



Cultivation Notes

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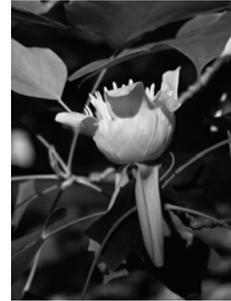
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Tulip-tree – *Liriodendron tulipifera*

Family: Magnoliaceae

By Dick Fisher

Liriodendron tulipifera is one of Rhode Island's majestic native trees. Its common name refers both to its tulip-like spring flowers and to its classic leaf shape. It is also known as Whitewood, Tulip-poplar, and Yellow Poplar, although it is not actually related to the poplars, but instead is a member of the Magnolia family. It has a long history originating in the Cretaceous period (65 million years ago) and, in the pre-glacial era, grew throughout Europe and Asia. Today its native range is confined to eastern North America. *Liriodendron chinense*, a native of China, is the only other species in the *Liriodendron* genus.



L. tulipifera, flower



L. tulipifera

The Tulip-tree's current range is from southern New England, including Rhode Island, Massachusetts, Connecticut and Vermont, west to the great lakes and south to Louisiana and Florida. In our area it commonly attains a height of 50 to 100 feet with a diameter of two to six feet, often growing taller than maples and oaks. In the southern Appalachian states it may reach a height of 200 feet and live 250 to 300 years. A truly magnificent tree, it is the designated state tree of Kentucky, Tennessee, and Indiana. The Rhode Island Tree Council Champion Trees registry lists four individual *Liriodendron* in its top 25 biggest trees, and it appears eight times in the top 25 tallest. For individual height it holds second place in Rhode Island at 115 feet.

The Tulip-tree is a big tree with a straight trunk and symmetrical crown. The wood is light colored, fine grained, and light weight (26 lbs/cubic ft as opposed to 43 lbs for oak). Native Americans used the large logs for dugout style canoes, and more recently the wood has been used for cabin logs, shingles, furniture, inside trim and veneers. It has a low resin content, which makes it ideal for painting. It is also used for making high quality book paper. The stature and symmetry of the tree make it a good landscape plant where there is sufficient space. Just remember it will take 10 to 20 years to begin to bloom and produce seed.

The Tulip-tree is a facultative upland species growing in deep moist soils. The leaves are alternate and three to six inches in length. In the fall they turn bright gold. The flowers appear in May and June, are yellow/orange/green in color and have three sepals and three or more petals. As the flower matures, the sepals fold down, enlarging the visible flower size. It has multiple stamens and pistils arranged in a spiral pattern, a trait persisting from its primitive origins. It is reported to be pollinated by beetles, flies, native bees and honeybees. The fruit is a three-inch cone of winged seeds (samaras) which are packed together to form upright candles. These mature in October or November, turn brown, and the entire structure falls apart. The samaras scatter, leaving just a slender stalk. The seeds are a food source for birds and small mammals.

This is a fascinating tree with many excellent natural and cultural qualities. I encourage you to become acquainted with it and, if you have enough space, to grow it for yourself and future generations to enjoy.

Propagation

Cultivation is usually from seed. The seeds have internal dormancy and so require a pre-germination treatment of either 1) two to three months cold stratification in peat or a peat and sand mix, followed by spring planting or 2) planting directly in the fall. I have had success planting seeds in the fall in pots and sinking the pots in the ground outside covered by a thin mulch for protection. Alternatively seeds can be fall planted in an outside bed lightly covered with mulch. I have successfully transplanted seedlings growing spontaneously in a garden bed in the vicinity of a mature *Liriodendron*. Since it is estimated that only one out of ten samaras contains viable embryos, you should plant a lot. This isn't difficult since each 'cone' has 80 to 100 samaras, and each samara one or two seeds. There is no need to separate the seeds; just plant the entire samara. The seedlings, which will emerge in the spring, will do best with some shade for the first month or two.

Propagation from cuttings is thought to be difficult, but there are reports of success if the cuttings are taken in July from immature plant stock.

There are several named cultivars, but nurseries in this area list only the native *L. tulipifera*; it seems to be readily available here.



L. tulipifera, cone



L. tulipifera, seed pod

References:

- Dirr, Michael A. and Charles W. Heuser. 1987. *The Reference Manual of Woody Plant Propagation: From Seed to Tissue Culture*. Varsity Press, Inc., Athens, GA.
- Fergus, Charles. 2005. *Trees of New England*. Globe Pequot Press, Guilford, CT.
- Petrides, George A. and Janet Wehr. 1998. *A Field Guide to Eastern Trees*. Peterson Field Guide Series, Houghton Mifflin Company, New York, NY.
- Gould, Lisa L., et.al. 1998. *Vascular Flora of Rhode Island: A List of Native and Naturalized Plants*. RI Natural History Survey, Kingston, RI.
- Leopold, Donald J. 2005. *Native Plants of the Northeast*. Timber Press, Portland, OR.
- Rhode Island Champion Trees 2008*. A publication of The Rhode Island Tree Council, Providence, RI. www.RITree.org
- Schopmeyer, C.S. 1974. *Seeds of Woody Plants in the United States*. Agriculture Handbook No.450. Forest Service, U.S. Department of Agriculture, Washington, DC.

RIWPS Policy — *Never dig plants in the wild or without the written permission of the landowner. Take seeds sparingly.*

Note: Cultivation Note is a regular feature in *WildfloraRI*, the Bulletin of the Rhode Island Wild Plant Society. If you would be interested in writing a future cultivation note article or have suggestions of plants you would like to see included, please contact Richard.fisher@ucdenver.edu. The previous cultivation note topics are listed on the website and there is an easy to follow set of guidelines for the format of your article. — *WildfloraRI* Editorial Committee