Leaf Key for Common Broadleaf Trees in Maryland

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MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Tree Guide Key

I. Leaves alternate

A. Leaves simple

1. Margins entire . . . . . Pg. 1

a. Leaves oval to elliptic . . . . . Pg. 1

b. Leaves not oval or elliptic . . . . . Pg. 2

i. Leaves lobed . . . . . Pg. 2

ii. Leaves not lobed . . . . . Pg. 5

2. Margins toothed . . . . . Pg. 6

a. Leaf bases uneven . . . . . Pg. 6

b. Leaf bases even . . . . . Pg. 7

i. Leaves lobed . . . . . Pg. 7

ii. Leaves not lobed . . . . . Pg. 7

B. Leaves compound . . . . . Pg. 10

II. Leaves opposite

A. Leaves simple

1. Margins entire . . . . . Pg. 13

a. Leaves lobed . . . . . Pg. 13

b. Leaves not lobed . . . . . Pg. 13

2. Margins toothed . . . . . Pg. 14

a. Leaves lobed . . . . . Pg. 14

b. Leaves not lobed . . . . . Pg. 14

B. Leaves compound . . . . . Pg. 15

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How to Use this Guide

This guide was created as an easy-to-use reference for beginner tree identification. It is not a comprehensive guide. Trees represented in the guide include those that are native to Maryland, those that are introduced (exotic), and those that are exotic and create ecological problems (invasive).

To use this guide, begin with the key on the previous page. Terms used in the key are illustrated on pages x - xii.

Please note that leaves can be highly variable in shape, size, appearance, and color. Leaves selected for this guide are intended to represent commonly found phenotypes. Leaves represented are not shown to scale.

Under each leaf, the following information will be listed:

Common Name
(Scientific name)
Native, Exotic or Invasive
•Distinguishing characteristics

Common Identification Terms: Simple Versus Compound

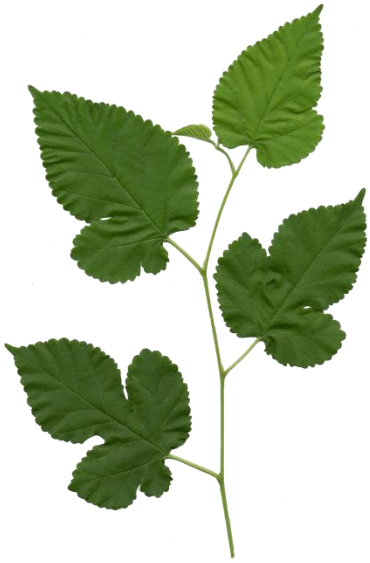
Simple and **compound** refer to whether or not a leaf the leaf is divided. Simple leaves have a single blade attached to a stem known as a *petiole*. Compound leaves have multiple blades known as *leaflets*. To make sure you are looking at a leaf and not a leaflet, look for the *lateral bud* where the petiole meets the twig. All leaves have this trait, but **leaflets do not**.

SIMPLE

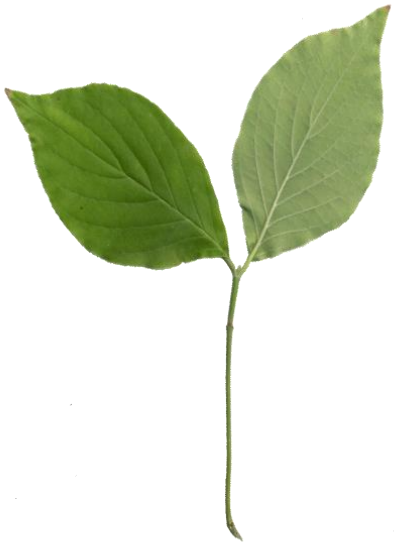
COMPOUND

Alternate Versus Opposite Leaves

Alternate and **opposite** refer to the arrangement of leaves along the twig. Do the leaves appear to zig-zag along the twig, or are they directly across from one another?



