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IMPORTANT FOREST TREES
OF
THE EASTERN
UNITED STATES

UNITED STATES DEPARTMENT OF AGRICULTURE
DEPARTMENT CIRCULAR 223

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IMPORTANT FOREST TREES OF EASTERN UNITED STATES.

KEY TO COMMON KINDS OF TREES.

The following key is intended only as a guide in the identification of the more common kinds of trees. It is based on prominent, distinctive characteristics which can readily be observed by those who have no special training in botany. Most of the terms used require no explanation.

To use the key, decide first, by an examination of the leaf, in which of the following seven sections your tree belongs; then turn to that section, and from the descriptions there given determine what kind of tree it is.

Section.

Trees with needles or scale-like leaves, mostly evergreens, bearing cones... I
Trees with broad leaves:

Leaves simple—

Alternately attached to twigs—

With toothed edges.................................. II

Edges neither toothed nor notched................ III

Opposite on twigs—

With toothed edges................................ IV

Edges neither toothed nor notched................ V

Leaves compound—

Alternately attached to twigs........................ VI

Opposite on twigs................................... VII

THE CONIFEROUS 2 TREES.

I. TREES WITH NEEDLES OR SCALE-LIKE LEAVES, MOSTLY EVERGREEN, BEARING CONES.

A. Leaves needle-shaped:

(1) Leaves clustered—

(a) Leaves long, from 1 to 18 inches, 2 to 5 in a cluster. Cones large, with many thick, woody scales.................................. (Pinus) Pine.

(b) Leaves short (less than 2 inches long) in brush-like clusters of 12 to 40; falling off in winter. Cones very small, with thin scales; remaining on tree for one or more seasons ............................... (Larix) Larch.

(2) Leaves single—

(a) Leaves scattered around twigs; falling off when dry or dead. Cones elongated, with thin scales. Twigs roughened by leaf-scars.

(x) Leaves stiff, often sharp-pointed and more or less four-sided.................................. (Picea) Spruce.

(y) Leaves soft, flat, rounded, or notched at ends, the bases abruptly contracted into thread-like stems .................................. (Tsuga) Hemlock.

(b) Leaves in two distinct rows, one on each side of the twig; falling off in late autumn or winter. Cones small, ball-like.................................. (Taxodium) Bald cypress.

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1 Reprinted from United States Department of Agriculture Bulletin 863: "Forestry Lessons on Home Woodlands."

2 Cone-bearing.

The larches are peculiar in having single, scattered leaves on the new or terminal twigs produced each season. These should not be mistaken for the "single" leaves borne throughout by other kinds of evergreens.

76303°—22
A. Leaves needle-shaped—Continued.
(2) Leaves single—Continued.
(c) Leaves often in two rows on the tops and sides of the twigs; leaves on lower branches mostly flat, those on upper branches stout. Cones long, erect, forming only on upper side of topmost branches; the scales falling off in autumn, leaving spike-like central axes of the cones attached. — (Abies) Fir.

B. Leaves scale-like, pointed, overlapping closely on flat or four-sided twigs.
(1) Twigs four-sided. Cones round or ball-like, with small, thick scales; seed with very narrow, hard wings. — (Cupressus) Cypress.
(2) Twigs flattened.
(a) Cones elongated, with only a few thin scales; bent back on branches. — (Thuja) Arborvitae.
(b) Cones round, very small, berry-like with thin scales; seeds with a broad, thin wing on two sides. — (Chamaecyparis) Cedar.
(c) Cones berry-like (showing no separation into scaly parts), Leaves either short, scale-like, and sharp-jointed, or much longer, needle-like, standing out loosely, and attached in pairs or in threes on the twigs. — (Juniperus) Juniper.

THE BROADLEAF TREES.

II. LEAVES SIMPLE, ALTERNATE, WITH TOOTHED EDGES.

A. Leaves deeply lobed, or with large notches.
(1) Leaves as wide as they are long. Fruit, a swinging ball, 1 to 1½ inches in diameter.
(a) Leaves with finely toothed margins; star-shaped, the divisions pointed. Fruit, bur-like balls, from which, when ripe, small, winged seeds may be shaken. Bark rough. — (Liquidambar) Sweet gum.
(b) Leaves with smooth margins, 3 to 5 inches long, pointed lobes, the space between the lobes rounded. Fruit, a rough ball, easily broken when ripe; composed of closely packed, long, narrow seeds which have hair-like bristles at their lower ends and are attached to a bullet-like central part. Old bark of trunks and large limbs peeling off in thin, curled pieces, leaving pale inner bark showing in irregular patches. — (Platanus) Sycamore.

