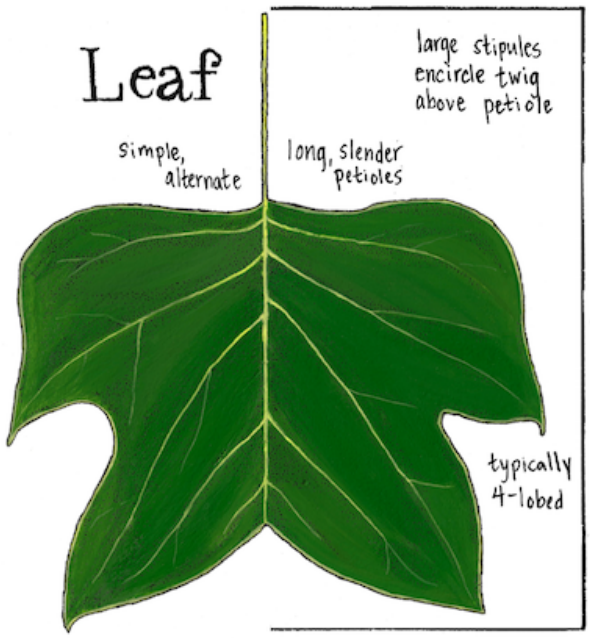
Tuliptree

Liriodendron tulipifera

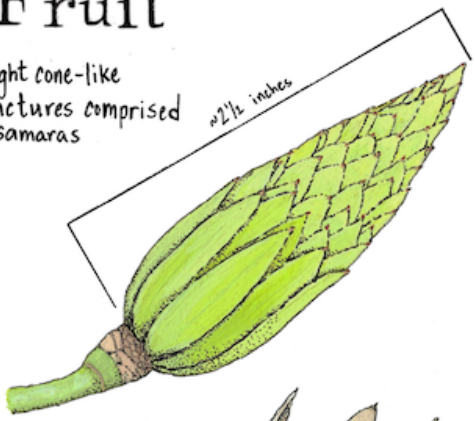
Twig & Bud

Leaf



Fruit

upright cone-like structures comprised of samaras



persist through winter; resembles dried flowers

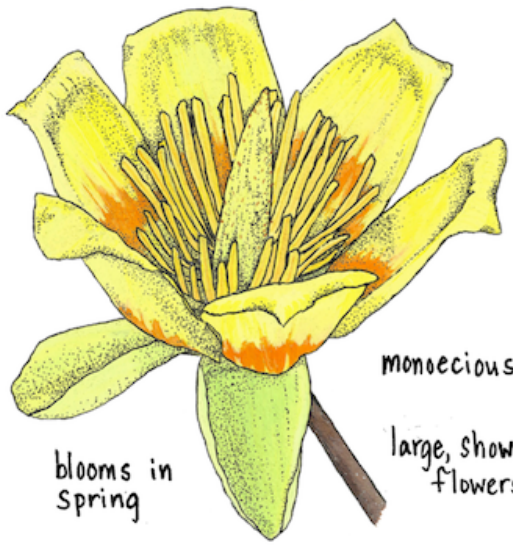
Bark

young bark smooth w/ whitish spots/lines; mature bark has distinct ridges w/ lighter furrows; gray to brown

Habitat

common in mixed deciduous forests; often cultivated; prefers rich, moist soil

Flower



monoecious

large, showy flowers

blooms in Spring

TREE OF THE MONTH

Tuliptree • *Liriodendron tulipifera*

ALSO KNOWN AS: TULIP-POPLAR, YELLOW-POPLAR, WHITE-POPLAR

The tuliptree (*Liriodendron tulipifera*) is a deciduous tree in the Magnoliacaea (magnolia) family. As one of the tallest hardwoods we have in the northeast, it typically reaches heights of 70 to 100 ft, but can easily reach up to 140 ft under optimal conditions. They have a diameter of 4 to 6 ft with a single, columnar trunk and arching side branches. The branchless bole of the trunk is apparent and massive, often comprising the majority of the tree's height. The branches, twigs, and leaves grow in an alternate pattern.

The tuliptree is a frequently encountered tree species within mixed deciduous forests in the eastern United States. It thrives in moist and nutrient-rich soils, yet it can also be found in drier locations. Additionally, it is a popular choice for cultivation. While the native range of the tuliptree barely extends into Massachusetts, primarily in the southwestern part of the state, it is gradually expanding northward due to climate change, mirroring the shifting patterns seen in many other species. In the northeastern region, the tuliptree often grows alongside white oak, northern red oak, white ash, black cherry, American beech, yellow birch, and sugar maple.

The leaves of the tuliptree have a distinctive and easily recognizable shape that sets them apart from many other tree species. Some observers have likened their shape to the outline of a tulip flower, but a closer comparison might be made to the head shape of Felix the Cat™, a famous cartoon character created in 1919. These leaves typically measure between 3 to 6 inches in length and 3 to 7.5 inches in width. They are categorized as broadleaf, possess a simple structure, and are arranged alternately along the branch.

The petioles (leaf stems) are notably long and slender, while the leaf blade appears smooth on both its upper and lower surfaces. Most tuliptree leaves have four distinct lobes, although occasionally they can exhibit up to six. The apex, or the tip of the leaf, is broadly notched. Additionally, large stipules, which are leaf-like structures, encircle the twig just above the point where the petiole attaches to the branch.

The bark of young tuliptrees are ash-gray to grayish-green, with whitish spots that turn into vertical cracks that may be brownish or rust-colored at the center. This trait persists for many years before the cracks develop into deep furrows that become a darker gray to brown.

The twigs of the tuliptree are moderately thick, gently arching upwards, and exhibit a reddish-brown coloration. They frequently feature a purplish bloom that can be easily rubbed off, a characteristic referred to as "glaucous." These twigs possess a diaphragmed pith, which means that the central cylindrical part of the twig is solid but divided by intervals of darker, horizontal tissue. The terminal buds, found at the tips of the twigs, have a somewhat flattened appearance and resemble a duck's bill.

Like many other trees in the magnolia family, the tuliptree has perfect flowers, meaning each individual flower contains both male and female reproductive parts. These large tulip-like flowers make their appearance in the spring and feature greenish-yellow tepals with an orange base. The tuliptree species is monoecious, which means that each individual tree produces both male and female flowers. The flowers eventually develop into a tapered, upright cone-like structure comprised of many samaras. These persist through winter and appear as dried flowers, making the tree easy to identify.

OPPOSITE BRANCHING PATTERN | ALTERNATE BRANCHING PATTERN | WHORLED BRANCHING PATTERN

This is the only species of tuliptree native to North America. The sole other existing species in this genus is located in China and bears a striking resemblance to its American counterpart. Prior to the most recent ice age, there were other tuliptree species present in Europe. However, as the advancing ice sheets gradually encroached, the European tuliptrees succumbed to extinction due to geographical barriers, including east-west mountain ranges and the Mediterranean Sea. In contrast, the Appalachian Mountains stretch from north to south, allowing tuliptrees to propagate southward ahead of the advancing ice front. When the ice eventually receded, these trees gradually migrated northward once again. This narrative sheds light on the rich diversity of tree species present in the eastern United States and Canada compared to their European counterparts, as the unique geography of North America facilitated the survival and expansion of various tree species during and after the ice age.

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The tuliptree species epithet, *tulipifera*, translates to "tulip-bearing." The genus name *Liriodendron* originated from the Greek word *lirio*, which means "lily," and *dendron*, the Greek word for tree.