ALTERNATE



OPPOSITE

Entire Versus Toothed Leaf Margins

Entire and **toothed** refer to the edge of the leaf. The edge of a leaf is also known as a *margin*. Do the leaf edges seem to zig-zag, or are they smooth?

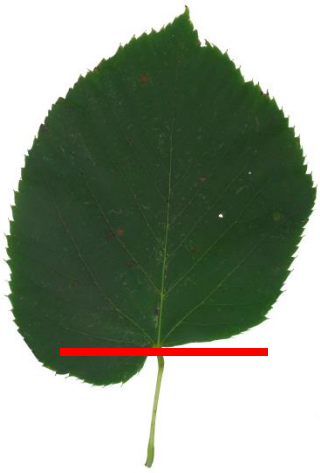
ENTIRE

TOOTHED

Even Versus Uneven Leaf Bases

Even and **uneven** refer to the shape of the base of the leaf. Do both sides of the base of the leaf line up with one another; or are they uneven?

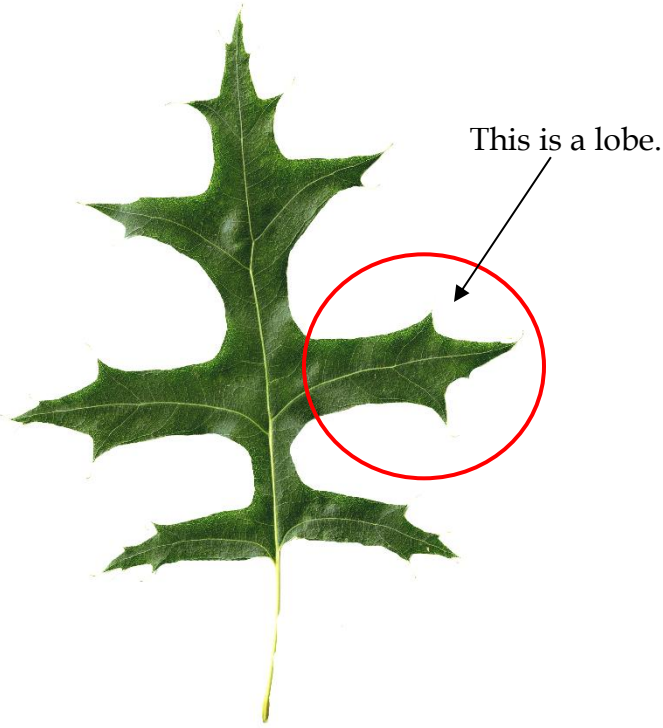
EVEN LEAF BASE



UNEVEN LEAF BASE

Lobed Versus Not Lobed Leaves

Lobed and **not lobed** refer to the shape of the leaf. Does the leaf have sections that jut out, or does it have a consistent leaf edge?



LOBED

NOT LOBED

Alternate, Simple, Entire, Oval - Elliptic

Southern Magnolia
(Magnolia grandiflora)
Exotic
- Underside orange and hairy
- Evergreen

Umbrella Magnolia
(Magnolia tripetala)
Native
- Leaves 10-24″

Common Pawpaw
(Asimina triloba)
Native
- Leaves 6-12″
- Edible fruit

Sweetbay Magnolia
(Magnolia virginiana)
Native
- Underside white

Common Persimmon
(Diospyros virginiana)
Native
- Bark broken in small squares
- Edible fruit

Alternate, Simple, Entire, Oval – Elliptic; Cont'd

Bradford Pear
(Pyrus calleryana)
Invasive
- White flowers with unpleasant smell in spring
- Small, round fruit in fall

Rhododendron sp.
(Rhododendron sp.)
Native/Exotic
- Variable leaf shape
- Evergreen

Spicebush
(Lindera benzoin)
Native
- Shrub
- Aromatic when crushed
- Red berries in fall

Sassafras
(Sassafras albidum)
Native
- Hairy leaves
- Variable leaf shape (see pg. 4)
- Aromatic when crushed

Black Gum
(Nyssa sylvatica)
Native
- Dark, shiny leaves
- Underside lighter
- Blocky bark

Alternate, Simple, Entire, Not Oval, Lobed

All leaves on this page have bristle-tips.

