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# ARNOLD ARBORETUM

## HARVARD UNIVERSITY



# BULLETIN

OF

# POPULAR INFORMATION

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**English Elms.** There is still apparently much confusion in popular understanding in this country in regard to the trees known here as "English Elms," and it does not seem to be generally understood that there are four distinct species of Elm-trees now growing naturally in England, and that among the trees sometimes cultivated are hybrids of these species which also in the popular mind pass as English Elm-trees.

**Ulmus procera.** This is the name now adopted for the tree which is generally known as English Elm in Boston where it has proved one of the best foreign trees ever planted in Massachusetts. It has been growing here for more than a century, and nearly one hundred years ago Major Paddock had a nursery at Milton for the propagation and sale of this tree. Probably no tree, native or foreign, which has been planted in the neighborhood of Boston has grown to such a large size. The Paddock Elms, which stood on Tremont Street in front of the Granary Burying Ground, were of this species, as were the great Elms on the Tremont Street Mall of the Common which were killed by the Subway. The Elm-trees on each side of the Shaw Monument opposite the State House are of this species, and there are still large specimens in the suburbs of the city. This is the common Elm-tree of southern England where it grows usually in hedge-rows, although it has been largely planted in parks. It often grows one hundred feet tall with a massive stem covered with dark deeply furrowed bark, spreading or ascending branches which form a comparatively narrow oval head, and slender branchlets thickly covered during their first year with down.

The leaves are broadly oval or ovate, oblique at base, dark green and rough on the upper surface and covered below with soft down; they are from two to three inches long with about twelve pairs of veins, and their stalks are only about one-fifth of an inch in length. This tree very rarely ripens fertile seeds in England or in this country, but it produces suckers in great numbers and is propagated entirely by means of these. As this tree so rarely produces seeds few varieties are known, but a small-leaved Elm (var. *viminalis*) is believed to be a seedling of it. Of this little Elm there are forms on which the leaves are blotched with white and with yellow.

**Ulmus foliacea, or nitens.** This is another English Elm which differs from the last in its paler bark, in its smooth or nearly smooth branchlets, that is without a covering of down and in its leaves which are smooth and shining on the upper surface, only slightly downy below early in the season and from two to three and a half inches long. This tree produces fertile seeds in abundance and seedlings are raised in European nurseries. It is widely distributed over central and southern Europe and grows also in northern Africa and eastern Asia. Several geographical forms are recognized; the most distinct of these are the Cornish and the Guernsey Elms which are trees of medium size with erect growing branches which form a narrow pyramidal head. Plants of these two forms are not always hardy in Massachusetts. Another form, common in Hertfordshire, is a large tree with wide-spreading and pendulous branches and at its best, although not so tall is almost as handsome as our American White Elm (*U. americana*). Another form (var. *umbraculifera*) from Persia and Armenia is interesting from its compact globose head. This tree might perhaps be made useful in formal gardens. On many trees of *Ulmus foliacea* the branches are furnished with corky wings (var. *suberosa*), and the so-called English Elms with such branchlets occasionally seen in this country are usually of this variety. The seedling trees of this Elm which have been imported from European nurseries vary in habit, in the size of their leaves and in their hardiness; and the unhealthy and generally unsatisfactory Elm-trees which have been planted in considerable numbers in eastern Massachusetts during the last twenty years are in nine cases out of ten seedling forms of *U. foliacea*.

**Ulmus glabra.** This is another widely distributed European Elm which is often called Scotch Elm or Wych Elm by English-speaking people. This is a tree with a trunk and branches which remain smooth for many years. It can always be recognized, too, by the large obtuse buds covered by pale brown hairs and by its dark dull green leaves abruptly pointed or three-lobed at the apex, oblique and unsymmetrical at the base, rough above, downy below, and from four to six inches long with stalks shorter than those of other Elm-trees. This tree does not sucker but produces fertile seeds in great quantities, and more abnormal seedling forms of this tree have been raised than of any other Elm. The well-known Camperdown Elm is a form of this tree with regularly pendulous branches which is often planted in suburban gardens to make natural arbors; another form (var. *pendula*) has horizontally spreading pendulous branches which form an unsymmetrical, flat-topped head.

There is a form with erect branches forming a narrow pyramidal head and others with leaves more coarsely toothed than those of the ordinary form, and with purple and other abnormal leaves. This is perhaps the least beautiful of all the species of Elms. The abundant seeds are blown great distances and germinate so readily that seedlings are often troublesome weeds which if neglected for a few years become difficult to eradicate. For several years the leaves of this tree in the neighborhood of Boston have been turned brown and often killed by a leaf-mining insect which attacks this species but no other Elm-tree.

