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Pseudolarix amabilis. It is an interesting fact that the monotypic genera of conifers, that is, the genera of a single species, of the northern hemisphere, are confined to eastern Asia. There are seven of these genera: *Glyptostrobus*, *Taiwania*, *Fokienia*, *Cryptomeria*, *Thujopsis*, *Sciadopitys*, and *Pseudolarix*. Unfortunately several of these trees are not hardy in the northern United States. *Glyptostrobus*, *Taiwania* and *Fokienia* grow in warm regions; they might succeed in some parts of Florida and Louisiana, but California will probably prove our best region for them. *Cryptomeria* can just be kept alive in the Arboretum, but fairly healthy specimens can occasionally be seen in gardens on Long Island and southward in the eastern states. An abnormal form of this tree (var. *elegans*) appears to be rather hardier than the type and to be more often cultivated in the eastern states. There is a small tree of *Thujopsis* in Wareham, on Cape Cod, but this beautiful Japanese tree has not proved to be hardy in the Arboretum. A variety (var. *Hondai*) from the extreme northern part of Hondo may prove hardier than the type. Seedlings of this northern variety have been growing in the Arboretum since 1915. *Sciadopitys*, the Japanese "Umbrella Pine," although the leaves are sometimes badly burned in severe winters, is hardy in Massachusetts. It is an interesting and handsome tree, forming while young a dense pyramid. It grows so slowly, however, that it will not be popular with those planters with whom rapidity of growth is the chief merit in a tree. For the northern states and for general cultivation the most valuable of the monotypic Asiatic conifers certainly is the Chinese Golden Larch *Pseudo-*

larix amabilis, a tree with the deciduous leaves of the Larch and large cones erect on the branches with scales which fall when mature from the axis of the cone like those of Fir-trees and the Cedar of Lebanon. As a wild tree not much is yet known of the distribution, size and economic value of *Pseudolarix*. Robert Fortune, who was sent to China by the London Horticultural Society in 1843 as a botanical collector, first made known this tree to Europeans. He found it first in temple gardens growing in pots and much stunted; and it was not until 1854 in a journey in the province of Chekiang that Fortune found *Pseudolarix* growing in the open ground at the monastery of Tsan-tsin. "They were growing," he writes, "in the vicinity of a Buddhist monastery in the western part of the Province of Chekiang at an elevation of 1000 or 1500 feet above the level of the sea. Their stems which measured fully five feet in circumference two feet from the ground, carried this size, with a slight diminution, to a height of fifty feet, this being the height of the lower branches. The total height I estimated about 120 or 130 feet. The stems were perfectly straight throughout, the branches symmetrical, slightly inclined to a horizontal form, and having the appearance of something between the Cedar and the Larch." Fortune found these trees, which had probably been planted, covered with cones and sent seeds home to England. Unfortunately only a small percentage of them germinated. The following autumn, in the hope of securing another supply of seeds, Fortune explored a higher range in the western part of Chekiang on which he had heard that the *Pseudolarix* was more abundant. Here he found at altitudes just below 4000 feet a larger number of both large and small trees which he thought had also been planted. The largest tree which Fortune saw at this high altitude he estimated to be one hundred and thirty feet high; the trunk was eight feet in circumference, and the lower branches nearly touched the ground. There were no cones on these trees and Fortune was told by the monks that cones were only produced on alternate years. He dug up a few plants which finally reached England, and it is probable that the largest trees now growing in Europe and the United States were of this sending. After Fortune's visit to the Chekiang Mountains in 1855, *Pseudolarix* was not seen again in China until 1878 when Charles Maries, a botanical traveller for the Veitch's of London, found it at the Temple of Teen Cha on the Lushan Range in Kiangsi and sent seeds to England. The last botanist to see the *Pseudolarix* in China, E. H. Wilson, met with it in August, 1907, at an altitude of about 4000 feet on the Lushan Range near Kuling which is the most western station where this tree has been seen in China by foreigners. The larger trees near Kuling had been planted but Wilson saw small trees on the mountain side which were evidently wild, and it is probable, therefore, that these small trees are the only self-sown trees of *Pseudolarix* seen by European botanical travellers unless the "forests of the Larch-fir" on the mountains south of Poyang Lake in Kiangsi which were mentioned by Barrow in his "Travels in China," published in 1804, and which as Wilson has pointed out must have been *Pseudolarix*, were wild trees. In spite of all of Fortune's efforts to introduce this tree into Europe it has not become common. The largest specimen in Europe is in the Rovelli nursery at Pallanza on Lake Maggiore in Italy. In 1907 this tree was sixty-four feet