Scarlet Oak
(Quercus coccinea)
Native
- Twigs reddish-brown
- Buds hairy, pointed
- Tufts of hair on underside
- Inner-bark orangish-pink

Southern Red Oak
(Quercus falcata)
Native
- Top lobe elongated
- Leaf base rounded

Blackjack Oak
(Quercus marilandica)
Native
- Leaf lobes broad
- Leaf is triangular

Pin Oak
(Quercus palustris)
Native
- Deep lopes
- Twigs shiny
- Buds light brown, hairless
- Inner bark pink

Northern Red Oak
(Quercus rubra)
Native
- Variable leaf shape
- Leaves never hairy
- Twigs reddish-brown
- Buds hairy, pointed
- Inner bark pink

Black Oak
(Quercus velutina)
Native
- Hairy near veins on underside
- Twigs light brown
- Buds tan, oval-shaped, hairy
- Inner bark orange or yellow

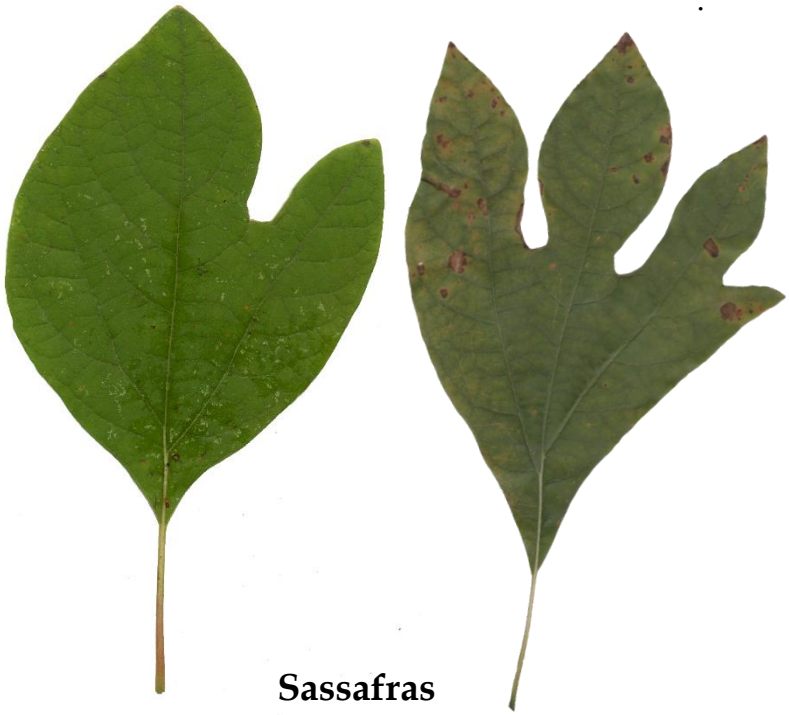
Alternate, Simple, Entire, Not Oval, Lobed; Cont'd

All leaves on this page do not have bristle-tips.

Chestnut Oak
(Quercus montana)
Native
- Shallow lobes

Post Oak
(Quercus stellata)
Native
- Big lobes
- Leaf is cross-shaped

White Oak
(Quercus alba)
Native
- Deeply lobed
- Leaf shape variable
- Grayish-green on top



Sassafras
(Sassafras albidum)
Native
- Hairy leaves
- Leaf shape variable (see pg. 2)
- Aromatic when crushed

Tulip Poplar
(Liriodendron tulipfera)
Native
- Has 4 lobes
- Flowers resemble tulips

