

Basics of Tree ID

Here are some clues that you will need to examine:

- TREE TYPE --Deciduous or Conifer? Tree or a shrub? Determining these things starts you off on your way to tree identification.
- LEAF --Leaves are often the easiest way to identify most trees. Are the leaves arranged in an opposite or alternate pattern?
- BARK --Bark can be helpful for identifying some types of trees.
- FRUIT --The wide variety of fruit shapes makes them useful when identifying trees.
- TWIG --You can actually tell a lot just by looking at the twig.
- FORM --The way a tree grows can tell you a great deal about a tree.

TREE TYPE

Angiosperm or Gymnosperm?

When identifying trees, you will need to determine whether they are conifers or deciduous trees.

--Gymnosperms are a taxonomic class that includes plants whose seeds are not enclosed in an ovule (like a pine cone). Gymnosperm means as "naked seed". This group is often referred to as softwoods. Gymnosperms *usually* have needles that stay green throughout the year. Examples are pines, cedars, spruces and firs. Some gymnosperms do drop their leaves - ginkgo, dawn redwood, and baldcypress, to name a few.

--Angiosperms are a taxonomic class of plants in which the mature seed is surrounded by the ovule (think of an apple). This group is often referred to as hardwoods. Angiosperms are trees have broad leaves that *usually* change color and die every autumn. Oaks, maples and dogwoods are examples of deciduous trees. Some angiosperms that hold their leaves include rhododendron, live oak, and sweetbay magnolia.

A Tree Or A Shrub?

Most tree identification books define a shrub as a woody plant, growing to less than 5 meters in height (16 feet), with multiple stems.

This woody plant is a very large shrub.



A tree is a woody plant, growing to greater than 5 meters in height (16 feet), with a single dominant stem.

This black cherry sapling is actually a young tree, even though it looks like a shrub right now.



LEAVES

Leaves either grow on opposite or alternate sides of a twig. If they are growing on opposite sides of a twig, there is a very good chance that the tree is a maple, ash or dogwood.



Buds will also be on opposite or alternate sides of a twig. This is very helpful during winter tree identification.



Individual leaves can also be classified as either simple or compound (several to many leaflets per leaf).



Simple

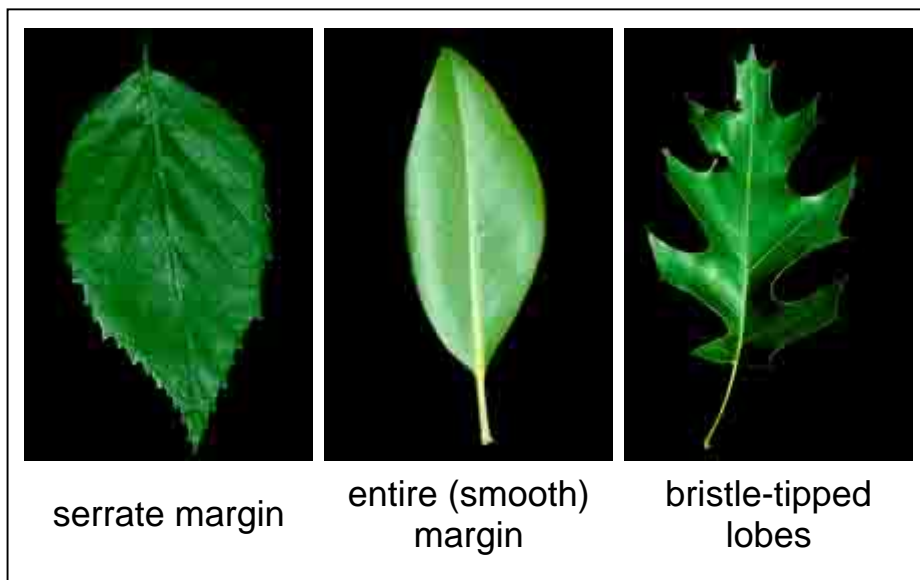
Simple Leaves have a single leaf blade.



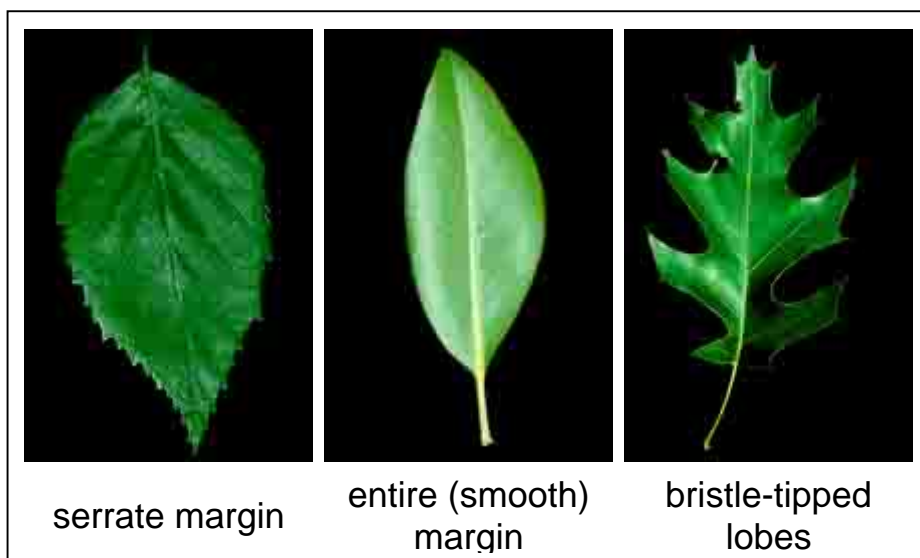
Compound

Compound leaves have several leaflets attached to a midrib or rachis. The rachis is not particularly woody and no buds occur at the base of the leaflets.

