

Summer Bloom in the Arnold Arboretum

by IDA HAY BURCH

A guidebook comprised of a series of self-guided walks through the living collections of the Arnold Arboretum is currently under preparation by the staff. Tours organized around topics such as the seasons, twenty of the finest individual trees, seed dispersal, the meadow, plant introductions of the Arboretum, and more will be included.

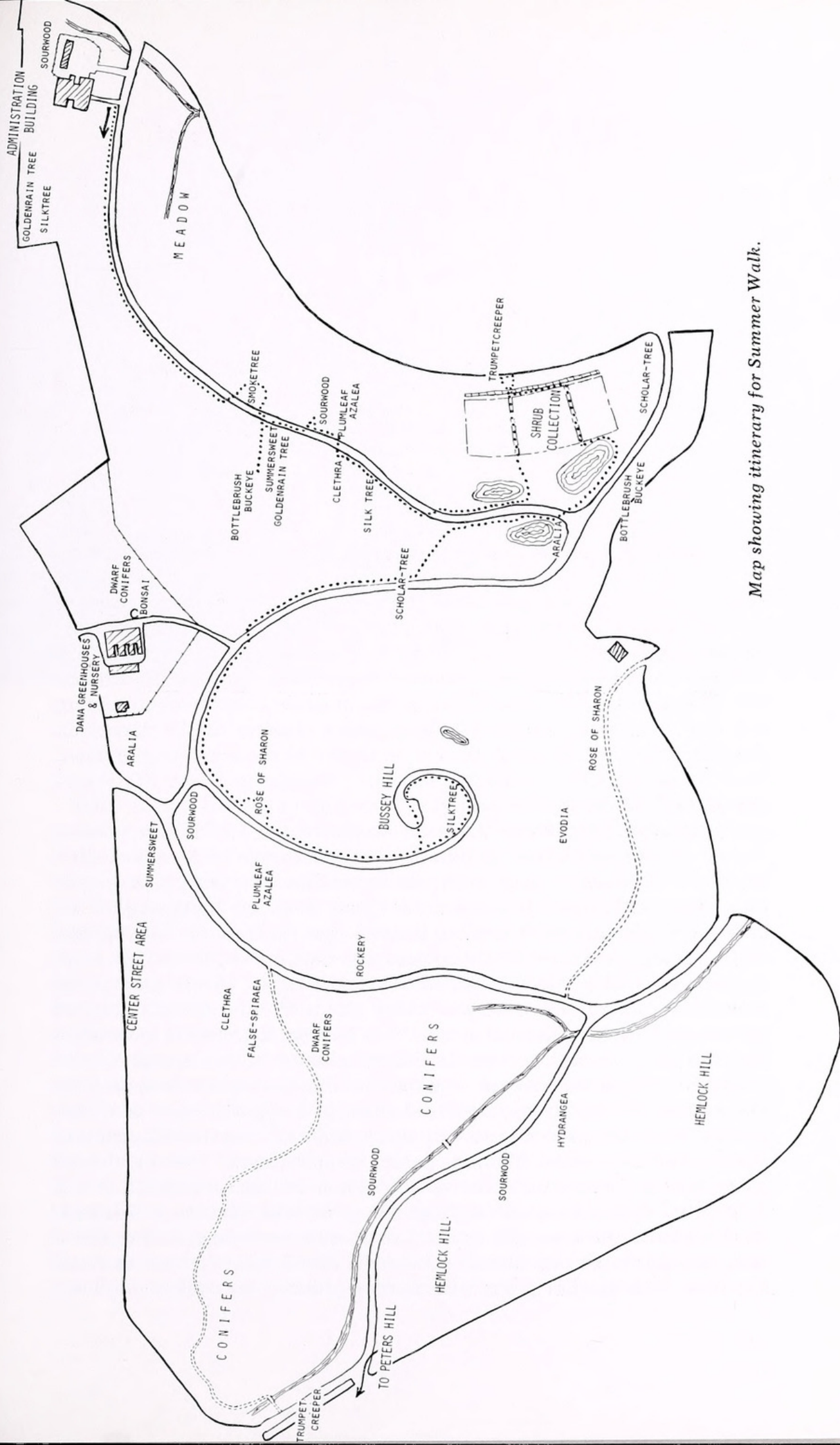
The following walk, intended for July and August, has been selected to give Friends of the Arnold Arboretum and other *Arnoldia* readers a chance to sample a self-guided tour this summer. We hope you will stop in at the Administration Building to give us your comments, or drop us a line. This will help us in the preparation of other walks. Ed.