high with a trunk six feet ten inches in girth. It has produced seeds at different times for several years, and these germinate freely where they fall under the tree. There are a few of the original trees in France, Germany and Belgium, the largest probably being the tree which is in the nursery of the Horticultural Society at Calmpthout near Antwerp, which in 1910 was said to be forty-six feet tall with a trunk three feet in girth. There are several of these original trees growing in Great Britain, but they are smaller than the large specimen on the continent, for apparently *Pseudolarix* needs a hot summer and autumn sun for its rapid growth. There are two and perhaps three of the plants sent by Fortune to England in 1854 growing in the United States. The largest of these was imported by S. B. Parsons in 1859, and planted in his nursery at Flushing, Long Island. In 1895 this tree was fifty-five feet high with a trunk two feet in diameter. This tree is still in perfect health, and is now fully eighty feet high (estimated) with a tall straight trunk two feet ten inches in diameter, free of branches for from twenty to twenty-five feet and carrying a broad, symmetrical, pyramidal head. The bark, unlike that of the Larches, is thick, divided into broad rounded ridges and is dark brown. For many years this tree has produced large crops of seeds, usually only in alternate seasons. It is certainly one of the most interesting exotic trees in eastern North America and well worth a visit. Another of Fortune's original trees is growing in Mr. Hunnewell's Pinetum at Wellesley, Massachusetts. The date of the importation of this plant is not known but it was probably before 1865. This is rather a flat-topped tree and has retained its wide spreading lower branches. In 1905 this tree was thirty-five feet high with a trunk four feet in circumference and a spread of branches of twenty-seven feet. This tree produced fertile seeds previous to 1896. In that year the late Mr. Probasco stated that the *Pseudolarix* which he had planted in the neighborhood of Cincinnati was rather larger than the Wellesley tree. It is fair to assume, therefore, that this was also one of the original Fortune plants. The two fine specimens planted by Mr. C. A. Dana at Dosoris, Long Island, were probably raised from the seeds sent to England by Maries in 1878. *Pseudolarix* is planted in the Arboretum on the left-hand side of the Bussey Hill Road close to the Walter Street entrance. The two larger trees were imported from England in 1871; the smaller trees were raised here from seed produced by the Wellesley tree and sown in January, 1906. *Pseudolarix* is a tree of extraordinary botanical interest; as a timber tree it may prove valuable; for the decoration of lawns and parks it deserves the attention of all lovers of handsome trees. It is perfectly hardy at least as far north as Massachusetts; the leaves, which are longer and broader than those of the Larches, are light green when they first appear in early spring, dark green during the summer and until they begin to change color early in October when they generally become the color of old gold, some of the leaves remaining green after others have assumed their deepest autumn tints. The leaves of the *Pseudolarix* have not been attacked yet by the insects which too often destroy in early summer the beauty of Larch trees. Planted as a specimen on a lawn as the Wellesley tree was planted *Pseudolarix* may be expected to retain its lower branches for many years; planted close together in groves

it will grow taller and form a tall Larch-like trunk. As *Pseudolarix* seeds are produced in quantity by at least two trees in the United States, and probably by several trees in Europe, there is no reason why this tree should not be taken up by American nurserymen and brought within reach of the lovers of handsome and interesting trees. The trees at Flushing and at Wellesley are not producing seeds this year.

Zelkova serrata, the Keaki of the Japanese, is another Asiatic tree which is still too little known in the United States. The oldest tree in this country is growing on the estate of Mr. Henry Everett in Barnstable, Massachusetts. The seeds which produced this tree were brought from Japan in 1862 by John Wilson, who gave them to Captain Frank Hinckley. Only one plant was raised from these seeds. It is now a broad-headed tree with a short, stout trunk divided into several large ascending stems. A little later seeds of the Keaki were sent from Japan to the Parsons nursery at Flushing, either by Dr. Hall or by Mr. Thomas Hogg, and the best of the trees, the result of this introduction, known to the Arboretum are in Dr. Hall's plantation in Bristol, Rhode Island. The largest of these trees are now fully seventy feet high with tall stems from two to two and a half feet in diameter. These trees have for years been producing large crops of seeds and quantities of seedlings spring up under the trees, and at long distances from them, the seeds being widely scattered by the wind. A specimen with a tall clean stem and shapely head which has been planted by the roadside in Warren, the next town to Bristol, indicates that the Japanese *Zelkova* might be successfully used as a street or roadside tree. It is as a timber tree, however, that this *Zelkova* deserves the attention of Americans. It is the most important hardwood tree of Japan and Korea. The wood is tough, elastic and durable in the ground and when exposed to the air. It is considered the best wood for building in the Empire, and furnishes the great round columns which support the roofs of Japanese temples. It is universally used in Japan in making jinrikishas, and quantities of the wood are sent from Korea into China for this purpose. The Keaki alone has made the jinrikisha possible just as the Hickory-tree has made possible in this country the light wagon and the trotting horse. The demand for the wood has made the Keaki comparatively rare. That it was once a noble tree, however, is shown by the great specimens which have been preserved in temple gardens and by village roadsides. Such trees are often at best one hundred feet high with the trunks eight or ten feet in diameter.

Viburnums. The handsomest *Viburnums* this week in the Arboretum are *V. prunifolium*, a tree species of the Middle States, with dark purple leaves and fruit which is still pale pink but later will be dark blue, and the Japanese *V. dilatatum*, a broad round-headed shrub with wide flat clusters of small bright red fruit, and dark red almost purple leaves.