(2) Leaves longer than wide.
(a) Leaves large, with deep, round-topped, or pointed lobes. Fruit, an acorn, resting in a separable cup. — (Quercus) Oak.
(b) Leaves small, with little, sharp teeth on margin. Twigs bearing sharp thorns. Fruit small (like a little apple), round, with bony seeds (hard core). — (Crataegus) Hawthorn.

B. Leaves one-sided (one side of leaf shorter at base than the other side).
(1) Leaves large, oval, 5 to 10 inches long, heart-shaped. Fruit, a cluster of small, wooly balls ¼ to ½ inch in diameter, hanging from a narrow, leaf-like blade. — (Tilia) Basswood.
B. Leaves one-sided—Continued.

(2) Leaves 3-veined at base, with long, tapering points, which generally turn to one side; edges smooth, or with small teeth of uniform size. Fruit, a small berry about \(\frac{1}{4}\) inch in diameter.

(Celtis) Hackberry.

(3) Leaves with straight veins, oval; edges double-toothed (little teeth on the larger ones). Fruit in clusters, dry, flat, with papery wings all around the seeds. 

(Ulmus) Elm.

C. Leaves even sided (both sides of leaf the same length).

(1) Leaves oval, evergreen thick, with short needle-like teeth. Fruit, a bright red berry.

(Ilex) Holly.

(2) Leaves more or less elongated, with one tooth at the end of each side vein.

(a) Trees with smooth, bluish-gray bark, and long, pointed, chestnut-brown buds. Fruit, a small, three-cornered nut, in a spiny husk which splits open at the top into three parts.

(Fagus) Beech.

(b) Trees with ridged, grayish-brown bark. Fruit, a large, round nut in a thick husk covered with dense, needle-like spines; the husk splits open from the top into 3 or 4 divisions.

(Castanea) Chestnut.

(3) Leaves very narrow, finely toothed. Small branches slender, usually tough. Fruit, a long cluster of little pods filled with "cotton".

(Salix) Willow.

(4) Leaves somewhat triangular in outline, broad at base, large-toothed. Buds of some species coated with aromatic gum. Branches coarse. Fruit, a long cluster of little pods filled with "cotton."

(Populus) Poplar.

(5) Leaves oval, pointed, with saw-like teeth.

(a) Fruit like a tiny pine cone.

(x) Bark of trunk and branches peeling off in thin sheets. Leaves double-toothed (little teeth on the larger ones.) Fruit ("cones") scaly, falling apart when ripe; seeds with gauze-like wings on two sides.

(Betula) Birch.

(y) Bark smooth or broken, but not peeling. Leaves with small teeth. "Cones" hard, woody, not falling apart; seed with narrow wings on two sides.

(Alnus) Alder.

(b) Fruit, a berry; fleshy, edible.

(x) Leaves large, 3-veined at base, often irregularly, deeply lobed; containing milky juice. Fruit similar in appearance to a blackberry.

(Morus) Mulberry.

(y) Leaves small or medium-sized, feather-veined; containing green juice; fruit (cherry or plum) with one seed.

(i) Seed ("stone") flattened. Fruit large and short-stemmed. 

(Prunus) Plum.

(ii) Seed round. Fruit small and long-stemmed. 

(Prunus) Cherry.
III. Leaves Simple, Alternate, Edge Neither Toothed nor Notched.

A. Leaves with deep lobes.

(1) Leaves with blunt ends (appearing as if cut off), and with two, pointed, side lobes. Flowers tulip-like. Fruit cone-like, pointed, upright, composed of long, thin, overlapping, winged seeds. Bruised twigs have a peppery odor. (Liriodendron) Tulip Poplar.

(2) Leaves with rounded ends; oval, often with a lobe on one side, making the leaf mitten-shaped. Bruised twigs and inner bark of trunk sweet-smelling. (Sassafras) Sassafras.

B. Leaves without lobes.

(1) Bruised twigs with peppery odor.

(a) Leaves oval (evergreen in one species) or elongated, pointed, large. Flowers large, at ends of branches. Fruit cone-like, with a bright red seed in each division. (Magnolia) Magnolia.

(2) Bruised twigs without peppery odor.

(a) Leaves broader at top than at the base, 8 to 12 inches long, with very short leafstalk. Fruit fleshy, elongated, 3 to 4 inches long, with thick, brown skin when ripe, and large, bony, flat seeds. Buds brown and hairy. (Asimina) Papaw.

(b) Leaves broadest at middle, oval, 3 to 10 inches long.

(x) Fruit short-stalked, round, 1 to 1 ½ inches in diameter; when ripe pale orange color, surrounded at base with old flower-cup; very bitter, but edible after frost. (Diospyros) Persimmon.

(y) Fruit long-stalked, elongated or round, solitary or in pairs, with thin flesh and a rigid stone or seed. (Nyssa) Gum.

