Hydrangeas. These plants bloom in the Arboretum during nearly three months and are important flowering shrubs in the northern states. The first species to flower here is the so-called Climbing Hydrangea, *H. petiolaris*, which has already been mentioned in these Bulletins this year and which when in flower on the Administration Building is one of the great sights of the Arboretum. A few days later the plants in the group of shrubby Chinese species opened their flowers which are arranged in broad flat-topped clusters surrounded by a ring of large pure white ray flowers. The best known of these, *H. Bretschneideri*, a native of the mountains near Peking, was first raised in the Arboretum forty years ago and is a large, vigorous, hardy plant with dark green leaves and one of the best of the exotic shrubs which flower here in the middle of June. Closely related to it are *H. xanthoneura* and its varieties *Wilsonii* and *setchuenensis*, and *H. Rosthornii* raised here from seeds collected by Wilson in western China. These plants are hardy and flowered well this year on the eastern slope of Bussey Hill and on Hickory Path near Centre Street. Geographically interesting as garden plants, they do not appear to be in any way superior to *H. Bretschneideri*. Of the species which bloom here in July and perhaps the handsomest of all the shrubby species is *H. quercifolia*, a native of the southeastern states. This is a shrub with branches densely covered with rusty tomentum, deeply lobed leaves up to eight inches in length and flowers in elongated pyramidal clusters. It lives in the Arboretum but is not really hardy here, and the stems are often killed to the ground. In Mr. Richardson's garden in Brookline there is a magnificent specimen which this year is covered with innumerable
flower clusters. *H. arborescens* and *H. cinerea* with flat flower clusters are common woodland shrubs southward, and have no great value as garden plants. There are monstrous forms of the two plants on which all the flowers are sterile, forming nearly globose white heads. A form of *H. arborescens* (var. *grandiflora*) has become in recent years a popular garden plant with American nurserymen, by whom it is sold in great numbers. The handsomest of the entirely hardy American species, *H. radiata*, is a native of the elevated regions of North and South Carolina. It is distinguished by its broad leaves which are dark green above and snow white below, and by its broad clusters of flowers surrounded by a ring of large white sterile flowers. In gardens this Hydrangea is a broad and shapely shrub, and one of the handsomest of the midsummer flowering shrubs in the Arboretum. It was once fairly common in cultivation but now nurserymen do not cultivate it, and how many gardeners of the present day have ever seen it?

**Hydrangea paniculata.** Three forms of this Japanese shrub or small tree are in the Arboretum collection. The flowers of the three forms are borne in large, terminal, oblong, pointed clusters and the long, acuminate, dark green leaves make the plants attractive before the flowers open and after they fade, although like those of other Hydrangeas they fall in the autumn without change of color. The clusters of fertile flowers on what is considered the typical form are surrounded by the ring of white sterile flowers to which Hydrangeas owe the beauty of their inflorescence. This form, which is a handsome and valuable garden plant, will not be in bloom for another month. There is, however, an early flowering form (var. *praecox*) which is now just opening its flowers, and which is very similar, except in its time of flowering, to the type. This form has, however, rather larger and whiter ray flowers, and is a more ornamental plant. Indeed, when in flower in early July it is one of the handsomest shrubs in the Arboretum. This early flowering form appears to be exceedingly rare in American gardens. This unfortunately cannot be said of the third form of *H. paniculata* (var. *grandiflora*) on which the entire inflorescence is composed of sterile flowers which form a great cone-like white mass of abortions which as they fade turn to a dirty red. This plant has been propagated and sold by American nurserymen during the last fifty years by hundreds of thousands, possibly by millions, so that it is now perhaps more generally cultivated throughout the country than any other garden shrub, and certainly no other shrub has done so much to disfigure the surroundings of the homes of the people of the northern United States. A few years ago the only plant within the fence which surrounds Jefferson's Grove at Monticello was *Hydrangea paniculata grandiflora*. And Thomas Jefferson published in 1784 in his "Notes on the State of Virginia" the first comprehensive list of the plants of his native state, among which are some of the most beautiful trees and shrubs in the world.

**Aralia spinosa.** This is a common tree growing usually in the neighborhood of streams in the region from western Pennsylvania to Missouri, and southward to northern Florida, Louisiana and eastern Texas. It is a slender tree thirty or thirty-five feet high with a stem rarely
more than eight inches in diameter and wide-spreading branches furnished, like the young trunk, with stout scattered prickles. The leaves, which are clustered near the end of the branches, are from three to four feet long and about two and a half feet wide, on stems from eighteen to twenty inches in length which clasp the branches with their enlarged base, and are usually armed with slender prickles. The small, greenish white flowers appear in August in many-flowered umbels arranged in broad compact panicles three or four feet long which rise above the leaves singly or two or three together from the end of the branches. The small black fruit ripens in early autumn. This Aralia is now thoroughly established at the northern base of Hemlock Hill in the rear of the plantation of Laurels (Kalmia) and is spreading to a considerable distance from the original plant by means of underground stems from which new plants rise.

