Rhododendrons. In the Bulletin issued April 28th attention was called to the damage which the Rhododendrons in the Arboretum had suffered during the winter, and it was suggested that it was caused by the severe drought of the autumn, followed by the unprecedented drought of March and early April, and not by cold which had not been exceptional. The Arboretum Rhododendrons certainly suffered from drought, but dryness alone will hardly account for such a destruction, for in other places near Boston plants in much drier and more exposed positions than those in the Arboretum are reported to have come through the winter uninjured. Some of the plants which were killed here have been twenty-five or thirty years in the country. These plants were grafted on Rhododendron ponticum, a plant which is not hardy here and is therefore not a suitable stock for Catawbiense hybrid Rhododendrons to be grown in this climate. It is well known that these old grafted plants often lose large branches from what gardeners call “canker,” and it is not impossible that the old plants killed in the Arboretum have been gradually failing for several years from the influence of the stock on which they had been grafted, and were therefore susceptible to extreme climatic conditions. This view is borne out by the fact that when plants of a particular kind were killed and others of the same kind were not killed it was always the oldest and largest plants of the variety that suffered. It has generally been supposed that it was the cross with R. arboreum and other Indian species which has made so many of the varieties of R. catawbiense tender in this climate, but some of the varieties which show in their bright red flowers this influence, like Atrosanguineum, Charles Dickens, and H. W. Sargent are uninjured, while many of the pale-flowered kinds like
Lady Grey Egerton, Mrs. H. S. Hunnewell and Delicatissimum have been killed. The last is a hybrid between *Rhododendron catawbiense* and *Rhododendron maximum*, and for the last thirty years has been considered one of the hardiest and most desirable of the Rhododendrons which have been planted in New England. Plants of the following Catawbiense varieties have been killed in the Arboretum, but of the varieties marked with a star one or more, but not all the individuals in the collection, have been killed. On many plants which have not otherwise suffered the buds have been killed or injured. *Adolf, Alarich, Albin, Alfred, Atrorubrum, Bismarck, Bluebell, Butlerianum, Circe, Daniel, Delicatissimum, Diana, Duchess of Connaught, Earl of Shannon, Ege, Elysium, Fee, F. L. Ames, F. B. Hayes, Hanna Felix, Herkules, Jay Gould, King of the Purples, Lady Grey Egerton, Madame Wagner, Marquis of Waterford, Mum, Mrs. Harry Ingersoll, Mrs. H. S. Hunnewell, Mnemoisyne, Prometheus, R. S. Field, Salmonum roseum, Sir H. Haverlock.*

**Rhododendron caucasicum.** On the whole the different forms of *Rhododendron caucasicum* have come through the winter in comparatively good condition. The plants of the varieties Cleo and Ochroleucrum have been killed, and the flower-buds of a few others have suffered. The following varieties, however, are uninjured or have suffered only slightly: Boule de Neige, Coriaceum, Jacksonii and Mont Blanc.

**The Rainfall of Recent Years.** Whatever may have been the cause of the death this spring of so many Rhododendrons the small rainfall of the last seven years must account, at least in part, for the generally poor condition of Rhododendrons in eastern Massachusetts, for the death in this part of the country of many old Oaks and other native trees in the woods, and for the great number of dead branches on many native Ash trees, even on young trees which should be healthy and vigorous. It is interesting, therefore, to study in this connection the statistics of the rainfall in recent years on the watershed of the Sudbury River in Massachusetts, about twenty miles from Boston. For the following figures the Arboretum is indebted to Mr. Desmond Fitzgerald of Brookline. During the years 1875–1908, inclusive, the average rainfall on the Sudbury basin was 46.34 inches; from 1904–1914 the annual average rainfall was, however, only 40.78 inches, or an annual deficit of 5.55 inches. During the seven years from 1908–1914 the annual average was only 39.24 inches, or an annual deficiency of 6.76 inches as compared with the period from 1875 to 1907, that is, the loss of rain in the past seven years is rather more than the entire rainfall of one normal year; and, moreover, in these seven years there has not been a single year of normal rainfall.

**Rhododendrons in the United States.** In some years, when conditions are comparatively favorable, Rhododendrons flourish in this climate; in other years when conditions are less favorable they suffer. Compared with these plants as they grow in England and Scotland Rhododendrons are never really successful here. This is not a climate for Rhododendrons, that is for the sort of Rhododendrons European nurserymen usually propagate and send to this country. It is true
some of them can be kept alive here for a great many years but they require special care. The soil in which they grow best has to be specially prepared for them; they require shelter from the sun of early spring, and a great deal of moisture. Of late years they have suffered terribly from the attacks of the lace-wing fly which turns the leaves brown and makes them fall prematurely, thus weakening the plant. Rhododendrons, like many other plants of the Heath Family, cannot grow in soil impregnated with lime; they are not hardy very far north of Boston, and south of Philadelphia, except in the elevated regions of the interior, it is too hot for them in summer, so that the region in the eastern states where these plants can be grown at all is not a large one. Here in eastern Massachusetts there are only four species of broad-leaved evergreen Rhododendrons which are perfectly hardy; these are the native *R. maximum*, *R. catawbiense* from the high slopes of the southern Appalachian Mountains, *R. carolinianum* from the same region, and *R. Smirnowii* from the Caucasus, and if we can hope for a race of hybrid Rhododendrons better suited to the conditions of the New England climate than any we now possess, it will be obtained by mingling the blood of these four species and by excluding entirely the blood of the Himalayan species to which the garden Rhododendrons of Europe owe a large part of the brilliancy of their flowers.