(c) Leaves rounded or heart-shaped, 3 to 5 inches across. Flowers pea-like, pink, appearing before the leaves. Fruit, a dry flat pod. 2½ to 3½ inches long; in dense clusters on sides of branches; seeds, hard, small, oblong, ¼ inch long. (Cercis) Red bud.

(3) Bruised or cut twigs and leaves with milky juice.

(a) Leaves with narrow points. Twigs bearing thorns. Fruit, a large, orange-like, rough ball, 4 to 6 inches in diameter. (Toxylon) Osage orange.

IV. Leaves Simple, Opposite, with Toothed Edges.

A. Leaves with large (often lobe-like) teeth. Fruit in pairs, each part with a conspicuous, flat, very thin wing. Fruit matures in spring or in autumn, when it becomes dry and yellowish-brown. (Acer) Maple.

V. Leaves Simple, Opposite, Edges Neither Toothed nor Notched.

A. Leaves very large, heart-shaped. Flowers showy, trumpet-like, in large clusters. Fruit, a long, cylindrical pod, 6 to 14 inches long, containing closely packed, flat, dry seeds, with fringed wings at each end. (Catalpa) Catalpa.

B. Leaves rather small, oval, tapering at base and point. Flowers conspicuous, white (occasionally rosy), appearing with the expanding leaves. Fruit, a small cluster of two-seeded berries, turning red in autumn. (Cornus) Dogwood.
VI. LEAVES COMPOUND, ALTERNATELY ATTACHED TO TWIGS.

A. Leaflets small, many, attached along two sides of a main stem. Fruit, a flat, bean-like, dry or fleshy pod.  
(1) Leaflets with small, wavy teeth. Pods flat, broad, long, often twisted, thin-skinned, with thick, cheesy, sweetish pulp about seeds. Trees with long, keen, branched thorns.  
\[\text{(Gleditsia) Honey locust}.\]

(2) Leaflets not toothed.  
(a) Twigs with pairs of short, keen thorns. Leaflets rounded at ends. Flowers showy white. In large clusters. Pods small, flat, thin, dry, with small seeds_.—(Robinia) Black locust.  
(b) Twigs thornless. Leaflets oval, pointed. Flowers greenish, with violet odor. Pods large, flat, thick, with jelly-like pulp (poisonous) around the large, black-brown seeds.  
\[\text{(Gymnocladus) Coffee tree}.\]

B. Leaflets large. Fruit, a hard-shelled nut, with a separable husk.  
(1) Leaflets narrow at base becoming larger at outer end. But light-colored. In a husk which separates more or less completely into four parts when ripe.----------------------(Hicoria) Hickory.  
(2) Leaflets broad at base, becoming narrower at outer end. Nut dark, rough, in a fleshy husk which is inseparable by any natural divisions and turns black when old. Pith of twigs forms numerous cross-partitions ---------------------\[\text{(Juglans) Walnut}\].

VII. LEAVES COMPOUND, OPPOSITE ON TWIGS.

A. Leaflets arranged along two sides of a main leafstalk, with a leaflet at the end.  
(1) Leaflets generally 3 (sometimes 5), toothed only near the ends. Fruit, a cluster of dry, winged seeds, arranged in pairs like those of maple.----------------------(Acer) Boxelder.  
(2) Leaflets generally more than 3 (3 to 11), and either not toothed or with small teeth. Fruit, a cluster of a single-winged, dry, oar-shaped “seeds”----------------------(Fraxinus) Ash.

B. Leaflets (5 to 9) clustered at end of a main leaf-stem. Fruit, a shiny, brown nut in a thick, warty or prickly husk, which separates into several parts.----------------------\[\text{(Aesculus) Buckeye}\].

ONE HUNDRED IMPORTANT EASTERN FOREST TREES.\[\text{5}\]

<table>
<thead>
<tr>
<th>Name</th>
<th>Distribution</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. White pine (Pinus strobus)</td>
<td>Northeastern and Lake States and Appalachian Mountains</td>
<td>Fine timber tree: leaves in clusters of 3, 5 to 9 inches long. Common on sandy soil: leaves in clusters of 2, 3 to 1 inches long. Leaves in clusters of 2, 3 to 5 inches long. Leaves in clusters of 3, 5 to 10 inches long. Leaves in clusters of 3, 6 to 9 inches long. Leaves in clusters of 0 to 3 inches in diameter. Leaves in clusters of 2 and sometimes 3, 3 to 5 inches long. One small, 1 to 2 inches in diameter.</td>
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<tr>
<td>3. Red or Norway pine (Pinus resinosa)</td>
<td>Northeastern and middle Atlantic States</td>
<td></td>
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<tr>
<td>4. Pitch pine (Pinus rigida)</td>
<td>Southeastern States Coastal plain, Delaware to Texas</td>
<td></td>
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<tr>
<td>5. Lobolly pine (Pinus taeda)</td>
<td>Middle Atlantic and Southern States, with hardwood trees. Piedmont uplands, New Jersey to Texas.</td>
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<tr>
<td>6. Shortleaf pine (Pinus echinata)</td>
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</tbody>
</table>