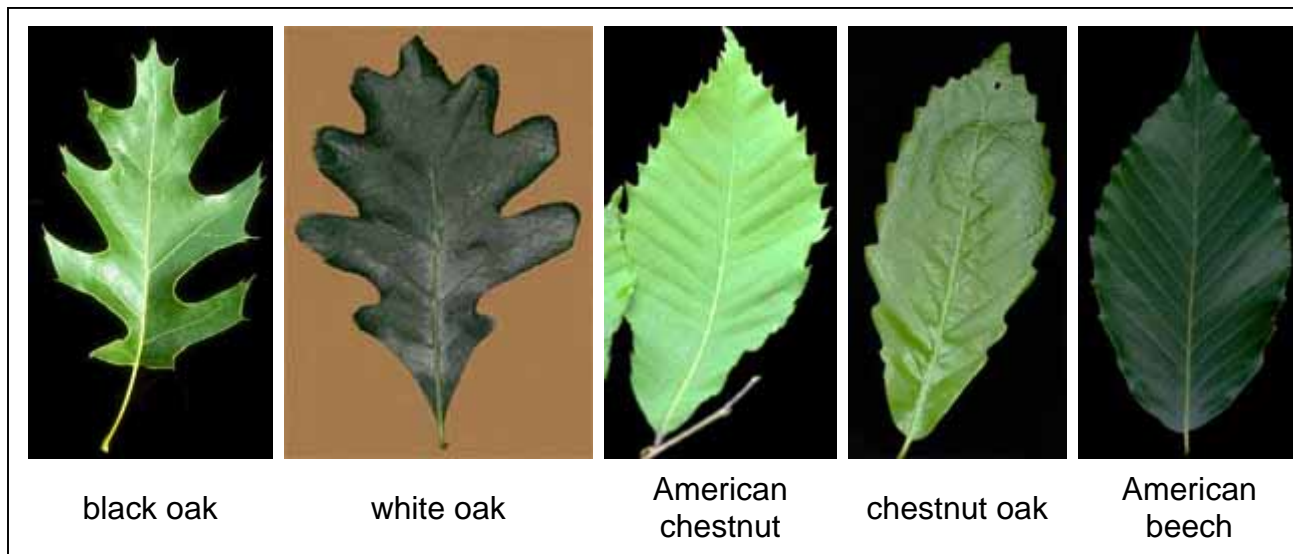
Leaf margins (the edge around the leaf) can have many different forms.



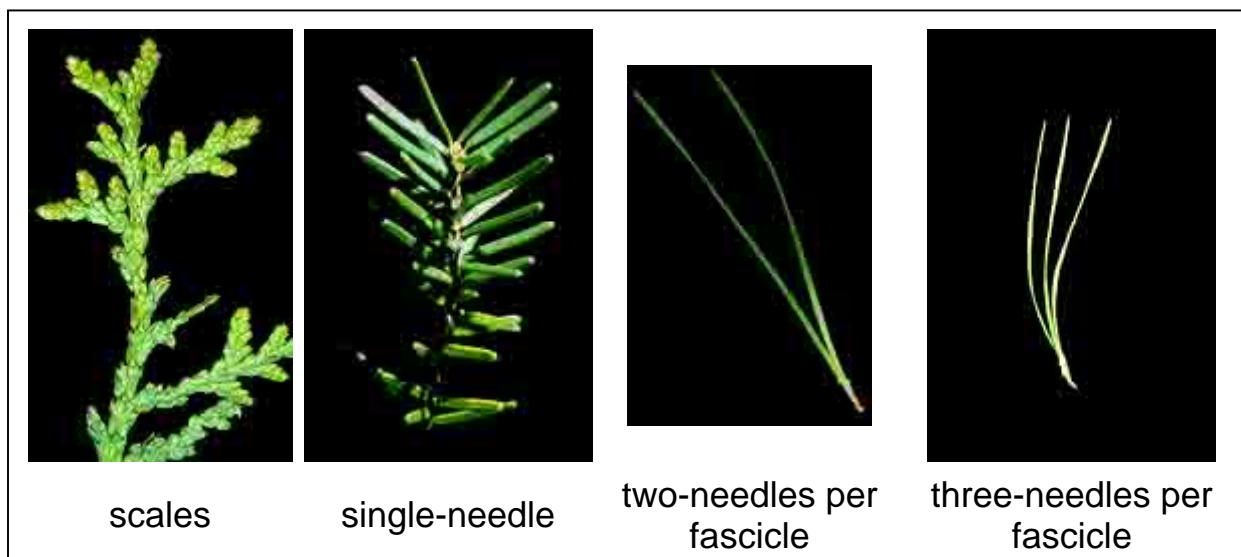
Leaf margins (the edge around the leaf) can have many different forms.



