The wet season has suited the Arboretum splendidly; the trees and shrubs have made good growth and this is ripening well, thanks to a dry September. For the second week of October the foliage is everywhere remarkably green. There is color among the Maples and Hickories, the Asiatic Cork trees and the Flowering Dogwood, but trees and shrubs in general are late in assuming their usual autumn tints. Whether it will be a favorable season in this respect, it is difficult to say, but the Oaks ought to be exceptionally fine. Ornamental fruits are much fewer than usual and daily grow less through the gluttony of that voracious feathered alien, the starling. In flocks these birds descend on bush and tree and greedily devour every fruit. The Hawthorns are well laden with fruit but the Viburnums, Honeysuckles, and even Barberries are less freely dowered than is customary. Of flowers in the Shrub Garden there remain blossoms on Buddleia Davidii and its varieties, on Elsholtzia Stauntonii, and on the suffruticose Chrysanthemum sibiricum growing on Bussey Hill.

Cotoneasters. At the present moment Cotoneasters are the most attractive shrubs in the Arboretum. Many are fruiting very abundantly and the garden value of these shrubs becomes more evident year by year. A great many of the best are recent introductions from central and western China, and it would appear that, as a group, Cotoneaster is the best of the Wilson introductions into this country. Cotoneasters are Old World shrubs not represented in the flora of this continent. They are closely related to the Hawthorns, differing in having entire leaves and no thorns. The flowers are white or pinkish and have either small, upright or larger and spreading petals. They are borne
few or many together in clusters along the branches; occasionally they are solitary. The plants are in blossom from May until the end of June. In fall they are heavily burdened with red or black, rarely brown-purple, fruits either globose, oval or egg-shape, which in many species remain on the bushes with little loss of brilliancy far into the winter. Several boast fine autumn coloring. In habit of growth they present great diversity. Some like *C. Dammeri* are prostrate groundcovers, rooting as they trail over the soil; others are bushes of medium or large size. *C. microphylla*, *C. adpressa*, and *C. horizontalis* are especially well suited for the rockery or for planting on or against walls and stone work. A majority, however, are best as specimens on lawn and border where they have room to display to advantage their graceful habit of growth, their beauty of blossom and fruit. For cold parts of the country such as *C. lucida* and *C. acutifolia* are fine for making hedges. The red-fruited varieties especially are most decorative garden plants. Anyone interested in these shrubs should pay a visit to Bussey Hill, where a complete collection of the species and varieties hardy in this part of the world may be seen. Cotoneasters are lovers of sun and wind and demand full exposure to the elements; a well-drained situation, a loamy soil are other essentials, and if lime be present so much the better. A weak point about the family in general is that they do not transplant readily from open ground, especially the low-growing varieties, but, if pot-grown, dwarf Cotoneasters can be transplanted with assured success at almost any season of the year. The larger growing species are less particular.

**Cotoneasters for Flower and Fruit.** The great decorative value of Cotoneasters in general lies in their fruit but there are several whose beauty of blossom rival that of Spiraeas. Three of the best of these are *C. racemiflora* var. *soongorica*, *C. hupehensis*, and *C. multiflora*, all of which have flattened clusters of white, Hawthorn-like flowers borne freely all along the stems. The first-named has rigid branches arranged to form a broad, rounded bush from 6 to 10 feet high and more in diameter, gray-green foliage owing to the presence of a covering of hairs and large, coral-pink fruits. If the gray-green leaves do not afford sufficient contrast to show off the flowers to advantage, ample amends are made in September when the whole plant is necklacèd in coral pink. The fruit is relatively large and so abundantly produced that the stems appear as ropes of beads. The fruit ripens early and falls before the winter sets in but throughout September the bush is conspicuous from afar. The others (*C. hupehensis* and *C. multiflora*) have dark green leaves and whip-like, arching and spreading branches which form fountain-like masses of white in early summer; in the autumn they are strewn with crimson fruits. Both are very hardy, free-growing shrubs from 8 to 10 feet high and from 10 to 15 feet through. Combining the qualities of abundant blossom and wealth of brilliant fruits, *C. racemiflora* var. *soongorica* and *C. hupehensis* may be accounted two of the most valuable shrubs that the Arboretum has introduced into gardens.

**Red-fruited Cotoneasters.** Deservedly the most popular of red-fruited Cotoneasters is the Chinese *C. horizontalis*, characterized by its flat,
The Red-fruited Cotoneaster bullata var. floribunda.
sail-like or frondose branching habit. In climates rather milder than that of New England it is sub-evergreen, but it is quite hardy although fully deciduous north of Massachusetts. In the open border it makes broad, hummock-like, irregular masses a yard high possessed of much character in habit. Planted against a wall—stone for preference—it can with little difficulty be trained to form a close screen. Placed on top of low walls it grows into an irregular thicket of singular charm. The flowers are abundant, pinkish but not conspicuous; its fruits are about the size of a pea, bright red to scarlet and brilliantly jewel the branches in the dullest of winter days. Beside the type there is var. perpusilla with smaller leaves, and var. Wilsonii of more even, although loose, habit of growth. Topping a boulder in the rockery or planted in a crevice and allowed to spread itself at will C. horizontalis and its forms rank among the most useful, pleasing and decorative shrubs gardens possess. Cotoneaster apiculata with intricately placed, closely overlapping branches forms mounds a yard high and is now studded with lustrous bright scarlet berries. It has rather thin, roundish, dark green leaves and is well-suited for planting among rocks. A closely related and equally delightful species is C. adpressa of tufted habit with larger leaves and fruits. Cotoneaster divaricato is of the medium-sized species, one of the best. It forms a wide-branched, densely twiggy bush from 5 to 6 feet tall and much more in diameter, and is now profusely laden with dark scarlet fruits. It has small, oval, dark green leaves which before they fall assume brilliant shades of crimson. A handsome shrub with arching, spreading branches and clustered scarlet fruit in abundance is C. Dielsiana, or C. applanata as it is also called. This will grow full 10 feet tall and as much through with branches arching over to the ground. There is a variety (major) with larger leaves and another (elegans) with coral-red fruits and sub-evergreen foliage. Another fine species is C. Zabelii which has slender branches, dull green leaves and bright red hanging fruits. This is a broad shrub growing some 6 feet high and its foliage turns bright yellow in the autumn. More pleasing than the type is var. miniata with orange-red fruit. The tallest of the red-fruited Cotoneasters is C. bullata and its varieties, macrophylla and floribunda, which grow into broad, round-topped bushes from 8 to 10 feet high. The branches are gracefully arching, the leaves deeply wrinkled, especially in var. floribunda, which ripens its fruit rather later than var. macrophylla. Both have lustrous, bright scarlet fruits in clusters along the branches.

Black-fruited Cotoneasters. The black-fruited Cotoneasters have less garden merit than their brethren with red fruit, but C. moupinensis and C. foveolata are worthy of a place on account of their orange to scarlet autumn-tinted foliage. These are hardy, vigorous shrubs growing from 10 to 12 feet tall and as much in diameter, with abundant clusters of black fruits. Slender arching stems, lustrous leaves and jet black fruits characterize C. nitens and C. tenuipes, recent acquisitions from western China. For the middle states and colder parts of the country in general C. melanocarpa, C. acutifolia and C. lucida with clustered black fruits are to be recommended. Also they have much merit as hedge plants, being of shapely growth withstand clipping well and are of iron constitution.  
E. H. W.