\[4\] Boxelder, a true maple, differs from the others in having compound leaves.  
\[5\] Eastern half of United States. Most of these are important as commercial timber trees; a few, however, are small sized and included because of their botanical importance and wide occurrence in mixture with timber trees, particularly in second-growth forests.  
\[6\] Some species are known by more than one scientific name because of lack of agreement among botanists. The first name given is to be preferred.
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EASTERN FOREST TREES—Continued.

Name. |
| Distribution. |
| Remarks. |

- **Spruce pine (Pinus glabra)**
- **Scrub pine, Jersey pine (Pinus virginiana)**
- **Pond pine (Pinus serotina)**
- **Slash pine (Cuban pine) (Pinus caribaea)**
- **Longleaf pine (Pinus palustris)**
- **Tamarack or Larch (Larix laricina, Larix laricina)**
- **White spruce (Picea glauca)**
- **Black spruce (Picea mariana)**
- **Red spruce (Picea rubra)**
- **Hemlock (Tsuga canadensis)**
- **Bald cypress (Southern cypress) (Taxodium distichum)**
- **Balsam fir (Abies balsamea)**
- **Fraser fir (Abies fraseri)**
- **Arborvitae (Thuja occidentalis)**
- **White cedar (Chamaecyparis thyoides)**
- **Red cedar or juniper (Juniperus virginiana)**
- **Sweet gum (Red gum) (Liquidambar styraciflua)**
- **Scyamoore of Buttonwood (Platanus occidentalis)**
- **White oak (Quercus alba)**
- **Bur oak (Quercus macrocarpa)**
- **Overcup oak (Quercus lyrata)**
- **Post oak (Box oak) (Quercus minor)**
- **Chestnut oak (Quercus prinus)**
- **Red oak (Quercus rubra)**
- **Black oak (Quercus velutina)**
- **Pin oak (Quercus palustris)**
- **Southern Red or Spanish oak (Quercus falcata, Quercus falcata)**
- **Water oak (Quercus nigra)**
- **Willow oak (Quercus phellos)**
- **Live oak (Quercus virginiana)**

- Southeastern States along coast
- Middle Atlantic States
- Northeastern States in Coastal Plain. Scattering.
- Southeastern States in poorly drained soils; uplands in Georgia, associated with longleaf pine.
- South Atlantic and Gulf States.
- Northeastern States, best growth in Canada.
- Northeastern States and in northern Rocky Mountains.
- Northeastern States.
- Northeastern States and Appalachian Mountains.
- Northern and Eastern States.
- South Atlantic and Gulf States in swamps.
- Northeastern States to southwest Virginia.
- High southern Appalachian Mountains.
- Swamps of eastern and Gulf Coast.
- Eastern United States.
- Eastern United States.
- Northeastern United States, Wyoming.
- Southeastern United States.
- Eastern United States.
- Northeastern States and Appalachian Mountains. Common on ridges.
- Eastern United States.
- Eastern United States.
- Central and Southeastern States.
- Southeastern United States.
- Eastern United States.
- Southern States.

