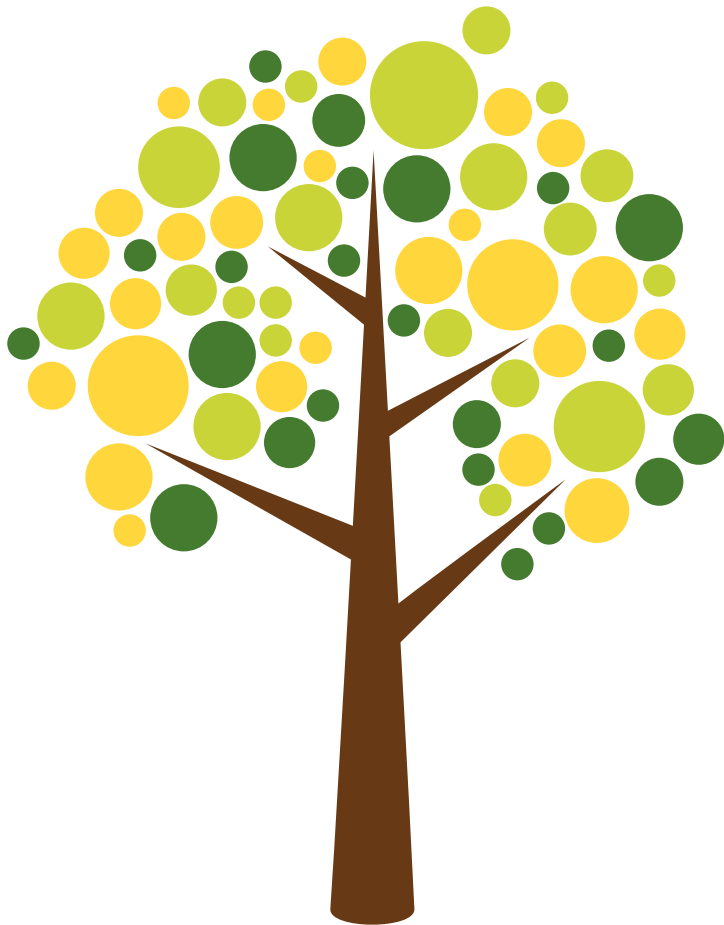


KNOXVILLE TREE ID

LEAF COLLECTION ALBUM





TREES PROVIDE US WITH MANY
BENEFITS
NECESSARY FOR SURVIVAL,
INCLUDING CLEAN AIR, FILTERED
WATER, SHADE, AND FOOD. THEY
ALSO GIVE US HOPE AND INSIGHT,
AND COURAGE TO PERSEVERE –
EVEN IN THE HARSHTEST
CONDITIONS. TREES TEACH US TO
STAY ROOTED WHILE SOARING TO
GREAT HEIGHTS.

ONETREEPLANTED.ORG

DIRECTIONS

Supplies Needed:

