

Tulip tree (disambiguation)

Liriodendron (Tulip Tree)



Liriodendron tulipifera foliage
and flower.

Morton Arboretum acc. 500-
67*21

Scientific classification

Kingdom: Plantae

(unranked): Angiosperms

(unranked): Magnoliids

Order: Magnoliales

Family: Magnoliaceae

Genus: Liriodendron

Species

Liriodendron chinense (Hemsl.)
Sarg.

Description.

These trees are widely known by the common name tulip tree or tuliptree for their large flowers superficially resembling tulips, though they are not closely related to the true tulips. The Latin *Liriodendron* actually means "lily tree", though again the resemblance is only superficial. The tulip tree is sometimes referred to as "tulip poplar" or "yellow poplar", and the wood simply as "poplar", although *Liriodendron* is not closely related to the true poplars either. The tree is also called canoewood, saddle-leaf tree and white wood.

Two species of *Liriodendron* are known extant. *Liriodendron tulipifera* is native to eastern North America, while *Liriodendron chinense* is native to China and Vietnam. Both species often grow to great size, sometimes exceeding 32 m (105 ft) in height. The American species is commonly used horticulturally, and hybrids have been produced between these two allopatrically distributed species.

Liriodendron trees are easily recognized by their leaves, which are distinctive, having four lobes in most cases and a cross-cut notched or straight apex. Leaf size varies from 8–22 cm long and 6–25 cm wide.

The tulip tree is often a large tree, 18–32 m high and 60–120 cm in diameter. Its trunk is usually columnar, with a long, branch-free bole forming a compact, rather than open, conical crown of slender branches. It has deep roots that spread widely.^[3]

Leaves are slightly larger in *Liriodendron chinense*, compared to *L. tulipifera*, but with considerable overlap between the species; the petiole is 4–18 cm long. Leaves on young trees tend to be more deeply lobed and larger size than those on mature trees. In autumn, the leaves turn yellow, or brown and yellow. Both species grow rapidly in rich, moist soils of temperate climates. They hybridize easily, and the progeny often grow faster than either parent].

Flowers are 3–10 cm in diameter and have nine tepals — three green outer sepals and six inner petals which are yellow-green with an orange flare at the base. They start forming after around 15 years and are superficially similar to a tulip in shape, hence the tree's name. Flowers of *L. tulipifera* have a faint cucumber odor. The stamens and pistils are arranged spirally around a central spike or gynaecium; the stamens fall off, and the pistils become the samaras. The fruit is a cone-like aggregate of samaras 4–9 cm long, each of

which has a roughly tetrahedral seed with one edge attached to the central conical spike and the other edge attached to the wing.

Various extinct species of *Liriodendron* have been described from the fossil record.

Distribution

Liriodendron trees are also easily recognized by their general shape, with the higher branches sweeping together in one direction, and they are also recognizable by their height, as the taller ones usually protrude above the canopy of oaks, maples, and other trees—more markedly with the American species. Appalachian cove forests often contain several tulip trees of height and girth not seen in other species of eastern hardwoods.

In the Appalachian cove forests, trees 150 to 165 feet in height are common, and trees from 166 to nearly 180 feet are also found. More *Liriodendron* over 170 feet in height have been measured by the Eastern Native Tree Society than for any other eastern species. The current tallest tulip tree on record has reached 191.9 feet in height, the tallest native Angiosperm tree known in North America.^[4] Today the tulip tree is rivaled in eastern forests only by white pine, loblolly pine, and eastern hemlock. There are reports of tulip trees over 200 feet in height, but none of the measurements have been confirmed by the Eastern Native Tree Society. Most reflect measurement errors attributable to not accurately locating the highest crown point relative to the base of the tree—a common error made by the users employing only clinometers/hypsometers when measuring height.

Maximum circumferences for the species are between 24 and 30 feet at breast height, although a few historical specimens may have been slightly larger. Today the Great Smoky Mountains National Park has the greatest population of tulip trees 20-feet and over in circumference. The largest-volume tulip tree known anywhere is the Sag Branch Giant, which has a trunk and limb volume approaching 4,000 cubic feet (110 m³).
Cultivation and use[edit]

Liriodendron trees prefer a temperate climate, sun or part shade, and deep, fertile, well drained and slightly acidic soil. Propagation is via seed or grafting. Plants grown from seed may take more than eight years to flower. Grafted plants will flower earlier depending on the age of the scion plant.

The wood of the North American species (called poplar or Tulipwood) is fine grained and stable. It is easy to work and commonly used for cabinet and furniture framing, i.e. internal structural members and sub-surfaces for veneering. Additionally, much inexpensive furniture, described for sales purposes simply as "hardwood", is in fact primarily stained poplar. In the literature of American furniture manufacturers from the first half of the 20th century, it is often referred to as "gum wood". The wood is only moderately rot resistant and is not commonly used in shipbuilding, but has found some recent use in light craft construction. The wood is readily available and when air dried has a density of approximately 24 pounds per cubic foot (0.38 g/cm³).

The name canoewood probably refers to the tree's use for construction of dugout canoes by Eastern Native Americans, for which its fine grain and large trunk size is eminently suited.

Tulip tree leaves are eaten by the caterpillars of some Lepidoptera, for example the Eastern tiger swallowtail (*Papilio glaucus*).



Liriodendron chinense twig with flowers, in which the orange pigment characteristic of *L. tulipifera* is absent.



Tulip tree bark



Tulip tree flower