Leaves in clusters of 2, 1½ to 3 inches long.
Leaves in clusters of 2, 1½ to 3 inches long.
Leaves 6 to 8 inches long, tree similar to pitch pine, but cones remain closed for several years. Cone rounded.
Leaves in clusters of 2, sometimes 3, to 12 inches long. Important turpentine tree.
Leaves in clusters of 3, 8 to 18 inches long. Important turpentine tree.
Leaves needle-like, ½ to 1½ inches long, in dense brush-like clusters, falling off in winter.
Leaves ½ to 1½ inch long, arranged singly around the smooth twigs.
Similar to white spruce, but twigs are minutely hairy.
Similar to black spruce, but cones remain attached to twigs when ripe.
Leaves ½ to 1 inch long, attached by tiny leaf-stalks; cones ½ to 1½ inch long.
Leaves ½ to 1 inch long, falling off in winter; cones bell-like.
Leaves ½ to 1 inch long; cones falling off in pieces when ripe.
Similar to balsam fir, except cones which are "scale-covered."
Leaves scale-like; cones ½ to 1½ inch long, bent backward on twigs.
Cones ball-like, leaves resembling arborvitae.
Leaves scale-like, those on young shoots and seedlings are shaped; cones changed into a soft berry.
Leaves star-shape, fruited on-like ball suspended by a long stalk.
Leaves broad and coarsely toothed; base of leafstalk inclosing winter bud in peculiar manner; fruit a hard, face-formed, long-stalked ball.
Leaves deeply lobed, not bristle-tipped; acorns ripening in one season.
A white oak with fringed-edged acorn and leaves more deeply lobed toward their base.
A white oak with acorns completely or almost covered by the acorn cup.
A white oak with leaves cut deeply above and below the middle lobes, forming the suggestion of a cross.
A white oak with leaves resembling those of the chestnut.
Leaves deeply cut, with bristle-tipped points; acorns ripening in 2 seasons, with acorn cups very shallow.
A red oak with thicker leaves which are minutely woolly beneath; acorns with cups as deep or deeper than wide.
A red oak with smaller leaves and smaller and shallower cupped acorns.
A red oak with leaves very deeply cut, the upper central portion being very narrow and sometimes slightly curved. Abundant.
Leaves not toothed, with large terminal lobe, sometimes 3-lobed. Acorns with shallow cup. Much planted as street tree throughout South.
A red oak with leaves not toothed nor lobed; but resembling a smooth-edged willow or peach leaf. Much planted as street shade tree in Southern States.
An evergreen oak with leaves not toothed nor notched; acorns with long stalks.
<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>37. Basswood or Linden (Tilia americana).</td>
<td>Eastern United States</td>
<td>Leaves broadly heart-shaped with finely toothed edge; fruit a cluster of little woody balls suspended from the underside of a long narrow leaf.</td>
</tr>
<tr>
<td>38. White basswood (Tilia heterophylla).</td>
<td>Middle and South Atlantic States.</td>
<td>Similar to basswood excepting that the leaves are whitish or minutely woolly beneath.</td>
</tr>
<tr>
<td>39. Hackberry (Suckerberry) (Celtis occidentalis).</td>
<td>Eastern United States and west to New Mexico and Oregon.</td>
<td>Leaves finely toothed: long pointed; fruit a long stalked, single-seeded berry with very thin shell.</td>
</tr>
<tr>
<td>40. White elm (Ulmus americana).</td>
<td>Eastern United States.</td>
<td>Leaves sharply toothed; fruit flat, papery, about 1/4 inch long, fringed around with tiny hairs.</td>
</tr>
<tr>
<td>41. Slippery elm (Ulmus fulva Ulmus pubescens).</td>
<td>Eastern United States.</td>
<td>Similar to white elm in having inner bark is slippery and the flat fruits have a smooth edge.</td>
</tr>
<tr>
<td>42. Cork elm (Ulmus racemosa).</td>
<td>Eastern United States.</td>
<td>Differing from other elms in having fruit minutely hairy all over, not merely around edges. Twigs with corky ridges.</td>
</tr>
<tr>
<td>43. Holly (Ilex opaca).</td>
<td>Eastern United States.</td>
<td>Evergreen tree with leaves with large spiny teeth, and fruit a bright red berry remaining attached through winter. Small tree.</td>
</tr>
<tr>
<td>44. Beech (Fagus americana) Fagus atrorubens.</td>
<td>Eastern United States.</td>
<td>Leaves with saw-tooth edge; fruit a light brown nut, ripening and falling from spine covered hull in late summer.</td>
</tr>
<tr>
<td>45. Chestnut (Castanea dentata).</td>
<td>Northeastern and middle Atlantic States.</td>
<td>Leaves with sharp, forward pointing teeth; fruit, a cluster of nuts surrounded with a very spiny hull. A plant disease is rapidly killing chestnut timber.</td>
</tr>
<tr>
<td>46. Chinquapin (Castanea pumila).</td>
<td>Middle and Southern States.</td>
<td>Leaves smaller than chestnut and finely woolly beneath; but one nut in the spiny husk. Mostly known as a shrub but reaches tree size.</td>
</tr>
<tr>
<td>47. Black willow (Salix nigra).</td>
<td>Eastern United States.</td>
<td>Leaves slender, long pointed, and finely toothed. The largest of our willows, difficult to distinguish from dozens of other kinds of willow.</td>