**Rhododendron Smirnowii.** This is a plant from which a good deal may be expected. It has been growing in the Arboretum for several years and has not suffered from cold or drought. When, however, the plant is fully exposed to the sun the leaves often droop and their edges infold, and it does better in partial shade. The leaves are pale grayish green above and below are thickly covered with pale felt which successfully protects them from the attacks of the lace-wing fly. The flowers are of good size and of pleasant shades of pink or rosy pink, and are borne in large clusters. As compared with the dark green leaves of *R. catawbiense* those of this plant are less attractive, but the flowers are much more beautiful in color and are equally large. Several hybrids of *R. Smirnowii* with varieties of *R. catawbiense* have been raised in Europe, and there are a few of these in the Arboretum collection. They have proved to be good garden plants here, flowering earlier than *R. Smirnowii* and producing larger pink flowers; they have never been injured in the Arboretum, but as there is only a trace of the felt left on their leaves they will probably suffer from the lace-wing fly. *Rhododendron carolinianum* is said to have suffered last winter in a few places near Boston, but it was uninjured in the Arboretum and in several other Massachusetts gardens. It is the most beautiful of the dwarf small-flowered Rhododendrons which can be grown in this climate and may prove valuable to cross with other species. It has now been out of flower for more than two weeks. *Rhododendron Smirnowii* is now at its best. The flowers on *R. catawbiense* are just opening, and those on *R. maximum* will not be out for another fortnight. The flowers of a few of the Catawbiense hybrids are in bloom but most Rhododendrons are late this year, and many of them are only beginning to show the color of their flowers through the opening bud-scales.
Late-flowering Lilacs. Several late-flowering Lilacs are now attractive. The best known of these is probably *S. villosa*, a large shrub from northern China with rose-colored pink or nearly white, bad-smelling flowers; it was introduced into the Arboretum from Peking in 1882 and has been largely planted in this part of the country. It flowers very freely and is a first-rate garden shrub valuable for its late flowers which prolong the season of Lilac bloom. Forms of the hybrid (S. *Henryi*) between this species and the Hungarian *S. Josikaea* are also in flower. The handsomest of these hybrids, called *S. Lutææ*, is a good garden plant with the bluish-purple flowers of its Hungarian parent and the habit of *S. villosa*. Another late-blooming lilac, *Syringa Juliana*, a native of western China where it was discovered by Wilson in 1901, promises to be a good addition to garden Lilacs. It is related to *S. pubescens* and the flowers, like those of that species, are small and fragrant; they differ from those of other Lilacs in the deep purple color of the outer surface of the corolla-tube. This is the color, too, of the stalks of the inflorescence and of the individual flowers, while the inner surface of the lobes of the corolla is white, so that as the flowers open the inflorescence is purple and white. This Lilac, like every other species of Lilac now in cultivation, is perfectly hardy here and the Arboretum specimen is now covered with flowers. Another Chinese Lilac, *Syringa microphylla*, is in flower for the first time in America; it is a plant with small leaves, and small, pale pink, fragrant flowers resembling, except in color, those of *S. pubescens*.

*Syringa Wolfii*. The handsomest, however, of all the late-flowering Lilacs is *S. Wolfii*, a native of Mongolia. This plant reached the Arboretum from St. Petersburg in 1906 and before it had received a name. It is related to *S. villosa* which it resembles in its foliage, but it appears to be a larger and more vigorous plant. The small, dark blue-purple or rose-purple flowers are borne in clusters which on vigorous plants are sometimes two feet long or more and a foot in diameter, and are produced in the greatest profusion. By many persons it is considered the handsomest of all the species of Lilacs, and certainly no other Lilac is more vigorous or produces such great clusters of flowers. The flowers, however, lack the fragrance of the common Lilac and of several of the Chinese species.

*Laburnum alpinum*. The large plant of the so-called Scotch Laburnum is now in bloom near the entrance to the Arboretum from the Forest Hills Gate. It is a hardier plant in this country than the better known *L. vulgare*; it flowers about two weeks later than that tree, and its bright yellow flowers are borne in longer clusters. This is the handsomest yellow-flowered large shrub or small tree which can be grown successfully in New England, and it is surprising that a plant of this character which is so generally cultivated in Europe should remain so little known in this country. A hybrid between this species and *Laburnum vulgare*, called *L. Parkii*, has been in flower on Hickory Path near Centre Street; it is a small and perfectly hardy tree.

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