Wax paper

Towel or thick piece of paper

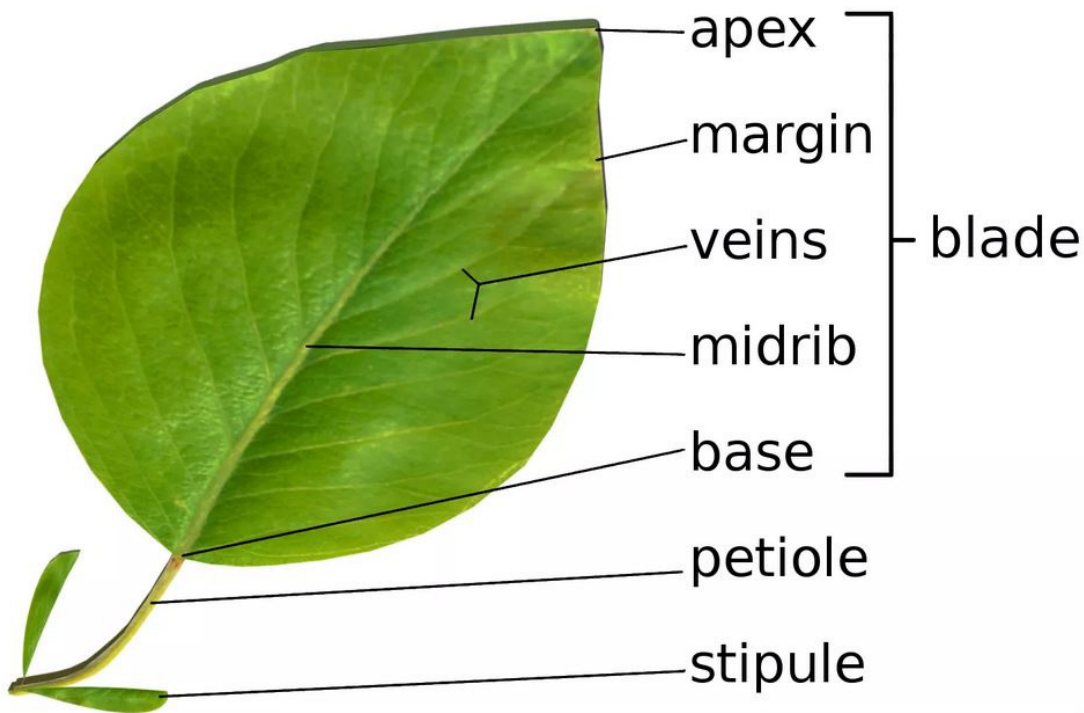
Iron

Tape, glue, or stapler

Let's get outside and explore our backyards, school grounds, or even a local park. Each tree in this booklet is one found commonly in Knoxville.

1. Read the description and facts about the trees and its leaves.
2. Search outside for a leaf that matches that description.
3. Place your leaf between two pieces of wax paper and cover with a towel or thick piece of paper.
4. Lightly iron the leaf with a warm iron until the wax paper seals.
5. Tape, glue, or staple your leaf in the booklet under its tree name.

ANATOMY OF A LEAF



Blade - broad portion of a leaf.

- **Apex** - leaf tip.
- **Margin** - leaf edge boundary area. Margins can be smooth, jagged (toothed), lobed, or parted.
- **Veins** - vascular tissue bundles that support the leaf and transport nutrients.
- **Midrib** - central main vein arising from secondary veins.
- **Base** - area of the leaf that connects the blade to the petiole.

Petiole - thin stalk that attaches the leaf to a stem.

Stipules - leaf-like structures at the leaf base.

KEY TERMS

Leaf Forms

- **Simple:** A leaf that has only one leaf attached to the tree limb.
- **Compounded:** A leaf that has two or more leaflets attached to a central leaf stem that is in turn attached to the tree limb.

Growth Pattern

- **Opposite:** Twigs and/or leaves are attached to the limb directly across from one another.
- **Alternate :** Twigs and/or leaves are attached to the limb in a zigzag pattern where the attachments on either side are not directly across from one another.

Leaf Characteristics

- **Tip:** The portion of the leaf that projects out from the central leaf like a finger on a hand.
- **Lobe spikes:** Needle-like point sticking out at the end of each lobe.
- **Leaf sinus:** The dip in the leaf between the lobes.
- **Toothed margin:** Coarse to fine-toothed edges.
- **Oblong:** elongated oval shape.

Tree Information and Picture Sources:

UT Extension The All Season Pocket Guide To Identifying Common Tennessee Trees

City of Knoxville Urban Forestry Department

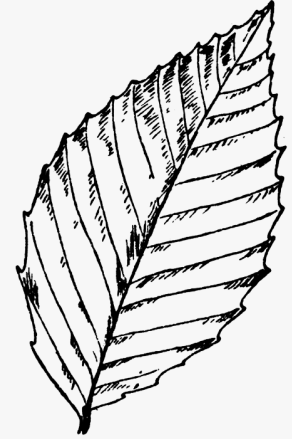
Arbor Day Foundation

Project Gutenberg's Forest Trees of Texas, by W. R. Mattoon and C. B. Webster

AMERICAN BEECH

American beech retains its very smooth, gray bark without peeling, no matter how large it grows. It is very particular about growing in moist, well-drained areas such as hollows and north-facing slopes. Often, it will retain its leaves (light tan after frost) most of the winter. Mature trees reach 50 to 70 feet tall.

