

## Important Allergenic Trees

The following ten sheets describe ten of the most important taxa of allergenic trees. Although individual species are described on each sheet, in most cases other members of the respective genera are of similar importance (*e.g.*, although white oak is a very widespread and important species, other species of oaks are also of allergenic importance).

The sheets are arranged alphabetically by genus.

## Box Elder

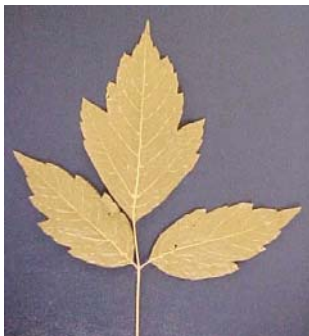
**Genus/species**      *Acer negundo*

**Family**              **Aceraceae**

**Distribution**        **Most of Eastern US, scattered in Western US**

North central Montana southeastward to E Texas  
Texas eastward to NW Florida  
NW Florida northeastward to S New York  
S New York northwestward to Montana  
Scattered localities in California, Utah, Colorado, Arizona,  
New Mexico and elsewhere

**Comments**      Box Elder is the only native maple having compound leaves, so it is sometimes not recognized as a maple. It is a small tree that is widespread in the east, but has a discontinuous distribution along watercourses in several western states. Box elder may get as tall as 65 feet but is usually much smaller; it typically has a short trunk that branches close to the base, and the tree becomes rather spreading and rounded in shape. Box Elder grows quickly, usually in moist soil. It has been called Ash-Leaved Maple because of its leaves, which have 3 or 5 leaflets (the former resembling those of Poison Ivy except that its leaves are arranged in an “opposite” fashion, the 5 leaflet form more suggestive of Ash whose leaves are also opposite). The flowers and fruit are typical of maples, with the latter having the characteristic “wing” and being arranged in pairs. This species is “dioecious” meaning that male and female flowers grow on separate trees. Allergenicity, the pollen of Box Elder cross-reacts with that from the other “typical” maples but not completely.



## Red/River Birch

**Genus/species**      *Betula nigra*

**Family**              **Betulaceae**

**Distribution**      **Southeastern US**      E Texas northward to Missouri  
Missouri eastward to Maryland  
Maryland southward to N Florida  
N Florida westward to E Texas  
Northward along Upper Mississippi Valley to SE  
Minnesota  
Northward along Atlantic Coast to SE New York and S  
New Hampshire  
Mostly absent from Appalachian Mountain systems and  
Lower Mississippi Valley

**Comments**      This is the only birch native to lowland areas of the southeastern US, and it is typically found in wet areas such as floodplains of rivers and streams. It is a medium-sized tree often cultivated as an ornamental because of its shaggy, brownish papery bark that peels in layers. The male catkins, which soon release their wind-blown pollen, can be seen hanging in the early spring just as the leaves are beginning to develop while the female “cones” develop later, then disintegrate to release their seeds. Other birches include the white or gray birch (*Betula populifolia*), the sweet birch (*Betula lenta*), and other native and exotic species





# Pecan

**Genus/species**      *Carya illinoensis*

**Family**              **Juglandaceae**

**Distribution**        **South central US; introduced into eastern US**

S Mississippi northward to extreme SW Ohio  
Ohio northwestward to S Wisconsin  
Wisconsin southward through central Missouri and  
SE Kansas to central Texas  
Texas eastward to S Mississippi  
Introduced into many eastern states and Hawaii

**Comments**      This hickory is famous for its tasty nuts. As the most commercially-important nut-bearing tree in the US, Pecan has been introduced into several eastern states, particularly southwestern Georgia, and other parts of the world. The species has become naturalized in many areas and many cultivars developed. Its wood is of use in making furniture and other items. Pecan is typically found in rich moist soils of bottomlands, particularly of the Mississippi River and other rivers that drain into it. The trees can grow to be 200 feet tall in the wild, but cultivated trees usually branch near the base and spread, reaching a fraction of that height. The compound leaves, with their 9 to 17 leaflets, typically exceed a foot in length with the leaflets being 3 to 8 inches long. The numerous male flowers are borne in catkins in the spring near the base of the new growth (often after most other trees have bloomed) while the relatively few female flowers appear near the ends of the twigs. The abundant pollen is spread by the wind. The nuts, usually in groups of 3 to 6, are inside husks that split at maturity and are about 1 ½ to 2 inches long. Other species of hickories are also important.