While summer is vacation time for most people, it is the season of most active growth for the plants in the Arboretum. The majority of temperate woody plants here bloom in spring, which is the principal reason for the Arboretum's greater popularity at that season. In summer, when maximum heat and light are available, they are using this energy to mature fruit and form buds for next spring's flowering.

In summer there are few groups that are as showy as the forsythias, cherries, lilacs or crabapples. Summer-blooming trees and shrubs may be a neglected group horticulturally because of their more subtle displays, but there are many here to see. A number bloom over quite long periods — a month or more for some. Several of the shrubs in flower at this time formed their flower-buds since growth started this season; that is, their flower-buds do not over-winter as do those of spring blooming species. For some, much of the wood dies back each winter. Many of our summer blooming woody plants are members of unusual plant families, families that are found predominantly in tropical regions. All of the plants highlighted in this walk are of value in gardens for their color in summer, which is relatively rare among trees and shrubs hardy in this climate.

Visitors to the Arboretum will find that summer is a good time to observe the color and texture of foliage and the quality of shade produced by many spring-flowering trees and shrubs, and to evaluate their effectiveness in the landscape. Some plants definitely have more character or interest in their summer foliage than others.

Starting down the Meadow Road from the Administration Building, look across at the meadow, which is now at its height of color. (You may want to take the Meadow Walk at this time.) Up on the hill at the end of the flat lawn area next to the building are two of the important summer-blooming trees, the yellow-flowered, green-fruited Goldenrain Tree and the Silktree with its fuzzy, pink flower clusters.



Map showing itinerary for Summer Walk.

Appreciate these from a distance since you will have a closer look at other specimens further along.

As you proceed, a collection of *Tilia* species, lindens and basswoods, is on the right. A few of these excellent shade and street trees may still be in bloom in early July. Fragrance and nectar for bees are the main assets of their flowers.

Next, while you walk under and enjoy the architecture of the cork trees, look up the road to see the smoketrees. They are especially beautiful if seen with the morning or late afternoon light shining through their fuzzy fruiting structures. *Cotinus coggygia* is native to an area from southeastern Europe to central China. These large shrubs prefer a sunny, well-drained site and actually perform best in dry, rocky ground. In June small insignificant flowers appear. After flowering, the numerous stalks of sterile flowers elongate and become covered with fine hairs. By early July and lasting through August, the pinkish, plumose fruiting structures cover the plants, giving them their smoky look. The dark blue-green foliage is quite distinctive. Several cultivars can be seen by walking around the group. Some of these, such as 'Flame', have especially bright autumn color; others have purplish or red foliage throughout the growing season. Here you will also see some plants of the larger-leaved *Cotinus obovatus*, the only other species in the genus and native to the southeastern United States. It is now rather rare in the wild, probably because it has been cut down extensively to obtain a yellow dye from the wood. The fruiting clusters of the American Smoketree or Chittamwood are not as showy as those of the Eurasian, but in autumn this species outshines *C. coggygia* when the leaves turn a brilliant scarlet or orange.

If it is mid-July, leave the road on the right at the *Aesculus* or horsechestnut collection and walk about 20 yards to the foot of a wooded hill to see a very lovely summer blooming shrub, *A. parviflora*, the Bottlebrush Buckeye. The most familiar members of the genus *Aesculus* are trees, and all but this species bloom in late spring. With its large spikes of white flowers and dark green, palmately compound leaves, this shrub is one of the finest sights of summer in the Arboretum. There is a very cooling effect in the combination of green and white here in the shade. This species is endemic to Georgia and Alabama where it occurs in dense colonies in rich woods, shady hillsides and along stream banks. So distinct is it compared to other *Aesculus* that it is considered alone in a separate section of the genus. That means it has no very close relatives. Another distinction is that moths are most likely its principal pollinators. This particular plant, which forms a neat border to the oak woods, was added to the Arboretum collection in 1898 from the garden of Charles S. Sargent. At the end of July, as this plant has ceased flowering, *A. parviflora* var. *serotina* is in full bloom. Located to the right, further in from the road, it is a taller plant with narrower flowering spikes.