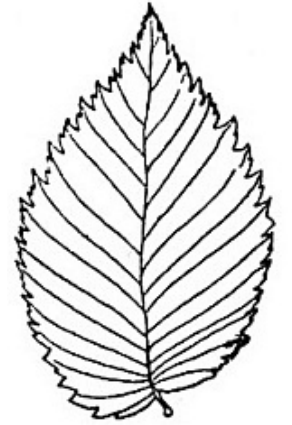
Leaves are long, sharp-tipped, 3–5 inches long with toothed edges and very prominent, straight veins that stand out along the bottom of the leaf.



AMERICAN ELM

American elm have three or four major limbs usually forked sharply upward from the trunk, then arch gracefully over and end with clusters of fine branch tips.

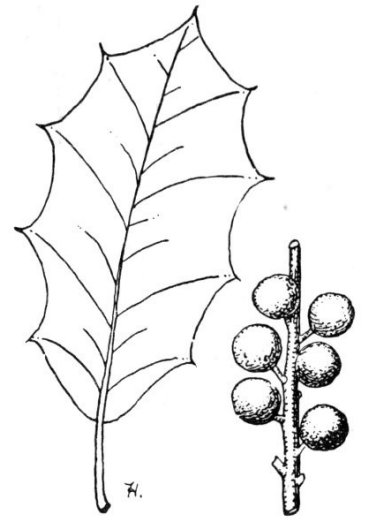
Leaves for elms are 3 to 7 inches long, oval and doubletoothed, with fine teeth between evenly spaced, coarse teeth. The base of the leaf is lopsided. The top of the American elm leaves is smooth.



AMERICAN HOLLY

American Holly berries attract many birds and small mammal species. The tree also provides cover and nesting sites. The American holly grows to a height of 40 to 50 feet. This tree is considered both an evergreen tree and an ornamental tree.

Features leathery leaves that are 2 to 4 inches long, maintain their green color year-round, and are sharply tipped on the margins.



ASH TREE

The two most common species of ash in Tennessee are green ash and white ash. Green ash are found in wet sites, while white ash is usually found growing on well drained to dry soils. Both have corky light tan to gray rough bark that sometimes forms a tight, diamond chain-shaped pattern. The surface of the bark will usually rub off in a crumbly manner. Mature trees reach 50 to 80 feet tall.

Ash trees have compound leaves that are 9–12” long and grow opposite of one another along the branch. Leaves have 3 to 11 growing along the sides and end of the leaf stalk.



BLACKGUM

The silver-gray to almost black bark of larger blackgums often so closely resembles oak or elm that at first glance the tree may be misidentified. Looking up will reveal a crown filled with unusually small, relatively short, often twisted branches growing out of the tree trunk at 90-degree angles.

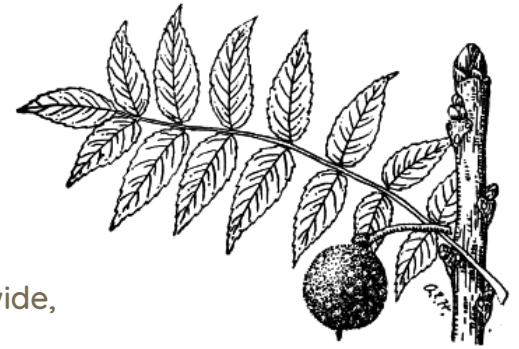
The leaves are 2 to 5 inches long and 1½ to 3 inches wide. The edges are almost always smooth. Shape varies from broadly oval to narrow at the base, gently flaring out to a maximum width at a point approximately two-thirds of the way toward the end of the leaf, then rounding down to the tip on the end of the leaf. Most leaves have a short, narrow, protruding tip on the end. Healthy leaves are a deep, dark green.