Alternate, Simple, Entire, Not Oval, Not Lobed

Ginkgo
(Ginkgo biloba)
Exotic
- Fan-shaped
- Commonly planted

Eastern Redbud
(Cercis canadensis)
Native
- Heart-shaped
- Flowers pink-purple, present before leaves
- Has pea-like pods in fall

Willow Oak
(Quercus phellos)
Native
- Narrow with bristle-tip

Alternate, Simple, Toothed, Leaf Bases Uneven

American Basswood
(Tilia americana)
Native
- Smooth to touch
- Finely toothed
- Small fruits with leafy "wings" in fall

American Elm
(Ulmus americana)
Native
- Mostly smooth to touch; Slippery Elm sandpapery with hairy underside
- Tree is vase-shaped
- Commonly planted

Siberian Elm
(Ulmus pumila)
Invasive
- Leaves narrow
- Leaves up to 3" in length
- Fruit round, winged

Mulberry sp.
(Morus sp.)
Native/Invasive
- Leaf shape variable (see pg. 7,9)
- Fruit resembles blackberries
- Milky sap

Witch-hazel
(Hamamelis virginiana)
Native
- Yellow flowers in fall

Alternate, Simple, Toothed, Leaf Bases Even, Lobed

American Sycamore
(Platanus occidentalis)
Native
- Leaves large, broad
- Bark gray, white, pale green

Sweetgum
(Liquidambar styraciflua)
Native
- Leaves star-shaped;
- Tree produces spiky, ball-shaped seed pods in fall

Mulberry sp.
(Morus sp.)
Native/Invasive
- Leaf shape variable (see pg. 6,9)
- Fruit resembles blackberries
- Milky sap

Alternate, Simple, Toothed, Leaf Bases Even, Not Lobed

River Birch
(Betula nigra)
Native
- Bark peeling, bright orange or reddish-brown

Hophornbeam
(Ostrya virginiana)
Native
- Buds round
- Leaf veins sometimes forked
- Fruit round, winged
- "Ironwood"

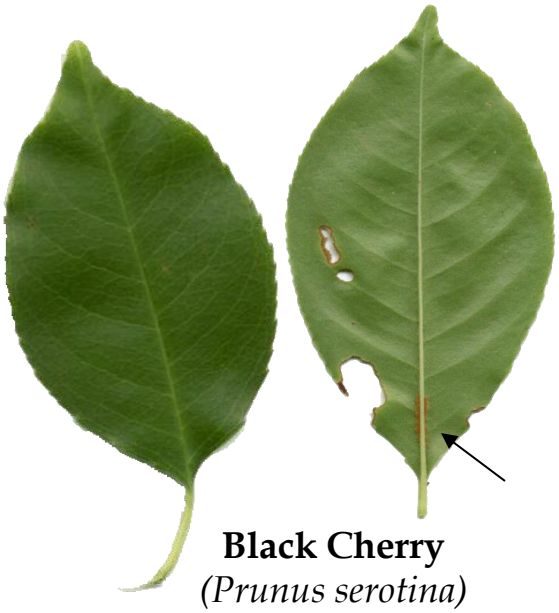
American Hornbeam
(Carpinus caroliniana)
Native
- Buds square
- Leaf veins never forked
- Fruit winged
- Bark smooth, gray
- "Musclewood"

