure white and more beautiful than those of the Chinese plant, but the fruit just now ripe is smaller and the leaves have already fallen.

**Ribes fasciculatum** var. *chinense*. The Chinese Currant is interesting because it is the only species here with fruit which does not ripen until late in the autumn. The beauty of the scarlet fruit is increased, too, at this time by the color of the leaves which have now turned to shades of orange and scarlet. There is a plant of this Currant in the Shrub Collection and also in the supplementary Ribes Collection opposite the Administration Building.

**Evonymus semipersistens**. This is a rare Chinese shrub which is little known in this country and of which there is a large specimen still standing in the old Evonymus Group on the right hand side of the Meadow Road. The fruit of this species has no ornamental value for it is small and hidden by the foliage, and its value is found in the persistence of the leaves which remain perfectly green and do not fall
until December. This is one of the handsomest of the shrubs in the Arboretum which retain their foliage without change of color until the beginning of winter. Such plants are valuable in the autumn garden to contrast with plants of brilliant autumn coloring. Another valuable plant for this purpose is *Magnolia glauca*, the Sweet Bay of the Atlantic and Gulf Coast regions from Massachusetts to Texas. This Magnolia is still covered with its bright green shining leaves which are silvery white on the lower surface and these will not fall for at least another month. Attention has often been called in these Bulletins to the value of this tree in New England gardens. Few deciduous-leaved trees have more beautiful and more persistent foliage; the cup-shaped, creamy white flowers continue to open during at least two months in early summer and fill the air with their fragrance, and the fruit, like that of all the Magnolias, is interesting and handsome when the bright red seeds hang from it on slender threads.

**Roadside Plants.** Much attention has been paid here for several years in experimenting to secure the best plants to occupy the narrow beds between the driveways and the gravel paths which follow them, and thus far the most satisfactory plant found for this purpose has been *Rosa virginiana*, often called *R. lucida*, the seashore Rose of New England, an upright shrub from two to three feet in height which is still covered with its leaves lustrous in the early season and turning yellow late in October. A plant which came here many years ago from the island of Mt. Desert on the coast of Maine, and now distinguished as var. *lamprophylla*, is a handsomer plant than the typical form, of denser habit and with darker green lustrous leaves. The large pink flowers and the showy red hips are similar to those of the common form. The other plants which have been most successfully used for this purpose are the Fragrant Sumach (*Rhus canadensis*) and *Xanthorrhiza apiifolia*. The Fragrant Sumach is a widely distributed North American shrub which rarely grows more than five feet tall, and when planted in good soil is often broader than high with lower branches spreading flat on the ground and upper branches erect, spreading or drooping. In early spring before the leaves appear the branches are covered with clusters of small bright yellow flowers which in June are followed by dull red fruits which are much hidden by the small compound leaves. Among the small shrubs in the Arboretum few are more brilliant at this season of the year for the leaves turn gradually to bright scarlet and orange. The Xanthorrhiza has also been largely and successfully used here; it makes a neat border plant and is also well suited to grow under shrubs or trees. This low shrub spreads rapidly by underground stems which do not grow more than twelve to eighteen inches high. The small purple flowers, which are arranged in drooping clusters, appear as the leaves unfold; these are pinnate, of a cheerful green color, and turn late in the autumn pale yellow, orange or occasionally scarlet.

**Some dwarf broad-leaved evergreens.** The color which the leaves of a few of these assume in the autumn add greatly to the interest of these plants in November. The most conspicuous change of color on any of those in the Arboretum is on the Rocky Mountain *Mahonia* or
Berberis repens. From light bluish green the leaves turn to pale violet color in the autumn. This is one of the handsomest and hardiest evergreen plants which can be used here to cover the ground under larger plants. It grows only a few inches high, spreads rapidly by underground stems, and the bright yellow flowers are large and conspicuous. The small dark green leaves of the Box Huckleberry, Gaylussacia brachycera, become in the autumn deeply tinged with red when the leaves are exposed to the sun, and the leaves of Pachystima Canbyi are more or less tinged with violet. These are two of the rarest plants in the United States. The leaves of Leucothoe Catesbaei turn bronze color in the autumn. This plant has always been considered hardy in eastern Massachusetts but has occasionally suffered seriously here during the winter. The Rhododendrons which are hardy here and the Laurel (Kalmia latifolia) have not before given a better promise of abundant bloom in the spring. Pieris floribunda, often called Andromeda floribunda, is already covered with its flower-buds which, conspicuous and ornamental during the winter, open here usually late in April. This native of the southern Appalachian Mountains is an old inhabitant of gardens and is much propagated by nurserymen; it certainly is one of the handsomest of the broad-leaved evergreen shrubs which are hardy in this climate, and with the exception of the Laurel (Kalmia latifolia) and a few Rhododendrons, is the most valuable broad-leaved evergreen which can be grown in the northern states. Its Japanese relative, Pieris japonica, with larger and more beautiful flowers which open earlier, is less often injured by spring frosts.

The Inkberry (Ilex glabra) which is a common sea shore inhabitant from New Hampshire to Texas, is a beautiful garden plant, although occasionally in the Arboretum it loses its branches and upper leaves. There is a fine clump of this beautiful shrub on the right hand side of the Bussey Road opposite the bed of Laurel.

Autumn flowers are not abundant in the Arboretum in October and November, although a few may still be found here. The northern Witch Hazel, Hamamelis virginiana, is still covered with flowers which are conspicuous for their clear yellow strap-shaped petals. The autumn color of the leaves of this plant is also yellow but of a darker shade than the flowers, and the leaves usually do not fall until the flowers begin to open; these remain for a long time in good condition on the naked branches, making this shrub one of the most attractive features of forest borders in the eastern United States. It has been largely planted in the Arboretum.

Pyrus óvoidea. The late autumn coloring of the leaves of this Chinese tree is hardly surpassed by that of any other plant in the Arboretum, and it is well worth a place in any garden for this alone. It is interesting, too, because the leaves of no other Pear-tree turn to such brilliant colors, and because the yellow juicy fruit, unlike that of other Pears, is smaller at the apex than at the base. There is a good specimen of this tree in the Pear Collection on the left hand side of the Forest Hills Road near the Forest Hills entrance.

These Bulletins will now be discontinued until next spring.