BLACK WALNUT

Black walnut has a rough dark bark and only a few, widely spaced, strong-looking limbs. When grown in the open, the black walnut reaches 75 feet tall. The hard to crack shell encases a rich flavored nut.

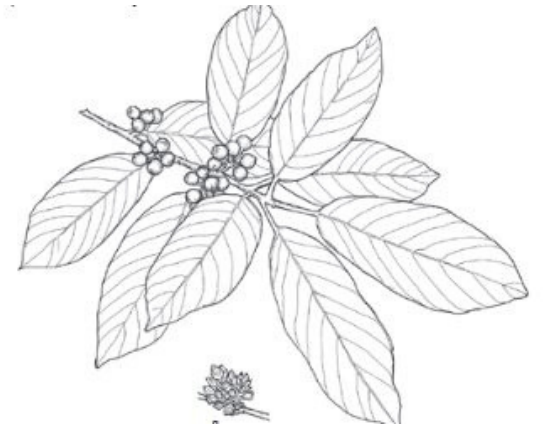
Black walnut leaves are 1-2' in length with 13 to 23 leaflets, 2 to 4 inches long and 1 to 2 inches wide, sharply toothed and pointed. The end leaflet is often missing.



CAROLINA BUCKTHORN

Despite its common name, this plant has no thorns. Its ripe berries attract birds, and its leaves and bark are browsed by deer. The Carolina buckthorn height ranges from 12 to 15 feet tall.

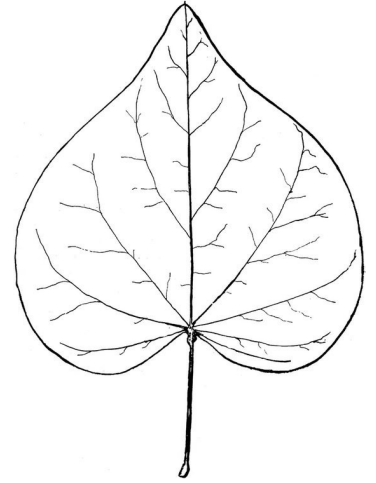
Its leaves alternate, are elliptical to oblong in shape. They are 2 to 5 inches long; edges smooth with a few widely spaced teeth, or with very tiny teeth; its veins are parallel, turning near edge of leaf to follow the edge; shiny green above and slightly paler below



EASTERN REDBUD

Its pink flowers are borne in tight clusters along the stems and branches before new leaves appear, creating a showy display in April. Redbuds grow to be about 20 to 30 feet tall.

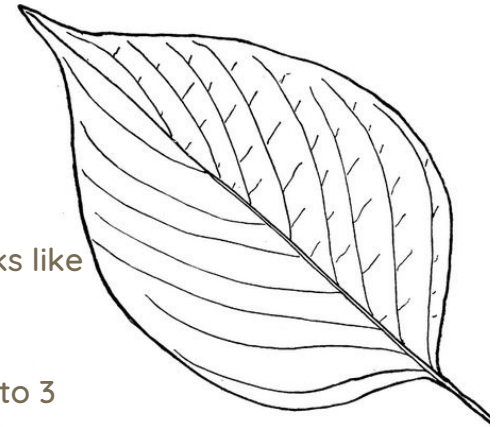
Features somewhat heart-shaped leaves 2 to 6 inches in length. They emerge a reddish color, turning dark green as summer approaches and then yellow in the fall.



FLOWERING DOGWOOD

Flowering dogwood is a small tree, reaching no more than 20 feet in height with a rather flat and spreading crown and short, often crooked, trunk. The bark is tan to dark brown. Flowering dogwood blooms in spring with small flowers surrounded by four large, white, false petals that form what looks like large white flowers. In the fall, the leaves and clusters of berries turn red.