Aralia chinensis is so closely related to the American species that it has sometimes been considered a geographical variety of that tree. Aralia chinensis appears in the Arboretum collection in several varieties. The best known of these varieties, a native of Manchuria and eastern Siberia (var. mandschurica), is a hardier plant at the north than the American species and has been much more generally planted. In commercial nurseries it is often sold under the name of Dimorphanthus mandshuricus. Japanese and Chinese varieties of this Aralia, although less hardy than its Siberian representative, can be seen in the group of these plants near the junction of the Meadow and Bussey Hill Roads.

Ceanothus. Of this important North American genus, which is best represented in California, only two species of the eastern part of the country and one Rocky Mountain species, C. Fendleri, are hardy in the Arboretum where the beautiful Pacific Coast species cannot live. The two northeastern species, often called New Jersey Tea, C. americanus and C. ovatus, are shrubs two or three feet high and broad, with small white flowers in dense, oblong, terminal and axillary clusters produced on branches of the year. These two species vary chiefly in the shape of the leaves, but C. ovatus bloomed nearly a month ago, while C. americanus is just now covered with flowers. These plants are valuable for naturalizing on wood borders, and few shrubs make better returns in midsummer flowers than the New Jersey Tea which appears to be rarely cultivated. A large number of hybrids between C. americanus and some of the California species have been raised in Europe and one of these hybrids, known as Gloire de Versailles, with its large clusters of deep blue flowers, is a popular plant there. Unfortunately these hybrids, with a single exception, are not hardy in this climate. The exception is a beautiful plant with pale rose-colored flowers which came many years ago to the Arboretum from the Lemoine Nursery at Nancy, France. It has not been possible to find the name or trace the origin of this plant. It is now in bloom in the Shrub Collection and on the lower side of Azalea Path.

Calluna. Few Americans appear to realize that the Calluna, or Scotch Heather as it is called, can be successfully grown in all parts
of the eastern states and northern Canada where the soil is not im-
pregnated with lime. Heather should be planted in well drained sandy
soil in situations fully exposed to the sun, and the plants flower better
if the stems are cut down to the ground in early spring. This pre-
vents a straggling growth and insures a better bloom. The following
varieties of *Calluna vulgaris* are established in the Arboretum: alba,
alba pumila, alba rigida, Alportii, argentea, aurea, cuprea, elata,
erecta, Hammondii, humilis, hypnoides, minima, minor, monstroa,
multiplex, nana, pilosa, pyrancaica, rigida, rubra, Serlei, spicata,
tenuis, tomentosa and variegata. The earliest to bloom, var. rubra,
a dwarf compact variety with crimson flowers, is already covered with
flowers.

Sophora japonica is, in spite of its name, a Chinese tree which has
been cultivated in Japan for more than a thousand years, and as it
first reached Europe from that country was long considered a native
of Japan. It is a round-headed tree which in Peking, where it has
been much planted, has grown to a large size and looks from a dis-
tance like an Oak tree. The leaves and branchlets are dark green,
and the small, creamy white, pea-shaped flowers, which open here in
August, are produced in great numbers in narrow, erect, terminal
clusters. There are also in the collection the form with long, pendant
branches, (var. pendula) which rarely flowers, and a young plant of
the form with erect branches (var. pyramidalis). The form of this
tree with flowers tinged with rose color (var. rosea) is not in the Arbor-
etum. The Sophoras are on the right hand side of the Bussey Hill
Road, opposite the upper end of the Lilac Group. Near them the
Maackias are growing. They also belong to the Pea Family, and the
better known *Maackia amurensis* is a native of eastern Siberia; it is
a small tree with handsome smooth, reddish brown, shining bark, dull,
deep green, pinnate leaves and short, narrow, erect spikes of small
white flowers which open here soon after the middle of July. There
is a form of this tree (var. Buergeri) in northern Japan which differs
from the Siberian tree in the presence of soft down on the lower sur-
face of the leaflets. The species discovered by Wilson in central China,
*M. hupehensis*, is growing well in the Arboretum but has not yet
flowered.

**Late Flowering Barberries.** Three species of Berberis from western
China flower late in July, *B. aggregata*, *B. Prattii*, and *B. subcaualalata*.
These plants will probably become popular for they are the latest of
the Barberries to flower. They are all erect growing, tall shrubs with
small yellow flowers in drooping clusters which are followed by red
fruits. There are plants in the Shrub Collection and with the Chinese
shrubs on the southern slope of Bussey Hill.

**Amorpha canescens.** This member of the Pea Family, the Lead Plant
of the early settlers on the western plains, will soon open its small
violet-colored flowers which are crowded on clustered terminal spikes
and are set off by the hoary down which thickly covers the leaves and
branches. This handsome and conspicuous plant grows three or four
feet tall and is a native of the Mississippi valley where it is found on
low hills and prairies from Indiana and Minnesota to Texas.