Alternate, Simple, Toothed, Leaf Bases Even, Not Lobed; Cont'd

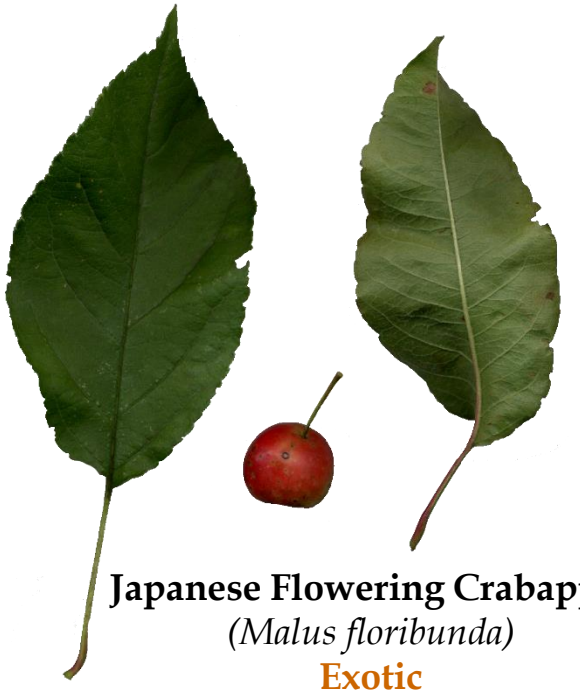
American Chestnut
(Castanea dentata)
Native
- Leaves long, narrow
- Leaf base tapers
- Feels thin, papery

Chinese Chestnut
(Castanea mollissima)
Exotic
- Leaves oval
- Leaf base rounded
- Feels thick, waxy

American Beech
(Fagus grandifolia)
Native
- Bark smooth, gray
- Buds slender, golden, pointed



Black Cherry
(Prunus serotina)
Native
- Underside has hair along the main leaf vein
- Two small glands located near leaf base



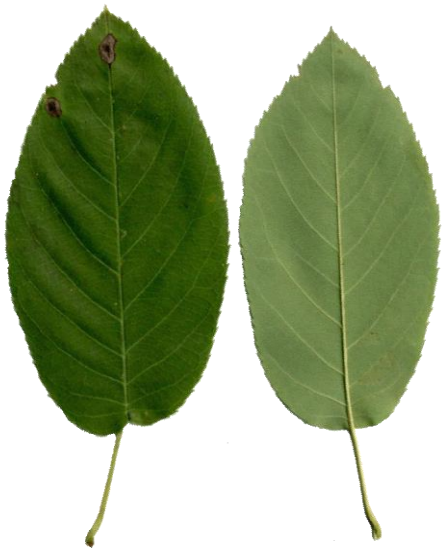
Japanese Flowering Crabapple
(Malus floribunda)
Exotic
- Flower small, white or pink in spring
- Fruit round, red or yellow in fall

Alternate, Simple, Toothed, Leaf Bases Even, Not Lobed Cont.

Hawthorn sp.
(Crataegus sp.)
Native
- Flowers small, white with unpleasant smell in spring
- Fruit reddish in fall
- Wild varieties have thorns

American Holly
(Ilex opaca)
Native
- Leaves dark, shiny, prickly
- Evergreen
- Persistent red berries in winter

Mulberry sp.
(Morus sp.)
Native/Invasive
- Leaf shape variable (see pg. 7)
- Fruit resembles blackberries
- Milky sap



Eastern Serviceberry
(Amelanchier canadensis)
Native
- White flowers in spring
- Underside lighter

Crape Myrtle
(*Lagerstroemia indica)*
Exotic
- Bark peeling, smooth
- Flower color variable

Willow sp.
Salix sp.
Native
- Leaves narrow, elongated

Black Walnut
(Juglans nigra)
Native

- 7-23 leaflets
- Nuts round with green husk, woody shell
- Bark deeply furrowed

Tree of Heaven
(Ailanthus altissima)
Invasive

- Leaflets mostly smooth, few teeth near base
- Seeds have papery wings

Smooth Sumac
(Rhus glabra)
Native

- Leaflets toothed
- Twigs flat-sided, not hairy
- Reddish berries in upright cluster in winter

Staghorn Sumac
(Rhus typhina)
Native

- Leaflets are toothed
- Twigs hairy
- Reddish berries in upright cluster in winter