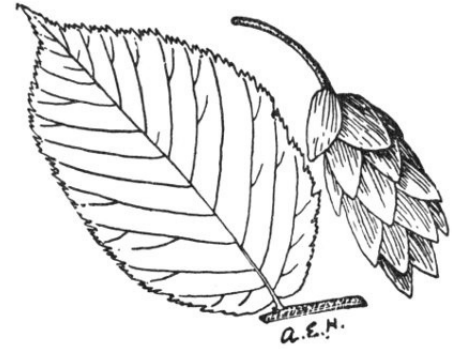
Flowering dogwood's dark to yellow-green leaves are oblong and rounded, 3 to 5 inches long and 2 to 3 inches wide, with smooth but wavy outer edges that are almost rounded at the base and tipped at the end. The veins make pronounced sweeping upward curves from the central vein to the outside edge of the leaf.



HOP-HORNBEAM

The tree gets its common names from the qualities of its wood and the hop-like fruit. It is a small, slender, generally round-topped tree, from 20 to 30 feet tall. This tree provides some food value to songbirds and small mammals.

The leaves are simple, alternate, generally oblong with narrow tips, sharply doubly toothed along the margin, and from 2 to 3 inches long.



BLACK LOCUST

Black locust has light brown, rope-like bark, with the presence of thorns along the twigs and trunk. A full grown locust can be between 30 and 50 feet tall.

Black Locust leaves are compounded, 8 to 14 inches long, with 12 to 20 small oval leaflets. The base and tip of the leaflets are rounded at the ends.



HONEY LOCUST

The bark of honey locust is flat and scales up from the side. Honey locust has very large thorns on its trunk and branches. These thorns are sometimes 4 inches long and often have long secondary spikes angling out from their base. A full grown locust can be between 30 and 50 feet tall.

Honey Locust leaves are doubly compounded, 8 to 14 inches long, with 12 to 20 small oval leaflets. The base and tip of the leaflets are rounded at the ends.



RED MAPLE

.Full-grown trees may have flaky bark all the way up into the limbs. Green stems turn red in winter, new leaves are red-tinged, turning to green. Fall color is deep red or yellow. The red maple can grow to be 40 to 60 feet tall.

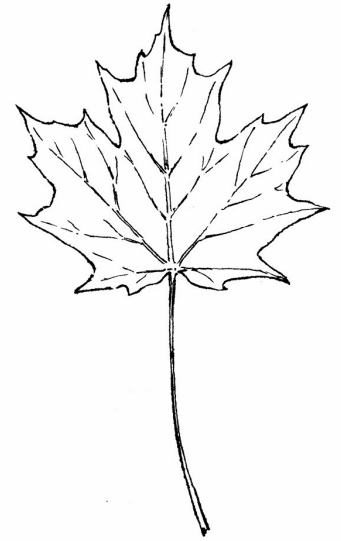
Leaves are 2½ to 4 inches in length and width with wide but jagged edges along the lobes. Usually there are three large lobes and sometimes two smaller ones. The sinuses between each lobe form a sharp V-notch.



SUGAR MAPLE

Sugar maple can often be identified by the often-present, solid black, burned-looking areas on the lower parts of the tree trunk. Sugar maples grown in the woods usually have lower limbs that grow out from the tree at 90-degree angles to the tree trunk. Parallel rows of ¼ inch- diameter holes made by sapsuckers may often be found on the trunk.

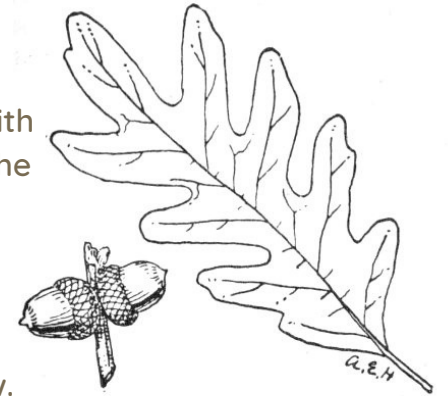
The leaves are 3 to 5 inches across, with three to five pointed and sparsely toothed lobes. The divisions between the lobes are rounded. The leaves are dark green on the upper surface, lighter green beneath, turning in autumn to brilliant shades of orange and clear yellow.