</tr>
<tr>
<td>48. Balm of Gilead (Balsam poplar) (Populus balsamifera).</td>
<td>Eastern United States.</td>
<td>Leaves very broad at base, toothed, with round leafstalk.</td>
</tr>
<tr>
<td>49. Cottonwood (Carolina poplar) (Populus deltoides).</td>
<td>Eastern United States.</td>
<td>Leaves resembling Balm of Gilead, but with flattened leafstalk.</td>
</tr>
<tr>
<td>50. Swamp cottonwood (Populus heterophylla).</td>
<td>Eastern United States.</td>
<td>Leaves with round leafstalk minutely woolly on underside when young.</td>
</tr>
<tr>
<td>52. Big-toothed aspen (Populus grandidentata).</td>
<td>Northern United States.</td>
<td>Leaves broad, coarsely toothed, with flattened leafstalks.</td>
</tr>
<tr>
<td>53. Paper birch (Betula papirifera).</td>
<td>Northern United States.</td>
<td>Leaves broad at base, finely toothed, fruit a papery cone which falls apart when ripe, bark peeling off in thin sheets.</td>
</tr>
<tr>
<td>54. Sweet birch (Betula lenta).</td>
<td>Northeastern United States.</td>
<td>Bark dark brown, hard and close, not peeling off in sheets, tiny scales of cones smooth, not minutely hairy along edges as in yellow birch.</td>
</tr>
<tr>
<td>55. Yellow birch (Betula lutea).</td>
<td>Eastern United States.</td>
<td>Bark yellow gray, tiny scales of the cones minutely hairy along edges.</td>
</tr>
<tr>
<td>57. Wild plum (Prunus americana).</td>
<td>Eastern United States.</td>
<td>Leaves pointed, finely toothed, fruit red or yellow with short stalks, branches somewhat spiny. Calyx-leaves of flowers with smooth edge. Small tree or shrub.</td>
</tr>
<tr>
<td>58. Wild red cherry (Prunus pensylvanica).</td>
<td>Eastern United States.</td>
<td>Fruit bright red when ripe, long stalked in clusters of 3 to 5. Fruit in a long cluster, ripe berries mostly at base, no remains of flower persisting.</td>
</tr>
<tr>
<td>59. choke cherry (Prunus virginiana).</td>
<td>Eastern United States.</td>
<td>Fruit resembles choke cherry, but with remains of flower attached to base of the cherries.</td>
</tr>
<tr>
<td>60. Wild black cherry (Prunus serotina).</td>
<td>Eastern United States.</td>
<td>Leaves large, blunt or with deep notch at end; flowers large; yellow, fruit a woody cone.</td>
</tr>
<tr>
<td>61. Yellow or tulip poplar (Liriodendron tulipifera).</td>
<td>Eastern United States.</td>
<td>Leaves oval, with one lobe like a &quot;mitten&quot; or with a lobe on each side. Twigs fragrant.</td>
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<tr>
<td>63. Black gum (Pepperidge) (Nyssa aquatica)</td>
<td>Eastern United States</td>
<td>Leaves oval with smooth edge. Fruit, an elongated berry with seed but little flattened and stone scarcely ridged. Resembling black gum, but fruit which also grows in pairs, has a flattened and ridged stone. Fruits produced singly, with a stalk longer than the fruit; stone of fruit sharp-edged or winged. Resembling Tupelo gum, but with stalks shorter than the fruit itself. Flowers white. Leaves white, silky beneath.</td>
</tr>
<tr>
<td>64. Water gum (Nyssa biflora)</td>
<td>Southern States</td>
<td></td>
</tr>
<tr>
<td>65. Tupelo gum (Nyssa aquatica), Known also as cotton gum. Associated with cypress</td>
<td>Swamps of Southeastern Coastal States.</td>
<td></td>
</tr>
<tr>
<td>66. Gopher plum (Nyssa ogeche)</td>
<td>Swamps, South Carolina to Florida.</td>
<td></td>
</tr>
<tr>
<td>67. Sweet magnolia (Magnolia virginiana, Magnolia glauca). Known also as Sweet Bay</td>
<td>Coastal swamps, Eastern and Gulf States.</td>
<td></td>
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<tr>
<td>68. Cucumber tree (Magnolia acuminata)</td>
<td>Eastern United States</td>
<td></td>
</tr>
<tr>
<td>69. Umbrella tree (Magnolia fraseri)</td>
<td>Special States</td>
<td></td>
</tr>
<tr>
<td>70. Large - leaf magnolia (Magnolia macrophylla)</td>
<td>Eastern United States</td>
<td></td>
</tr>
<tr>
<td>71. Persimmon ( Diospyros virginiana)</td>
<td>Eastern United States</td>
<td></td>
</tr>
</tbody>
</table>
| 72. Redbud (Judas tree) (Cercis canadensis). | Native to Arkansas, eastern Oklahoma and Texas, but widely planted throughout eastern United States. | Fruits oval; smooth edge. Seed, an elongated berry with seed but little flattened and stone scarcely ridged. Resembling black gum, but fruit which also grows in pairs, has a flattened and ridged stone. Fruits produced singly, with a stalk longer than the fruit; stone of fruit sharp-edged or winged. Resembling Tupelo gum, but with stalks shorter than the fruit itself. Flowers white. Leaves white, silky beneath. Flowers greenish-yellow. Fruit slender. Flowers white, leaves deeply lobed at base, forming “ears,” green on under side. Flowers white, leaves very large, with “ears” at base, and white beneath. Largest leaved tree in North America (30 to 30 inches long). Leaves oval, smooth, with smooth margin. Fruit orange colored, 1 to 1 inches