Cotinus coggygia.

Back at the road are some examples of the Goldenrain Tree, *Koelreuteria paniculata*, a medium-sized, round-headed tree species from China. The generic name honors Joseph G. Koelreuter, an 18th century German professor of natural history who is attributed with being the first to point out that insect visits are necessary for flower pollination. Wide clusters of cheerful yellow flowers appear on this plant during the first three weeks of July and are soon followed by light green bladder-like fruits which remain attractive all summer and autumn. In detail the four asymmetrically arranged petals each have a glowing orange-red spot at the base which changes color as the flowers age, probably serving as an indicator to insect visitors. *Koelreuteria* and a shrub, *Xanthoceras*, are the only members of a primarily tropical family, Sapindaceae, that can be grown in the Arboretum. Because of its ability to withstand drought and high winds, the Goldenrain Tree has been widely planted in the Midwest. Two of the varieties here may be of interest: 'September' consistently blooms two months later than the species. Originating as a seedling found growing on the campus of Indiana University, it has been in the trade only since 1967. A bit further down the road are two specimens of the very narrow-crowned variety, 'Fastigiata'.



Aesculus parviflora.

By the time the typical *Koelreuteria* is in fruit, the *Clethra alnifolia* var. *rosea* in front of it will be in bloom with upright clusters of pale pink, wonderfully fragrant flowers. This is the pink-budded form of the Summersweet, which often is found as quite a tall shrub in swamps or wet woods from Maine to Florida. When grown in drier situations, its form is dense and compact. There are a few places in Massachusetts where it occurs in colonies large enough to be of importance as a honey-plant. Few woody plants supply great quantities of nectar at this season, and so beekeepers usually must rely on a large source of flowering herbs for any late season honey production.

Above the azaleas in this border, *Oxydendrum arboreum* starts to flower as the Goldenrain Trees finish. Called Sourwood or Sorrel Tree, it is native to the eastern United States from Pennsylvania south. Both common and scientific names refer to the acid or sour taste of the leaves. Across the road beyond the Flowering Dogwood is another example of the species that you can examine more closely. The slightly drooping, lustrous leaves, curved sprays of ivory-white flowers, and narrow or pyramidal crown make this a distinctive and graceful tree. It is equally handsome in autumn when the leaves turn a rich red while remaining pale underneath, and flowers are followed by similar clusters of yellow-tan fruits. A close look at the urn-shaped flowers similar to those of *Pieris* or blueberries gives a clue that this is a member of the Heath Family, Ericaceae. *Oxydendrum* is the only tree of this family that is hardy here although the family is well represented in the Arboretum by such popular ornamental shrubs as *Rhododendron*, *Pieris*, *Vaccinium* and *Kalmia*. Sourwood has no close relatives among Ericaceae and is believed to be the survivor of a comparatively long, isolated evolutionary sequence. In the mountains of the South, Sourwoods are a very important source of nectar. The honey made from them is regarded as one of the finest flavored and commands a high price.

Also on this side of the road can be seen the last of the azaleas to bloom, *Rhododendron prunifolium*, Plumleaf Azalea. Its orange flowers appear throughout the summer. Not discovered until 1913, this species is found wild in a limited area along the Georgia-Alabama border. The Arnold Arboretum was responsible for first introducing this valuable azalea into cultivation in 1918 when it grew seed received from T. G. Harbison, a collector for the Arboretum.

Two more species of *Clethra* which may be compared with the Summersweet are across the road. This genus is another that is the only representative of its small family in the Arboretum. Taller than *C. alnifolia* and blooming a couple of weeks earlier is *Clethra acuminata*, called Cinnamon Clethra because of its smooth, rusty-brown bark. *C. barbinervis*, a native of Japan, is the tallest and earliest to bloom. It can attain the proportions of a small tree. Its flowers are larger, but only slightly fragrant, and the light tan bark is attractive. E. H. Wilson called it the handsomest of our clethras.

