Asiatic Lindens promise to become valuable trees here, although the species recently discovered in western China are still so young that it is not possible to say much about them. Species, however, from Japan, eastern Siberia and Manchuria have been cultivated in the Arboretum for several years, and of these only *T. japonica* and *T. mongolica* have ever grown large enough to flower and produce seeds. The former is a small tree here with gracefully drooping branches and is conspicuous in early spring as the small yellow-green leaves appear a week or two earlier than those of any other Linden in the collection. It is one of the latest species to flower. *T. mongolica* is a small, short-lived tree with small, long-pointed shining leaves and is of no value except as a botanical curiosity. The best plants in the country of this Linden are now in Rochester, New York. The four European species and some of the hybrids between these species, and between them and the American species, all flourish in the northern and middle states; and the largest and handsomest Linden-tree which has been planted in the neighborhood of Boston is a supposed hybrid between the two species of eastern Europe, *T. platyphyllos* and *T. cordata*, and known as *T. vulgaris*, *T. europaea*, *T. intermedia* and *T. hybrida*. Although widely distributed in central Europe, this tree is much less common than either of its supposed parents; this fact and the variation in the size, shape and color of the leaves on different individuals make its hybrid origin possible, but whatever its origin this Linden is an excellent tree to plant here in rich moist soil where abundant space for free development can be allowed to it. The two silver-leaved Lindens of eastern Europe, *T. argentea* and *T. petiolaris*, are distinct and handsome trees which might well be more generally seen in New England plantations. The former, which is common in the forests of Hungary, is a large tree with erect-growing branches forming a compact, round-topped head, and large, erect-growing leaves dark green above and silvery white below. This tree has been a good deal planted in some of the parks in New York City where large and interesting specimens can now be seen. It does not appear to be well known in Massachusetts. *T. petiolaris* is better known in New England, and there are large and beautiful specimens of this tree growing in Newport, Rhode Island. Like those of *T. argentea*, the leaves of this tree are silvery white on the lower surface; they droop, however, on long slender stems and flutter gracefully in the slightest breeze. The branches, too, are drooping and form a narrow open head. *T. petiolaris* is not known in a wild state and is of very uncertain origin. A supposed hybrid of this tree with *T. americana* is one of the handsomest of all Linden trees; it has been called *T. vestita* and *T. hybrida spectabilis*. The leaves are of the size and shape of those of the American parent but are silvery white on the lower surface. The flowers of the earliest of the Lindens, the European *T. platyphyllos*, have been open for several days, and for another month Linden-flowers in the Arboretum will fill the air with fragrance and delight the bees with abundant nectar. The Linden Collection occupies the meadow on the right-hand side of the Meadow Road beyond the Administration Building.

Sambucus canadensis. This is the last of the native shrubs to make a conspicuous show of flowers in the Arboretum, and as the corollas of the Laurels begin to fall the wide, flat flower-clusters of the black-fruited Elder begin to whiten. Few native shrubs make a greater

show of flowers and fruits, and the numerous Elders sown by birds on the banks of the Bussey Brook in the valley north of Hemlock Hill, and by the little ponds near the junction of the Meadow and Bussey Hill Roads add much to the beauty of the Arboretum in July. Growing with *Sambucus canadensis* in the Shrub Collection is a form with leaflets deeply divided into narrow segments (var. *acutiloba*) and more curious than beautiful. There are here also a form with yellow fruit (var. *chlorocarpa*), and var. *maxima*, which originated a few years ago in a European nursery and which has flower-clusters three times as large as those of the wild plant and such large and heavy bunches of fruit that the branches can hardly support them. A variety with yellow leaves (var. *aurea*) is also in the collection. More objectionable than many yellow-leaved shrubs because it is hardier and grows more rapidly to a larger size than some of them, this plant now disfigures many European gardens and is too often seen in those of this country.

Zelkova serrata, or, as it is more generally known, *Z. keaki*, Keaki being the Japanese name for this tree, is one of the important trees of Japan. Although no longer very common or of a large size in the Japanese forests, it is one of the largest of Japanese trees, for specimens one hundred feet high with trunks from eight to ten feet in diameter are not uncommon in temple gardens and by village roadsides. The wood is more valued by the Japanese than that of any other tree; it is tough, elastic and durable both in the ground and when exposed to the air, and is considered the best building material in the empire. Keaki, however, has now become so scarce that it is not used for building except in temples in which the large, round, light brown, polished columns which support the roof are always made of this wood; it is universally used in the manufacture of jinrikishas, and it is still much employed in cabinet-making and turnery. *Zelkova* is a genus related to *Ulmus*. The leaves resemble those of some of the small-leaved Elms; the male and female organs, however, are in separate flowers on different parts of the branch; the fruit is a small drupe, and the bark is more like that of a Beech-tree than of an Elm-tree. The Keaki is probably worth general cultivation as a timber tree in some parts of the United States. That it can flourish here at least for many years is shown by the trees planted in Warren, Rhode Island, in 1862, by the late Dr. George R. Hall. Thirty years later these trees were fifty feet high with trunks a foot in diameter, and were producing large crops of seeds from which seedling plants were growing spontaneously in large numbers. Two of these seedlings can be seen in the Arboretum in the *Celtis* Group on the slope below the right-hand side of the Bussey Hill Road above the group of *Sassafras* trees. Here may be seen, too, a young plant of the Caucasian species, *Z. crenata*. This has been a difficult plant to establish in the Arboretum but there is a picturesque old specimen in the Harvard Botanic Garden.

Hemiptelea Davidii. Specimens of this interesting tree from northern China, known as the "Prickly Elm," are established in the *Celtis* Group and larger specimens can be seen in the nursery near the top of Peter's Hill. In foliage this tree also looks like a small-leaved Elm but the branches are furnished with sharp thorns. The flowers are similar to those of the *Zelkova*, but the fruit is slightly winged and distinctly short stalked. Of no particular value as an ornamental

1916. "Sambucus canadensis." *Bulletin of popular information - Arnold Arboretum, Harvard University* 2(11), 42–43. <https://doi.org/10.5962/p.320548>.

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