The shape of the leaf is very important in helping identify a particular tree. Leaves in the same family will, sometimes, look very similar and have similar common names.



Leaves can grow on conifers as either scales, single needles, or in groups called fascicles. Cedar leaves grow as scales. Spruces, firs, hemlocks as well as others grow single needles. Pines grow needles in fascicles.



BARK

Tree bark can vary greatly throughout the life of a tree, often becoming rougher as a tree grows. Only a few trees (such as Beech) retain smooth bark throughout their life. Below are examples of just a few of the many different bark types.



Beech bark stays smooth its entire life, as can be seen on this older tree.



Shagbark hickory shreds its bark in long strips as it gets older.



Pitch pine has large plates. Epicormic sprouting is also common as can be seen on the left side of this tree.



Persimmon has small blocky plates and often looks like charcoal briquettes.



Tulip-poplar bark displays a pattern of interlacing ridges and furrows that form a diamond shaped pattern.



Yellow birch has a very fine shreddy bark that peels into small strips.

FRUIT

All trees produce fruit. They come in a wide variety of shapes, colors and sizes. They can often be used to identify the tree. Be sure to always look carefully on the ground and in the tops of trees for fruit. Even small parts (like an acorn cap) can be helpful. Below are some brief descriptions of but a small handful of the many types of fruit.



Norway spruce cones are very large, cylindrical, 4 to 6 inches long, with stiff scales that are irregularly



Sweetgum has a woody ball of capsules, 1 to 1 1/2 inches in diameter with openings in the surface that release



Scarlet oak acorns are 1/2 to 1 inch long, with a scaly cap covering 1/2 of the nut. Cap scales look



Sycamore maple has a pair of samaras, spreading at about a 45 degree angle, each about



Flowering dogwood has a shiny, oval red drupe, 1/4 to 1/2 inch long, in clusters of 3 to 4.



White ash has a one-winged, dry, flattened samara with a full, rounded, seed cavity.



Eastern white pine has cones that are 4 to 7 inches long and cylindrical, with thin, rounded cone scales, and are very resinous. Cones are borne on a long



Persimmon has a plum-like berry that is green before ripening, turning orange to black when ripe, 3/4 to 2 inches in diameter when ripe.

TWIGS

Twigs grow in a variety of shapes, colors and sizes. Some twigs are stout while others are thin, some may be hairy while others are not, and some have large buds while others have small buds. Twigs offer valuable clues about the identity of a tree, especially in the winter. Below are but a few of the many types of twigs.



White oak twigs are red-brown to somewhat gray, hairless, with red-brown multiple terminal buds that are small, rounded and hairless. Twigs are often shiny or somewhat waxy.



American elm twigs are slender, hairless, slightly zigzag, reddish-brown; buds over 1/4 inch long, reddish-brown with darker edged scales, often placed a little to one side of the twig.



Staghorn sumac twigs are stout, brown and velvety-hairy, (resembling deer antlers in velvet). Buds are small, rounded and covered with soft, brown hairs, nearly encircled by leafscar.



Winged elm twigs are slender, hairless, slightly zigzag, reddish-brown, with red-brown buds. Twigs have conspicuous corky wings that protrude one-half inch



Pin oak twigs are slender and red-brown, hairless, with multiple terminal buds. Buds are hairless, rounded in cross-section and quite sharp-pointed.



European beech twigs are slender, zigzag, light brown in color. Buds are long (1 inch), light brown, and slender, covered with overlapping scales that are tinged with fuzz.



Pignut hickory twigs are moderately stout to slender (when compared to the other hickories) and hairless. Leaf scars are 3-lobed to cordate--best described as a "monkey face". The terminal bud is small and light brown in color.



Catalpa twigs are stout, green, and later reddish-brown in color. The lateral buds are small and covered with overlapping, red-brown scales. The leaf scars are large and oval to round.

FORM

Form refers to the overall growth pattern of a tree. Some trees grow very straight with narrow branching, while others may be short with very wide branching. To examine the form of a tree, it is best to stand a short distance away. It is also important to realize that the same tree species can have different forms depending on whether or not it is growing in the open or in a crowded forest.



Blue spruce is a medium to large tree with pyramidal form. Branches appear layered, especially with age.



Black locust may develop a straight stem with a very small crown. May form thickets by root suckering.



Pitch pine form is extremely variable; short and poorly formed on poor sites, but can be a straight, medium-sized tree.



In a stand tulip-poplar is very straight and impressive with a limb-free bowl. Open grown trees become oval in shape.



Sycamore is a very massive tree with heavy, spreading branches with obviously zigzag twigs. Tops are often white due to peeling bark.



Virginia pine is a small to medium-sized tree, usually of somewhat poor form. Eventually develops a flat top. Dead branches self-prune poorly.