Winged Sumac
(Rhus copallina)
Native

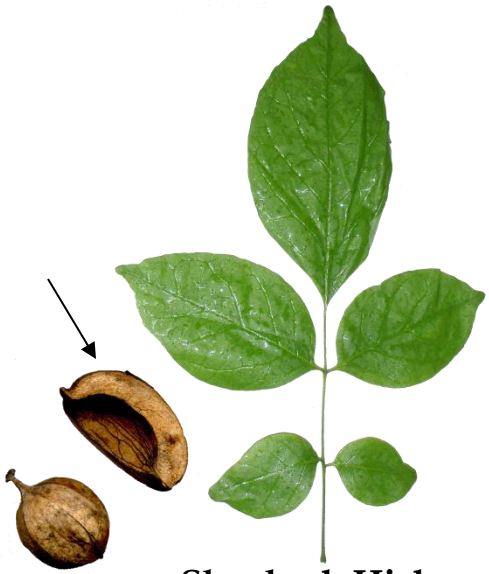
- Leaflets not toothed
- Twigs hairy
- Leafstalks winged
- Reddish berries in upright cluster in winter

Bitternut Hickory
(Carya cordiformis)
Native

- 7-11 leaflets
- Twigs somewhat hairy
- Buds yellow, powdery

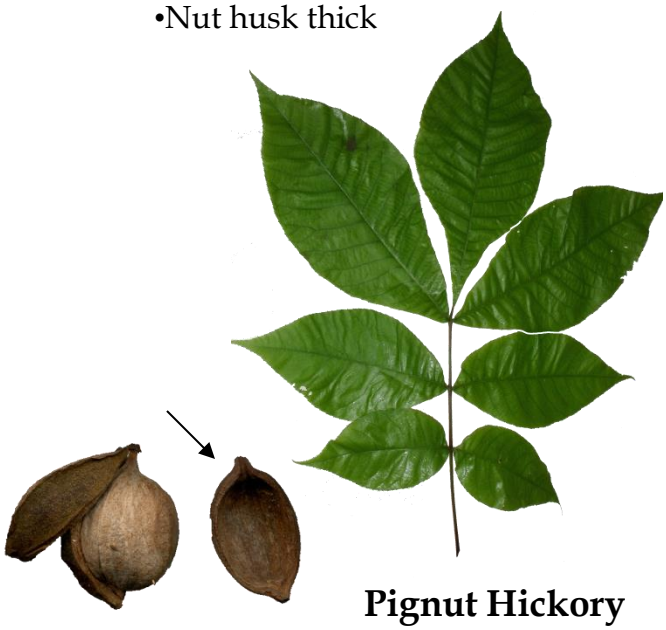
Mockernut Hickory
(Carya tomentosa)
Native

- 7-9 leaflets
- Twigs reddish brown, hairy
- End buds more than ½" long
- Nut husk thick



Shagbark Hickory
(Carya ovata)
Native

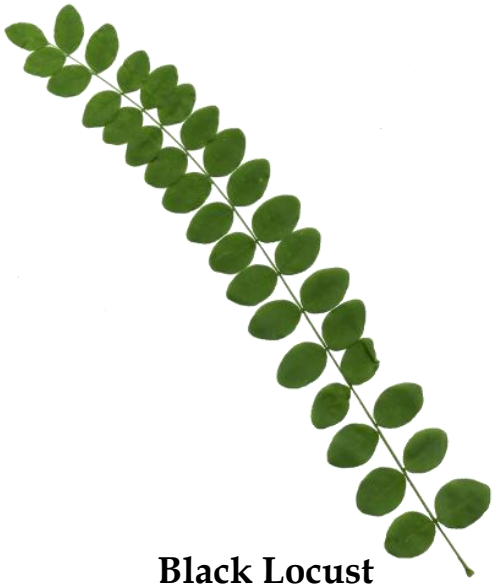
- 5-7 leaflets
- Twigs reddish-brown, smooth
- End buds more than ½" long
- Bark shaggy
- Nut husk thick



Pignut Hickory
(Carya glabra)
Native

- 5-7 leaflets
- Twigs smooth
- Buds silky
- Nut husk thin

Honey Locust
(Gleditsia triacanthos)
Native
- Twigs, branches, and trunk have thorns up to 3" long