Your first close view of the Silktree, *Albizia julibrissin*, is at the foot of the wooded hill that reaches the road on the right. The best example of this species will be seen at the top of Bussey Hill. The delicate, airy aspect of the twice-pinnately compound leaves and pink powder-puff inflorescences on the flat-topped crown is unique among hardy trees in the Boston area. Of the three sub-families of the great Legume Family, the Mimosoideae is a group that occurs almost exclusively in tropical regions. *Albizia julibrissin* is the only woody mimosoid legume that will grow in this climate. The "powder-puff" is actually a cluster of several flowers, each with numerous pink thread-like stamens and insignificant green petals. Many un-

opened buds and spent flowers reveal that the Silktree blooms over a period of several weeks.

If you do not have time to complete the walk, at this point you may choose either to go only as far as the shrub collection or to go directly to the top of Bussey Hill.

There are a great many things to see in the shrub collection, but we will concentrate on only a few of them. As you enter the lefthand path from the grassy area between the ponds, honeysuckles occupy the first two rows. When laden with blue or bright red or orange translucent berries, many of these plants are quite pretty. The berries are relished by birds. Mottled, lopsided, apple-like fruits on shrubs in the next rows are those of the flowering quince, *Chaenomeles* species and varieties. These are not the "true" quince but can be used for jelly and are eaten by squirrels and other animals.

More examples of *Clethra* are at the end of the fourth row. Here you can see *Clethra alnifolia* cv. 'Pink Spire' which is the best pink variety.

Nearby, not blooming until late in August, are plants of *Clerodendrum trichotomum*, Harlequin Glorybower. The fragrant white flowers with long-exserted stamens and reddish calyx give a star-studded effect. As fruits mature to a steel-blue drupe, the calyx becomes fleshy and dark red in striking contrast. *Clerodendrum* and *Vitex* are members of another predominantly tropical family, the Verbenaceae. This gives a clue as to why these shrubs die down to the ground every winter in our New England climate. This is not necessarily a disadvantage. Since clerodendrum produces its flowers on growth of the current year, nothing is lost, except large size, by its being killed back.

You may see a few lingering flowers on the roses, but by August the orange or red hips begin to color, prolonging the season of interest for many of the shrub or wild-type roses. Rose hips are high in vitamin C and are used in teas and preserves.

The large shrubs with plume-like panicles of white flowers or reddish immature seed capsules are species of *Sorbaria*. They are members of the large, ornamentally important Rose Family. Called false-spireas, sorbarias come from central and eastern Asia. The impressed veins make individual leaflets look pleated, giving a rugged texture over-all. Because of their large proportions and suckering habit, false-spiraeas need plenty of room or a heavy pruning every few years. Across the path are their close relatives, the true spiraeas. Various species and varieties of *Spiraea* come into bloom throughout the spring and summer months. Most of the commonly planted kinds are of Asian origin. You may recognize that Steeplebush or Hardhack and Meadowsweet, which bloom in fields and roadsides of New England at this time, are also species of *Spiraea*. *Spiraea* × *bumalda* 'Anthony Waterer', a hybrid of two Japanese species which originated in England in the 1890's, is one of the most popular spiraeas be-



Albizia julibrissin. Photo: P. Bruns.

cause of its long period of bloom, deep flower color and compact habit.

Good shades of blue are rare among hardy shrubs. The grey cast and lacy texture of foliage add to the garden value of the uncommon chaste-trees or *Vitex*. Of the two species here, *Vitex agnus-castus* has coarser foliage but its dense clusters of flowers are more prominent than those of *Vitex negundo*. The white-flowered *V. agnus-castus* var. *alba* is rather bland by comparison. All have a strong aroma in their foliage which you may enjoy. The epithet, *agnus-castus*, and common name refer to the ancient use of this Mediterranean native as a symbol of innocence and purity at festivals and weddings. The flexible stems of *Vitex* are still used by the Greeks in basketry. Like clerodendrum, *Vitex agnus-castus* often dies back in winter. Next to the chaste-trees, 'Hever Castle' is one of many varieties of *Buddleia davidii* which we'll see on top of Bussey Hill. This one blooms later than the chaste-trees.