**Ulmus minor**, sometimes called *U. sativa*, is a small-leaved Elm-tree of large size which is rather closely related to *U. foliacea*. Although common in the eastern counties of England, it is possible that this tree cannot be seen in the United States outside of the Arboretum.

**Ulmus hollandica**. This general name has been given to a race of natural hybrids between *U. foliacea* and *U. glabra*, among which are some of the handsomest and most valuable of the European Elms. To the best known in this country of these hybrids the name *Ulmus hollandica vegeta* has been given. This tree was raised in a nursery at Huntingdon about the middle of the eighteenth century and is usually called the Huntingdon Elm. This tree often grows one hundred feet high with a massive trunk and spreading and ascending branches which make a vase-shaped head which readily distinguishes this tree from other Elms. It can be seen to good advantage in Cambridgeshire, England, especially in Cambridge, where there is a noble avenue of the Huntingdon Elm. A tree of this hybrid which grew in the grounds of Magdalen College at Oxford was believed to be the largest tree in Great Britain. In this country this tree grows more rapidly than other Elm-trees, and as it produces suckers it can be easily multiplied. It is not common here, however, although in the neighborhood of Boston specimens not more than sixty years old have already grown to a large size. The var. *belgica* of this hybrid is the Elm which has been most often planted as a street and roadside tree in Belgium and Holland. It is a tall tree with a straight, rough-barked trunk, a broad head of rather erect branches, and dark green leaves slightly roughened above and covered below with soft down. As this tree grows in Holland it is one of the handsomest and most desirable trees for shading city streets. This Elm appears to be little known in the United States; it is growing well in the Arboretum, but it has not been here long enough yet to show if it will be of permanent value in New England. The so-called Dutch Elm, *Ulmus major* of many English dendrologists and a common tree in English parks, is probably another hybrid of the same parentage (*U. hollandica* var. *major*). This is a large tree with a short trunk covered with rough bark, wide-spreading branches furnished with corky wings, and dark green leaves lustrous and nearly smooth on the upper surface and slightly downy below. As this tree produces many suckers it can be easily multiplied.

The Arboretum collection now contains sixty-six different Elms and includes all the known species with the exception of the four Himalayan Elms and the Mexican Elm which are not in cultivation, and two spe-

cies from the southern United States which are not hardy here. With few exceptions the important and interesting varieties and hybrids are represented in the collection. Many of the plants are still too small to produce fruit or to show the habit of mature trees, but as a whole the collection offers a good opportunity for the study of the leaves and branchlets of Elm-trees.

**Hydrangea paniculata.** Three forms of this Japanese shrub or small tree are in the Arboretum collection. The flowers of the three forms are borne in large terminal oblong pointed clusters and the long acuminate dark green leaves make the plants attractive before the flowers open and after they fade, although like those of other Hydrangeas they fall in the autumn without change of color. The clusters of fertile flowers on what is considered the typical form are surrounded by the ring of white sterile flowers to which Hydrangeas owe the beauty of their inflorescence. This form, which is a handsome and valuable garden plant, will not be in bloom for another month. There is, however, an early-flowering form (var. *praecox*) which is now just opening its flowers, and which is very similar, except in its time of flowering, to the type. This form has, however, rather larger and whiter ray flowers, and is a more ornamental plant. Indeed when in flower in early July it is one of the handsomest shrubs in the Arboretum. This early flowering form appears to be exceedingly rare in American gardens. This unfortunately cannot be said of the third form of *Hydrangea paniculata* (var. *grandiflora*) on which the entire inflorescence is composed of sterile flowers which form a great cone-like white mass of abortives which as they fade turn to a dirty red. This plant has been propagated and sold by American nurserymen during the last fifty years by hundreds of thousands, possibly by millions, so that it is now perhaps more generally cultivated throughout the country than any other garden shrub, and certainly no other shrub has done so much to disfigure the surroundings of the homes of the people of the northern United States. A few years ago the only plant within the fence which surrounds Jefferson's Grove at Monticello was *Hydrangea paniculata grandiflora*. And Thomas Jefferson published in 1784 in his "Notes on the State of Virginia," the first comprehensive list of the plants of his native State, among which are some of the most beautiful trees and shrubs in the world.

**Hydrangea radiata.** With the exception of *Hydrangea quercifolia* of the southern states, which is not really hardy in New England, *H. radiata* is the handsomest of the four American species and their varieties. It is a broad round-topped shrub of excellent habit, with leaves of ample size dark green above and silvery white below, and broad heads of fertile flowers surrounded by a ring of white neutral flowers. This shrub is a native of mountain slopes in North and South Carolina, and many years ago a favorite garden plant is now rarely cultivated, being replaced by *H. paniculata grandiflora* and the forms with all sterile flowers of the American *H. arborescens* and *H. cinera*.