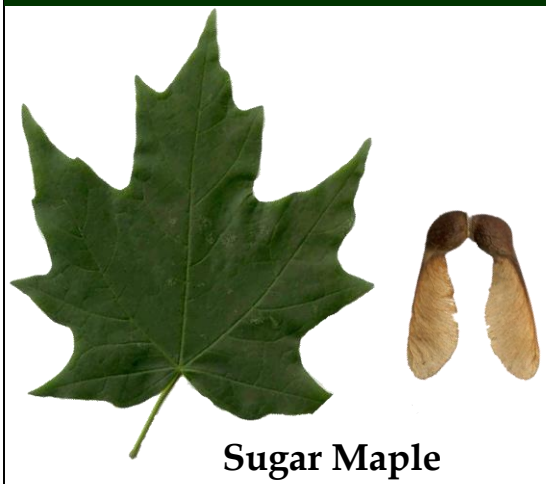


Black Locust
(Robinia pseudoacacia)
Native
- Twigs, branches, and trunk have thorns up to ½" long

Mimosa/Silk Tree
(Albizia julibrissin)
Invasive
- Leaves doubly compound
- Flowers lacy, pink in spring and summer

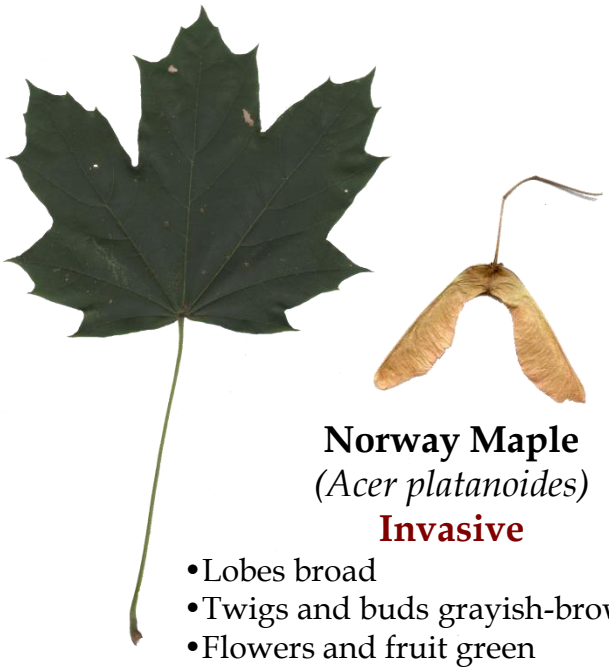
Golden Rain-tree
(Koelreuteria paniculata)
Invasive
- 7-17 leaflets
- Yellow flowers in summer
- Seeds enclosed in lantern-like capsule

Opposite, Simple, Entire, Lobed



Sugar Maple
(Acer saccharum)
Native

- 5 lobes
- Twigs and buds brownish
- Flower pale yellow
- Wings of fruit at right angles



Norway Maple
(Acer platanoides)
Invasive

- Lobes broad
- Twigs and buds grayish-brown
- Flowers and fruit green
- Milky sap when broken

Opposite, Simple, Entire, Not Lobed

Princess Tree
(Paulownia tomentosa)
Invasive

- Leaves hairy, heart-shaped
- Flowers pale purple, blue in spring before leaves

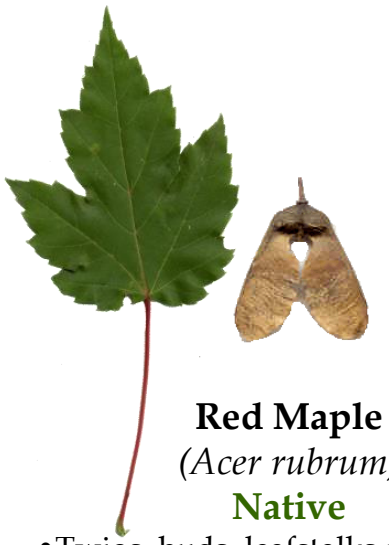
Catalpa sp.
(Catalpa sp.)
Exotic

- Leaves heart-shaped
- Flowers white with yellow purple, pink markings in spring
- Long seed pods through winter

