

SYCAMORE

What are the largest trees in North America? Those would be members of the *Sequoia* genus, which are found along the Pacific coast and in the western Sierras.

While the East has no *Sequoia* trees, it does have one tree species that is considered by many to be massive in size. That tree is the Sycamore (*Platanus occidentalis* L.).

The Sycamore is a member of the Sycamore Family (*Platanaceae*). The generic name, *Platanus*, is from the Greek word, *platanos*, from which became *platys*, which is Latin for “broad”, which refers to the leaves. The specific epithet, *occidentalis*, is from the Latin word, *occidens*, which is “west”.

Other scientific synonyms for Sycamore have been *Platanus excelsa* Salisbury, *Platanus glabrata* Fernald, *Platanus lobata* Moench, *Platanus macrophylla* Cree, and *Platanus vulgaris* Spach. Other common names for this tree are American Planetree, American Sycamore, Buttonball, Buttonball Tree, Buttonwood, Eastern Sycamore, Ghost Tree, Lacewood, Plane, Planetree, Platano, Quartered Sycamore, Virginia Maple, Water Beech, and Whitewood.

The Sycamore is a fast-growing, long-lived, and a moderately shade intolerant tree. It can live up to 600 years.

Cultural History of the Sycamore

In 1709, Englishman John Lawson, who had visited the Carolinas, wrote his book, *A New Voyage to Carolina*, and mentioned the Sycamore bark in it. In his book he wrote: *Its Bark is quite different from the English and the most beautiful I ever saw, being mottled and clouded with several Colours, as white, blue, etc.*

On May 17, 1792, 24 stockbrokers founded the New York Stock Exchange (NYSE) under a Sycamore tree. This agreement, which took place at 68 Wall Street, was called the “Buttonwood Agreement”.

In 1971, the astronauts of Apollo XIV took seeds of the Sycamore tree (and other tree species) to the Moon and back. Astronaut Stuart Roosa, a former smoke jumper for the U.S. Forest Service, was asked by the USFS to take these seeds on his mission. Although the seeds did not land upon the Moon, they remained with Roosa, while he orbited around the Moon.

After the seeds returned home, they were sown at 2 USFS stations. During America’s 1976 Bicentennial, the seedlings of these trees were transplanted in various parks, schools, universities, government facilities, and other locations around the country. One of those Sycamores was planted in Jefferson County, Ohio.

Uses of the Sycamore

The Native Americans and the early European settlers had some medicinal uses for the bark. A tea made from the inner bark was used internally for treating common colds, coughs, tuberculosis, dysentery, measles, and hemorrhaging. This tea was also used as an astringent, a diuretic, an emetic, a purgative, and a blood purifier. The bark was also eaten to treat internal pains or to become fat. The inner bark’s ooze was used externally for treating sores, smallpox pustules, and infant rashes.

There were also some edible uses for the Sycamore. Like the Sugar Maple (*Acer saccharum* Marshall), the Sycamore’s sap can be tapped and boiled down into either

sugar or sweet syrup. This sap can also be fermented into wine. Unfortunately, the sap contains very little sugar to make a profit.

The wood from the Sycamore served many purposes. Most of this wood was used for specialty items. Some of these uses included barber poles, barrels, boxes, butcher blocks, butcher pins, buttons, cabinetry, cartwheels, crates, fiberboard, flooring, furniture, handles, interior paneling and trim, millwork, particleboard, plywood, pulpwood, rolling pins, saddle trees, veneer, violin backs, woodenware, and fuel. Native Americans and the French traders sometimes made dugout canoes from this wood. Although these dugouts were usually about 20-30 feet long, 1 was recorded as being about 65 feet long. Because this wood easily rots when in contact with the ground, it was rarely used for either fence posts or railroad ties.

The European settlers had uses for the hollowed trunks. Early travelers used them as shelter from the rain or the snow. Some of the early European settlers used them as temporary shelters until their log homes were built. Afterwards, they may have used those hollowed trunks as barns, pens, silos, smokehouses, and stables. Smaller hollowed trunks were cut and used as casks, cisterns, troughs, and tubs.

Even the fruiting parts had their use. After the fruit ball had broken apart and the nutlets were gone, the remaining core of the fruit ball, the stalk, and a twig were made into buttons. However, the tufted hairs of the nutlets had to be gone because they could irritate the skin and the respiratory tracts of humans.

Vulnerabilities of the Sycamore

The Sycamore does have a few vulnerabilities. They are susceptible to fires and to ice damage.

The Sycamores are also susceptible to many diseases. Their biggest disease threat is Anthracnose (*Gnomonia platani* or *Apiogonomonia veneta*), a fungus that attacks and defoliates the trees during a wet spring.

Several insects will also attack the Sycamore. Some of them are the Sycamore Lacebug (*Corythucha ciliata* [Say]), the Flathead Sycamore Borer (*Chalcophorella campestris* [Say]), Sycamore Leaf Beetle (*Neochlamisus platani* [Brown]), and the Sycamore Tussock Moth (*Halisidota harrisii* [Walsh]).

DESCRIPTION OF THE SYCAMORE

Height: 50-175 feet.

Diameter: Its trunk diameter may range from 2-15 feet.

Width: Its overall width measures about 40-80 feet.

Trunk: Its trunk is straight, strong, massive, and has a buttressed base. It is the size of the trunk that makes this tree the most massive tree in the East.