in diameter, edible in late fall. Fruit heart-shaped, smooth margin; fruit a pea-like pod in clusters of 4 to 6; flowers resembling a small rose-colored sweet pea. Leaves with smooth edges. Fruit a heavy ball 4 to 5 inches in diameter. Leaves oval with smooth edge. Fruit, an elongated berry with seed but little flattened and stone scarcely ridged. Resembling black gum, but fruit which also grows in pairs, has a flattened and ridged stone. Fruits produced singly, with a stalk longer than the fruit; stone of fruit sharp-edged or winged. Resembling Tupelo gum, but with stalks shorter than the fruit itself. Flowers white. Leaves white, silky beneath. Flowers greenish-yellow. Fruit slender. Fruits oval; smooth edge. Seed, an elongated berry with seed but little flattened and stone scarcely ridged. Resembling black gum, but fruit which also grows in pairs, has a flattened and ridged stone. Fruits produced singly, with a stalk longer than the fruit; stone of fruit sharp-edged or winged. Resembling Tupelo gum, but with stalks shorter than the fruit itself. Flowers white. Leaves white, silky beneath. Flowers greenish-yellow. Fruit slender. Flowers white, leaves deeply lobed at base, forming “ears,” green on under side. Flowers white, leaves very large, with “ears” at base, and white beneath. Largest leaved tree in North America (30 to 30 inches long). Leaves oval, smooth, with smooth margin. Fruit orange colored, 1 to 1 inches in diameter, edible in late fall. Fruit heart-shaped, smooth margin; fruit a pea-like pod in clusters of 4 to 6; flowers resembling a small rose-colored sweet pea. Leaves with smooth edges. Fruit a heavy ball 4 to 5 inches in diameter. Leaves oval with smooth edge. Fruit, an elongated berry with seed but little flattened and stone scarcely ridged. Resembling black gum, but fruit which also grows in pairs, has a flattened and ridged stone. Fruits produced singly, with a stalk longer than the fruit; stone of fruit sharp-edged or winged. Resembling Tupelo gum, but with stalks shorter than the fruit itself. Flowers white. Leaves white, silky beneath. Flowers greenish-yellow. Fruit slender. Fruits oval; smooth edge. Seed, an elongated berry with seed but little flattened and stone scarcely ridged. Resembling black gum, but fruit which also grows in pairs, has a flattened and ridged stone. Fruits produced singly, with a stalk longer than the fruit; stone of fruit sharp-edged or winged. Resembling Tupelo gum, but with stalks shorter than the fruit itself. Flowers white. Leaves white, silky beneath.
| 73. Osage orange (Bois d’are) (Tysion pumiferum) | Throughout United States                           |                                                                         |
| 74. Sugar maple (Acer saccharum)           | Eastern United States                              |                                                                         |
| 75. Silver maple (Acer saccharinum)        | Special States                                     |                                                                         |
| 76. Red maple (Acer rubrum)               | Special States                                     |                                                                         |
| 77. Box elder or ash-leaved maple (Acer negundo) | South Central States, widely cultivated elsewhere. |                                                                         |
| 78. Hardy catalpa (Indian-cigar) ( Catalpa speciosa) | Special States                                     |                                                                         |
| 79. Flowering dogwood (Cornus florida)    | Eastern United States                              |                                                                         |
| 80. Blue dogwood (Cornus alternifolia)    | Northeastern States and Appalachian Mountains.     |                                                                         |
| 81. Honey locust (Gleditsia triacanthos)   | Central States and Minnesota to Texas. Widely cultivated elsewhere. |                                                                         |
| 82. Black locust (Yellow locust) (Robinia pseudacacia) | Appalachian region, widely cultivated and naturalized all over United States. |                                                                         |
| 83. Kentucky coffee tree (Gymnocladus dioicus) | Ohio and Mississippi valley.                      |                                                                         |
| 84. Pecan (Hicoria pecan)                  | Mississippi Valley.                                |                                                                         |
| 85. Hiba (Hicoria hiba)                   | Eastern United States                              |                                                                         |
## ONE HUNDRED IMPORTANT EASTERN FOREST TREES—Continued.