Flowering Dogwood
(Cornus florida)
Native

- Leaf veins curve to follow edge of leaf
- Flowers with 4 white bracts
- Red berries in fall

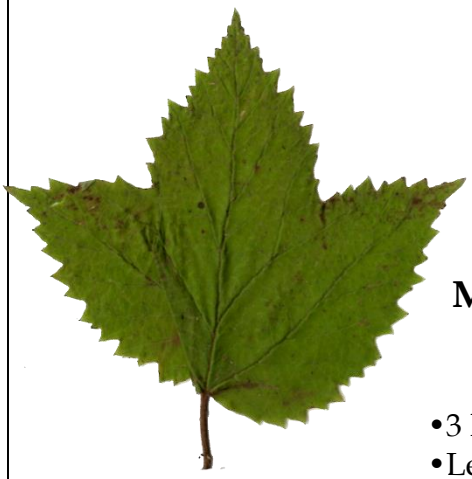
Opposite, Simple, Toothed, Lobed



Red Maple
(Acer rubrum)
Native
- Twigs, buds, leafstalks reddish
- Flowers and fruit pink/red

Silver Maple
(Acer saccharinium)
Native
- Twigs and buds brownish
- Flowers green
- Underside silvery-white

Japanese Maple
(Acer palmatum)
Invasive
- 5-9 lobes
- Leaves red to purple in fall



Maple-leaved Viburnum
(Viburnum acerfolium)
Native
- 3 lobes
- Leaves coarsely-toothed

Opposite, Simple, Toothed, Not Lobed

Cherry-leaved Viburnum
(Viburnum prunifolium)
Native
- Leaves resemble cherry leaves
- Buds brown, not hairy

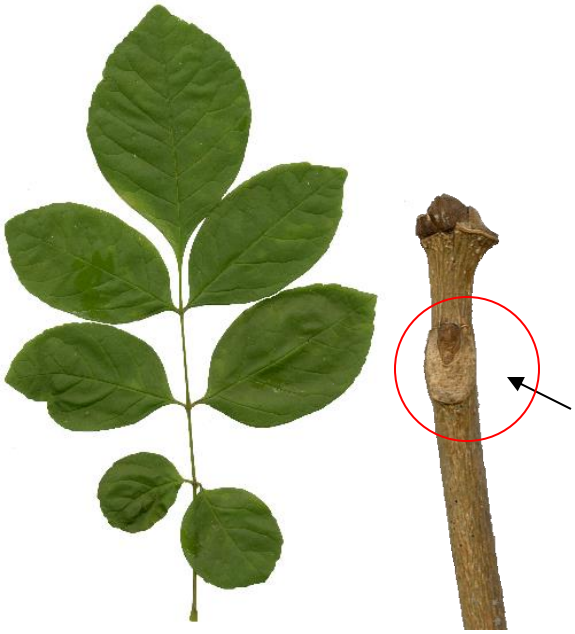
Arrowwood Viburnum
(Viburnum dentata)
Native
- Leaves coarsely-toothed

Buckeye sp.
(Aesculus sp.)
Native

- 5 leaflets arranged in a whorled pattern
- Horse chestnuts (*Aesculus hippocastanum*) have 7-9 leaflets

Box Elder
(Acer negundo)
Native

- 3-5 leaflets
- Papery fruit with wings
- Twigs green



White Ash
(Fraxinus americana)
Native

- 5-9 leaflets
- Leaf scar is "U" shaped

Green Ash
(Fraxinus pennsylvanica)
Native

- 7-9 leaflets
- Leaf scar is semi-circular
- Leaflet stalks have narrow wings

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Credits and Resources

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