WHITE OAK

White oak has one of the lightest-colored barks in Tennessee's forests. It typically is very light gray with a texture that varies in texture with long strips cracking loose and sometimes peeling from the side. The bark feels soft to the touch and crumbles off the tree when rubbed. White oaks are often among the largest trees in the forest.

The leaves are 5 to 9 inches long and about half as wide. They are deeply divided into five to nine rounded, finger-like lobes with no spikes. Mature leaves are bright green above and much paler below.



CHESTNUT OAK

Chestnut oak is a member of the white oak group. It often grows on dry sites such as upper slopes and ridge tops, reaching 50 to 80 feet in height. A distinguishing characteristic is the very deeply cracked bark. The cracked bark is V-shaped and so deep and wide you can usually lay your fingers completely inside the channels.

The leaves of chestnut oak are simple, oblong, often rounded at the point, blunt-toothed, 5 to 9 inches long and shiny yellowish-green above, lighter and slightly fuzzy beneath.



SOUTHERN RED OAK

Southern red oak is one of Tennessee's most common trees. It usually has a round, well-pruned trunk with a slight swell at the base and good form up to strong, well-spaced limbs at the top. The hard bark is very rough but thin, giving the illusion of its being compressed and glued to the tree.

Mature leaves are usually 5 to 7 inches long and dark green. The long central lobe and two shorter opposite-side lobes often give leaf a "turkey foot" look. Leaves may also have smaller additional side lobes. All lobes are bristle-tipped.



SCARLET OAK

A member of the red oak group, Scarlet oak is usually a poorly formed tree with dead branches spiking out of the trunk. The bark often has long silver stripes up and down the trunk. The bark is tight, dark gray and hard to the touch with shallow ridges running up and down the tree between wide, flat plates of bark.

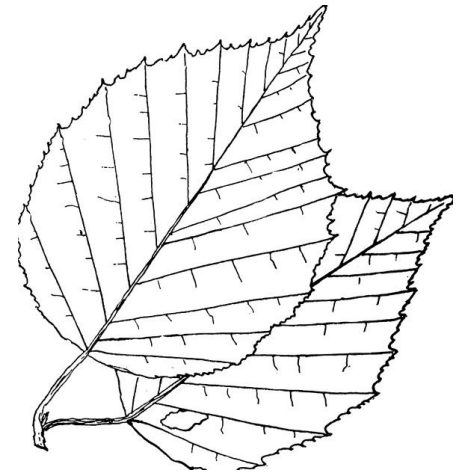
The leaves are simple, somewhat oblong or oval, 3 to 6 inches long, 2½ to 4 inches wide and usually seven-lobed. The lobes are bristle-pointed and separated by rounded openings extending at least two-thirds of the distance to the midrib, giving the leaves a very deep, “cut” appearance. The leaves turn a brilliant scarlet in the autumn before falling to the ground.



RIVER BIRCH

As its name suggests, the river birch naturally grows along riverbanks, but it can be planted almost anywhere. Birch trees provide a great habitat for birds and squirrels. The silver bark peels to reveal a cinnamon-brown trunk beneath. The river birch grows to a height of 40 to 70 feet.

The river birch has glossy green leaves that are 2 to 3 inches long and somewhat triangular. Margins are double-toothed and leaves are arranged alternately. The upper surface is dark green and the lower a pale yellowish green.



RUSTY BLACKHAW

A tree or multi-stemmed shrub with impressive dark green foliage in summer months changing in the autumn to a purple, rich red burgundy color which is quite showy. Its flowers are creamy white and bloom in early May. The flower blooms are followed by a droopy blue-black edible fruit. The blackhaw can grow to be 12 to 15 feet high.

Its leaves are leathery in texture, dark green above, pale and dull below, about 3 inches long, and 1 to 1½ inches wide. The leaves are oval in shape and pointed at the tip.



SASSAFRAS

Sassafras has thick, rough reddish-brown to weathered silver bark that often causes it to be confused with other trees, including black walnut. Slicing off the surface of the bark will reveal a pale orange inner bark. Smelling the fresh-cut slice will usually be rewarded with the distinctive sassafras smell that resembles the smell of root beer. Twigs are bright green and brittle.