<table>
<thead>
<tr>
<th>Name</th>
<th>Distribution</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water hickory (<strong>Carya aquatica</strong>)</td>
<td>Gulf States and lower Mississippi Valley</td>
<td>Nut broad, with bitter kernel.</td>
</tr>
<tr>
<td>Shagbark hickory (<strong>Carya ovata</strong>)</td>
<td>Eastern United States</td>
<td>Buds with many scales (all of the preceding hickories have buds with few scales), nuts not flanged at joints, shell thick and bony. Bark loosening from trees.</td>
</tr>
<tr>
<td>Shellbark hickory (<strong>Carya laciniosa</strong>)</td>
<td></td>
<td>Difficult to distinguish from shagbark hickory. Twigs are pale orange, while in the preceding they are light red-brown.</td>
</tr>
<tr>
<td>Mockernut hickory (<strong>Carya alba</strong>)</td>
<td></td>
<td>Buds scales many, bark closely furrowed not separating from the trunk. Nut oblong. Like preceding in many respects. Nuts not elongated.</td>
</tr>
<tr>
<td>Pignut hickory (<strong>Carya glabra</strong>)</td>
<td></td>
<td>Leaves compound, with toothed edges fruit growing singly or in pairs rounded; bark brown. Leaves compound, with toothed edges; fruit in hanging clusters of 3 to 5, pointed and elongated. Velvety cushion just above leaf-scar; bark gray.</td>
</tr>
<tr>
<td>Black walnut (<strong>Juglans nigra</strong>)</td>
<td>Eastern United States</td>
<td>All species of ash are difficult to identify, and mostly require expert knowledge of the fruit or &quot;keys.&quot; White ash has a key or fruit with a plump well rounded body and a wing extending almost entirely from the end. Differ from white ash in having young twigs velvety and wing of seed extending down along sides of seed body. Resembling red ash, but fruits are very much larger, sometimes twice the size. Resembling preceding, except twigs are smooth. Repeating red ash, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>Butternut or white walnut (<strong>Juglans cinerea</strong>)</td>
<td></td>
<td>Fruits with a flat wide wing, which extends conspicuously down the sides of the seed body. Fruits very wide and flat, frequently 3-winged. Leaves palmately compound; fruit in a knobby husk. Repeating preceding, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>White ash (<strong>Fraxinus americana</strong>)</td>
<td></td>
<td>All species of ash are difficult to identify, and mostly require expert knowledge of the fruit or &quot;keys.&quot; White ash has a key or fruit with a plump well rounded body and a wing extending almost entirely from the end. Differ from white ash in having young twigs velvety and wing of seed extending down along sides of seed body. Resembling red ash, but fruits are very much larger, sometimes twice the size. Resembling preceding, except twigs are smooth. Repeating red ash, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>Red ash (<strong>Fraxinus pennsylvanica</strong>)</td>
<td></td>
<td>All species of ash are difficult to identify, and mostly require expert knowledge of the fruit or &quot;keys.&quot; White ash has a key or fruit with a plump well rounded body and a wing extending almost entirely from the end. Differ from white ash in having young twigs velvety and wing of seed extending down along sides of seed body. Resembling red ash, but fruits are very much larger, sometimes twice the size. Resembling preceding, except twigs are smooth. Repeating red ash, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>Green ash (<strong>Fraxinus lanceolata</strong>)</td>
<td></td>
<td>All species of ash are difficult to identify, and mostly require expert knowledge of the fruit or &quot;keys.&quot; White ash has a key or fruit with a plump well rounded body and a wing extending almost entirely from the end. Differ from white ash in having young twigs velvety and wing of seed extending down along sides of seed body. Resembling red ash, but fruits are very much larger, sometimes twice the size. Resembling preceding, except twigs are smooth. Repeating red ash, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>Pumpkin ash (<strong>Fraxinus profunda</strong>)</td>
<td>Southern States</td>
<td>Like preceding, except twigs are smooth. Resembling red ash, but fruits are very much larger, sometimes twice the size. Resembling preceding, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>Black ash (<strong>Fraxinus nigra</strong>)</td>
<td>Northern and Lake States</td>
<td>Like preceding, except twigs are smooth. Resembling red ash, but fruits are very much larger, sometimes twice the size. Resembling preceding, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>Water ash (<strong>Fraxinus caroliniana</strong>)</td>
<td>Southeastern States</td>
<td>Fruits with a flat wide wing, which extends conspicuously down the sides of the seed body. Fruits very wide and flat, frequently 3-winged. Leaves palmately compound; fruit in a knobby husk. Resembling preceding, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>Ohio Buckeye (<strong>Aesculus glabra</strong>)</td>
<td>Ohio and Mississippi Valleys</td>
<td>Repeating preceding, but fruit in a smooth husk.</td>
</tr>
<tr>
<td>Yellow Buckeye (<strong>Aesculus octandra</strong>)</td>
<td></td>
<td>Repeating preceding, but fruit in a smooth husk.</td>
</tr>
</tbody>
</table>