Behind the vine trellis, on the rock wall, the trumpetcreepers send forth 3-inch orange or red tubular flowers from mid-July to September. The Arboretum's plants are varieties of *Campsis radicans*, na-

tive from Pennsylvania to Missouri and south where it can become so rampant that it is considered a pest. *C. × tagliabuana* 'Madame Galen' is a handsome hybrid between *C. radicans* and a tenderer oriental species, *C. grandiflora*. Climbing by root-like holdfasts, trumpetcreepers may grow to 30 or 40 feet.

As you start back through the shrub collection on the other path, you may notice some low shrubs with arching branches full of pink flowers and spongy white berries resembling popcorn. Several species of *Symphoricarpos*, snowberries, grow here. All do well in any soil and retain their decorative fruits well into the winter. In the western United States where several species occur, their fruits are an important wildlife food. They may be toxic to humans, however.

Potentilla fruticosa, another member of the Rose Family, is one of a very few woody plants native to both northern hemispheres. It has an unusually wide, though discontinuous, natural distribution in mountainous regions and northern latitudes. Varieties of *Potentilla* are good subjects for the small garden since they seldom reach 4 feet in height. They have no serious insect or disease problems and will grow in a wide range of soils. As you can observe, there are many cultivars varying in flower color, length and time of bloom, and compactness of habit.

Among the potentillas and elsewhere in the shrub collection and on Bussey Hill are examples of the genus *Hypericum*, the St. Johnsworts. This large genus is represented here by several hardy, low shrubs with bright yellow flowers. There is an interesting explanation for their curious common name. With their sunny coloring, numerous radiating stamens, season of bloom and supposed curative properties, hypericums were most likely associated with celebrations of the summer solstice in ancient times. When the Christian Church took over these rites and converted them to honor St. John, the plants were renamed as well. The characteristic feature of *Hypericum* flowers is the numerous stamens which are sometimes grouped in three or five bundles depending on the species. *H. frondosum*, from the southern United States, is one of the best with its 2-inch orange-yellow flowers and bluish foliage. On older plants the red-brown bark exfoliates. Selected for its especially large flowers with striking orange anthers on relatively short filaments, *Hypericum* cv. 'Sun Gold' is a hybrid involving *H. patulum*, a widely cultivated species from China. The hypericums are recommended for their ability to grow on poor soils.

Of all the summer blooming shrubs, the hydrangeas are perhaps the most familiar. The flower clusters are flat, rounded, or pyramidal, often with fertile flowers in the center surrounded by showy neuter flowers which have only large petal-like sepals. Many garden forms have been selected for their more numerous neuter flowers. The "snowball" types completely lack reproductive flowers. Some of these were long cultivated in Japanese gardens before being introduced into this country.

Four of the species here bloom from late June into July. Variety 'Grandiflora' of the American species *arborescens*, the so-called Hills-of-snow, is one that develops only neuter flowers. Its flower heads are often so large that stems droop with their weight. *H. cinerea* is similar to, and often considered a subspecies of, *H. arborescens*. It is mainly represented in cultivation by cv. 'Sterilis'. *H. heteromalla* from the Himalayas has a similar inflorescence type but is a taller plant. The hydrangeas commonly sold by florists at Easter time are forms of *Hydrangea macrophylla*; here you can see a few of the hardiest forms. *H. macrophylla* is more commonly grown further south, especially along the seacoast, where its flower color is blue on acid soils and pink on alkaline.

The pyramidal panicles of *H. quercifolia*, Oakleaf Hydrangea, start to open in mid-July. Its bold, distinctive foliage which takes on russet tints in autumn, and its ability to thrive in shaded locations make this a valuable garden plant although it is less hardy than the other species.

The last to bloom is *Hydrangea paniculata* from Japan and China. Two varieties can be seen here: 'Praecox' which blooms three weeks earlier than the type, and 'Grandiflora' with all-neuter flowers in the cluster.