## American Elm

**Genus/species**      *Ulmus americana*

**Family**              **Ulmaceae**

**Distribution**      **Eastern and Central US**      Central Texas eastward to central Florida  
Florida northeastward to Maine  
Maine westward to E Montana  
Montana southeastward to central Texas

**Comments**      The American Elm is a very widespread medium-sized or large tree typically found in floodplains, ravines and other moist areas, often following rivers far westward into otherwise mostly treeless areas. It is one of the most important North American trees because of its abundance throughout a wide range, its importance as food for wildlife, the uses for its wood, and its aesthetic qualities as a shade tree. Unfortunately, the introduced fungus that causes Dutch elm disease has destroyed a large number of American elms. Mature trees have a characteristic vase shape caused by the splitting of the trunk into several large branches, and smaller branches are typically weeping. The alternate deciduous leaves are asymmetrical and pointed, with a double row of teeth along the margins. The flowers are produced in the early spring, and the flat fruit, oval in shape with a notch at the ends, contains one seed and ripens and falls later in the spring. Pollen is dispersed by wind. Others include Cedar Elm (*Ulmus crassifolia*), a native species of central Texas and Siberian Elm (*Ulmus pumila*), an widespread introduced species, particularly in the northern plains.





## Green/Red Ash

**Genus/species**      *Fraxinus pennsylvanica*

**Family**              **Oleaceae**

**Distribution**      **Eastern and Central US**      E Texas eastward to N Florida  
N Florida northeastward to Maine  
Maine westward to central Montana  
Central Montana southeastward to E Texas  
Absent from most upland areas of Northeast

**Comments**      Green Ash, also called Red Ash, is a very widespread species typically found in floodplains and other moist areas, often following rivers far westward into otherwise mostly treeless areas. It is a quickly-growing medium-sized tree. The compound leaves, each composed of seven to nine pointed, slightly-toothed leaflets, are borne in pairs (opposite) on the twigs. The male and female flowers are produced on separate trees in the spring. The pollen is spread by the wind, and the female flowers develop into paddle-shaped fruit, each containing one seed, that ripen in the autumn. The White Ash (*Fraxinus americana*) is another widespread species that prefers drier habitats than Green Ash.