When the tree reaches about 200-300 years of age, the heartwood rots out, which hollows out the trunk. These hollowed trunks serve as dens, nests, and shelters for animals. Black Bears (*Ursus americanus* Pallas), Virginia Opossums (*Didelphis virginiana* Kerr), Raccoons (*Procyon lotor* L.), Squirrels (*Sciurus* sp.), and other mammals have used them as dens. Chimney Swifts (*Choetura pelagica* L.), Tree Swallows (*Iridoprocne bicolor* [Vieillot]), and Wood Ducks (*Aix sponsa* L.) have all

nested within these hollow trunks. Naturalist John James Audubon once observed thousands of Chimney Swifts enter a single hollowed Sycamore.

Early records told of very large hollowed sycamores. One very large hollowed Sycamore was able to hold 15 men on horseback or 40 men standing.

Crown: The crown is large, broad, dense, open, pyramidal, spreading, and irregular. Its branches are open, long, crooked, and horizontal. These branches make perfect sites for Great Blue Herons (*Ardea herodias* L.) rookeries.

Because of the Sycamore's massive branching, this tree makes an ideal shade tree. Many people have planted this tree as a landscape shade tree. However, this tree is messy and cleaning up the debris can be a major task.

Bark: The outer bark is brown to gray, scaly or platy, furrowed, ridged, brittle, and non-elastic. This outer bark remains upon the lower trunk of the tree. As the tree grows, the outer bark of the upper trunk and the branches exfoliates in thin, irregular flakes to reveal the inner bark. This inner bark is smooth and is mottled with colors of creamy white, yellow, gray, and light green. Because these upper branches are very light colored, this tree can be easily observed from great distances.

A few mammal species eat upon this bark. Some of these species are the Beaver (*Castor canadensis* Kuhl) and the Squirrels.

Roots: The roots are shallow and wide spreading in lowland areas and are deep in upland areas. These roots are able to sprout new shoots.

These roots can tolerate compaction, drought, and can anchor the tree against windthrow. Because Sycamores are highly wind-resistant, they are used as shelterbelts.

Twigs: The twigs are dark green, orange- or yellow-brown, or gray. They are also narrow or stout, smooth, and zigzag. There are ringed stipule scars present at the nodes of the twig. Both the White-tailed Deer (*Odocoileus virginianus* Zimmermann) and the Muskrats (*Ondatra zibethica* L.) will eat these twigs.

Buds: The lateral buds are about 1/4-3/8 inches long, divergent, conical, blunt, red-brown, resinous, and have 3 bud scales. However, only 1 bud scale, which is smooth and closed, is visible. There are no true terminal buds.

Leaves: The leaves are deciduous, simple, and alternate. The leaf is about 4-10 inches long and broad and is broadly ovate. Each leaf has about 3-5 short, broad, pointed lobes (the top lobe is wider than its length); round, shallow sinuses; and large, coarsely serrated teeth along its wavy margins. Its base is both cordate and truncated. There are about 3-5 prominent leaf veins radiating from the leaf base. The leaf is bright green above and is lighter below. Except for the veins, this leaf is hairless. In the fall, these leaves become orange, orange- or yellow-brown, or tan.

The leaf petioles are about 2-5 inches long, stout, and are both enlarged and hollow at their bases. These hollow bases enclose the leaf buds. The narrow leaf scars from the petiole encircle these leaf buds.

In the spring, there are single, toothed, and leaflike stipules at the base of the petiole. These stipules both clasp and encircle the entire twig.

The leaves are tolerant of both smoke and air pollution. These leaves actually help keep the environment clean. Blowing dust collects upon these leaves, which is later washed out by the rain.

Flowers: This tree is monoecious with both separate male and female flowers. These flowers are wind-pollinated. Flowering season is usually March to June.

Male Flowers: The male flowers are either red or yellow, have 3-6 stamens, 3-6 scaly sepals, 3-6 papery petals, and are about 3/8 inches in diameter. They are arranged in clusters located upon short axillary peduncles.

Female Flowers: The female flowers are both red and yellow, have 4 petals, 4 sepals, 4-celled ovaries, long red styles, and are about 1/2 inches in diameter. They are arranged in rounded clusters located upon long terminal peduncles.

Fruit: The fruit is yellow or brown, compacted, globose, dry, hairy, and about 3/4-2 inches in diameter. The pendent fruit ball hangs upon a 3-6 long stalk. Each stalk usually holds only 1 pendent fruit ball.

Each fruit ball contains several compacted achenes or nutlets. Each nutlet is narrow, about 1/2 inches long, 1-seeded, and 4-angled. The nutlets' bases are covered with tufts of long, stiff hairs that open when the nutlet breaks free. Many songbirds, such as the Common Goldfinches (*Carduelis tristis* L.) and the Eastern Purple Finches (*Carpodacus purpureus* [J.F. Gmelin]), and small rodents eat these nutlets.

Fruiting season begins in September and persists throughout winter into early spring. Afterwards, the fruit ball breaks up into the nutlets, which are then dispersed by wind or by water. Of the many thousands of released nutlets, only about 5-10% of them will ever germinate. To germinate, the nutlet needs an open, sunlit environment.

Wood: The heartwood is red- or light brown and the sapwood is white, yellow, or tan. This wood is hard, heavy, tough, weak, and close- and interlocking-grained. These interlocking or twisting grains alternate yearly between right-handed spirals and left-handed spirals. Because of that, this wood is very hard to split.

This wood warps easily and is difficult to season. When it is seasoned, the heartwood shrinks.

Habitats: The Sycamore favors most wetlands (especially streams), but will thrive in drier soils. It may be found alone or in small groups but is rarely found in pure stands. It is often a pioneer species in both old fields and strip mines.

Range: The Sycamores covers most of the eastern U.S., except northern New England, Florida, the Gulf Coast, and the Upper Great Lakes.

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