At the edge of the pond the shrub with neat spherical flower clusters is the Buttonbush, *Cephalanthus occidentalis*. It grows wild in similar situations throughout eastern America and is the only hardy woody member of the mainly tropical Madder Family, Rubiaceae.

Look across toward the other pond to see the dramatic effect of the 2- to 3-foot wide plumes of creamy-white flowers on the Japanese *Aralia elata*. Upright, scarcely branching stems and large horizontally oriented compound leaves forming a flat-topped crown add to the exotic look of this plant. Because of their threatening thorns and tendency to form dense thickets, this and its close American relative, *A. spinosa*, are both called Devil's Walking Stick.

In the Tree Legume area two genera exhibit summer bloom. The dense racemes of dull white flowers of *Maackia* species are not particularly showy but the shiny greenish bark with diamond-shaped lenticels is attractive.

The second Legume, *Sophora japonica*, Pagoda- or Scholar-tree, is one of the outstanding summer blooming trees. Its creamy-white flowers in loose panicles appear through the month of August, and a light shade is cast by its fine foliage. Leaflets are dark green above and a contrasting grey-green beneath. The Scholar-tree has been cultivated on temple grounds in Japan for at least a thousand years but is actually native to China and Korea. Chinese tradition dictates *Sophora japonica* as the memorial tree at the graves of scholars. A yellow dye can be obtained from the dried flowers and has been used medicinally in China. This tree is easy to grow and very tolerant of city conditions.

About midway up Bussey Hill, a planting of Rose of Sharon or Shrub Althea is the next flowering group to see. Linnaeus named the species *Hibiscus syriacus*, believing it to come from Syria. As with many plants that have been long cultivated by man, its nativity is uncertain but is now thought to be northern India and China. With either single or double flowers in shades of pink, purple or white, about twenty of the many cultivars are growing here and on the far side of the hill.

Most of the summit area of Bussey Hill was replanted in 1972, except, of course, the grove of White Pines and the large Silktree and other older specimens. This is our finest plant of *Albizia julibrissin*. (See the Twenty Favorites Walk for more on this.) Around the circle of fence are several shrubs of interest.

In August and September, *Elsholtzia stauntoni* bears its spikes of reddish-purple flowers profusely. This species was introduced into cultivation by the Arnold Arboretum in 1905 when John G. Jack obtained cuttings from plants he found in the hills near the Great Wall in China. Details such as the opposite arrangement and aromatic leaves, square stems and two-lipped flower form indicate that this is a member of the Mint Family.

Blooming earlier is a group of *Hypericum prolificum*. Compared with the species we saw in the shrub collection, this one has smaller flowers but they are abundantly produced. It is one of the hardiest of the St. Johnsworts.

You may see butterflies, or in the evening, moths fluttering around the nearby group of *Buddleia davidii* cultivars. They are called butterflybush and do attract these insects in numbers. This planting demonstrates some of the variability of flower color, time of bloom, and size of inflorescence of this species. The French missionary and plant explorer Abbé Armand David, who first discovered it wild in western China in 1869, is honored by the specific name. The shrubs are rather coarse-leaved, ungainly and large, but their fragrance and butterfly-attracting qualities make them welcome in any garden with sufficient space. These and the elsholtzias share the habit of dying back in winter here, but both grow up to bloom every year. The brown fruiting spikes of buddleias are good subjects for winter bouquets.

In front of the view of the Blue Hills are some striking plants, superficially resembling the Chaste-trees but smaller. Russian Sage, *Perovskia atriplicifolia*, is the only other woody member of the predominantly herbaceous Mint Family in the Arboretum. Its silvery white stems and leaves have a strange pungence and contrast visually with the violet-blue flowers. It is found wild from Afghanistan to western Tibet where it sometimes covers large areas to the exclusion of other vegetation. It does not appear to be that vigorous here but is said to thrive in hot situations.

We have seen the majority of the plants in bloom at this time in the Arboretum, giving good examples of the diversity and qualities of summer bloomers. From here you can use the map to see more or choose a different route to return.





Burch, Ida Hay. 1978. "Summer Bloom in the Arnold Arboretum." *Arnoldia* 38(3), 102–113.

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