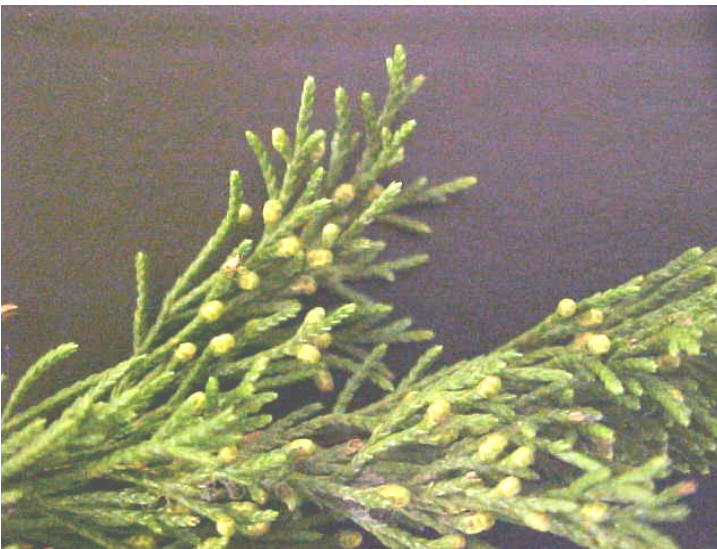
## Mountain Cedar

**Genus/species**      *Juniperus ashei*

**Family**              **Cupressaceae**

**Distribution**        **South central US**      Central Texas to south central Oklahoma  
NW Arkansas to SW Missouri

**Comments**      This species, also known as Ashe Juniper, is essentially restricted to dry open areas underlain by limestone, and is a very conspicuous species in the “Hill Country” of Texas, the Arbuckle Mountains of Oklahoma, and smaller areas in the Ozarks of Arkansas and Missouri. It is a relatively small, often gnarled tree having tiny, mostly scale-like leaves. The tiny staminate cones release their abundant wind-carried pollen in the winter and the bluish, berry-like cones (produced on different trees from the pollen) are produced the following summer, ripening in the autumn. It spreads aggressively and there is considerable controversy as to how it should be managed, particularly in Texas. The Eastern Red Cedar (*Juniperus virginiana*) is a closely-related important species of the eastern half of the US.





## White Mulberry

Genus/species      *Morus alba*

Family                Moraceae

Distribution        Introduced into US from eastern Asia; widely planted; naturalized in both eastern and western US except Arizona and Nevada

**Comments**      This small tree, native to China, was introduced into the US as part of an attempt to establish the silkworm industry. It has shiny leaves that are often lobed, and male and female flowers appear in the spring, usually on separate trees. Pollen is spread by wind. Each fruit, about an inch long, contains several small sections, and these mature in summer, sometimes white but often to a pale pink or even a dark shade of red. This species also tends to hybridize with the native red mulberry (*Morus rubra*) of the eastern US. White Mulberry is sufficiently allergenic that its cultivation is prohibited in some municipalities.





# Olive

**Genus/species**      *Olea europaea*

**Family**              **Oleaceae**

**Distribution**        **California, S Arizona, New Mexico, Texas and Hawaii; introduced from eastern Mediterranean region**

**Comments**      Olive is a large shrub or small evergreen tree cultivated for thousands of years in the Mediterranean Region, where it is native. It was introduced into the US, but nearly all commercial production of fruit and oil is done in California. It is also used for landscaping purposes, and in Hawaii (Maui, Hawaii and Kauai) it has become naturalized; such introductions result in additional cases of allergy. Its small, narrow dark green leaves approach 2 inches in length but less than half an inch wide, and are arranged in pairs. The tiny fragrant whitish flowers are produced at the ends of the twigs in clusters. The fruits, typically about an inch long, develop and ripen about 6-8 months after flowering.



## Eastern Cottonwood

**Genus/species**      *Populus deltoides*

**Family**              **Salicaceae**

**Distribution**        **Eastern US**            E South Dakota southward to central Texas  
Texas eastward to the Florida Panhandle  
Florida northward to E North Carolina  
North Carolina to W New York  
Smaller patches in northeastern states except Maine  
Lacking from most of Appalachian Mountain systems

**Comments**      There is some disagreement as to the western border of the range of this species because of the status and distinctness of the closely-related plains cottonwood. Rather large amounts of wind-borne pollen are released from male catkins in the spring. The name “cottonwood” refers to the fluffy down that is attached to the seeds, produced in the spring soon after pollination. This tree, which grows rapidly, is typically found on the flood plains of rivers and streams, but is sometimes cultivated. The grayish bark usually has distinct ridges, and the shiny triangular leaves are distinctive. This species is sometimes called a poplar tree. The Western or Plains Cottonwood and the Fremont Cottonwood are very similar to Eastern Cottonwood but are found in the Great Plains, and the Pacific Coast and desert areas, respectively. The Quaking Aspen is also related to cottonwood.





# White Oak

**Genus/species**      *Quercus alba*

**Family**              **Fagaceae**

**Distribution**        **Eastern US**    SE Minnesota eastward to S Maine  
                                 S Maine southward to N Florida  
                                 N Florida westward to E Texas  
                                 E Texas northward to E Minnesota

**Comments**        White Oak is a component of many kinds of forests, especially those that have moderately moist soil and have been allowed to mature over a long period of time. The rather light-gray bark is composed of thick flakes, and the distinctive bluish-green leaves have rounded lobes. White Oak becomes a large, rounded tree. The abundant wind-borne pollen is shed from catkins in the spring, and the female flowers ripen into acorns in the fall of the same year. There are many species of oaks found throughout most of the US; other members of the white oak group mature their acorns in one year while the members of the red oak group require two years.