Sassafras may have a mixture of 3 to 5 inches long leaves with no lobes, two lobes or three lobes, all growing on the same limb. Edges of the leaves are smooth, giving the lobed leaves the look of mittens.



SOURWOOD

Sourwood is a small tree, growing 30 to 70 feet tall. It has thick, chunky silver gray to reddish-brown bark and often grows with a curved trunk and top that droops over. There may be long, fine clusters of very small fruit capsules hanging down from the ends of the branches. Small white lily-of-the-valley-like flowers turn red in autumn.

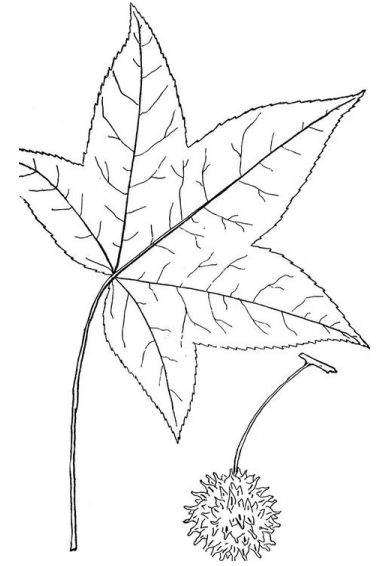
The leaves are from 5 to 7 inches long and 1 to 3 inches wide, with finely toothed margins. Chewing small twigs or rolling up and chewing on the leaf will produce a very sour taste.



SWEETGUM

Sweetgum has a light gray, rough, corklike bark. It is tall, with a narrow “teepee” shaped top. The fruit capsules are usually about the size of a golf ball and look like starbursts on a stem because they have sharp open points pointing in all directions.

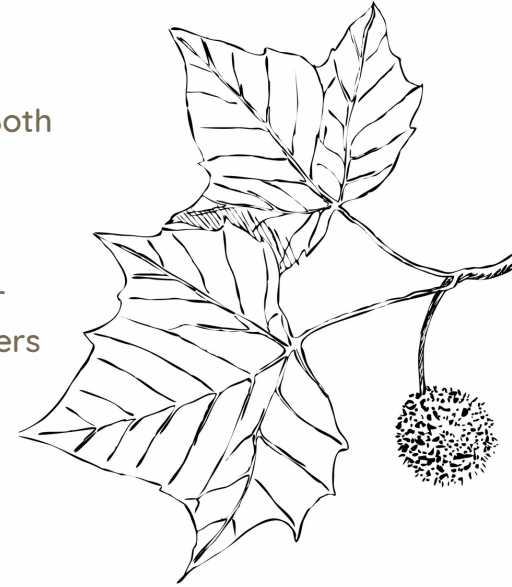
The simple, star-shaped leaf, with its five to seven points or lobes, is 5 to 7 inches across and very aromatic when crushed. In the fall its coloring is brilliant, ranging from pale yellow through orange and red to a deep bronze..



SYCAMORE

A shade tree, Sycamore grows to a larger trunk diameter (11 ft.) than any other native hardwood. Both the trunk and the well-spaced, large, long limbs shed random patches of paper-thin, light tan bark, exposing large areas of very smooth, white bark.

The sycamore leaf is 4 to 8 inches wide and irregularly fanshaped, usually slightly longer and wider than a man's hand. Veins for the leaf all originate at the base stem of the leaf and fan out like fingers into the lobes.



TULIP POPLAR

The state tree of Tennessee, the tulip-poplar is a distinctive tree that grows straight and round. The bark is smooth and gray in small trees, becoming rougher and more brown as the tree grows larger. The tulip poplar grows to a height of 70 to 90 feet.

Leaves are 3 to 6 inches long with distinctive lobes, a flat base and two ear-like tips. In May and June, tulip-shaped flowers with greenish-yellow petals and a splash of orange at the base bloom.





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