

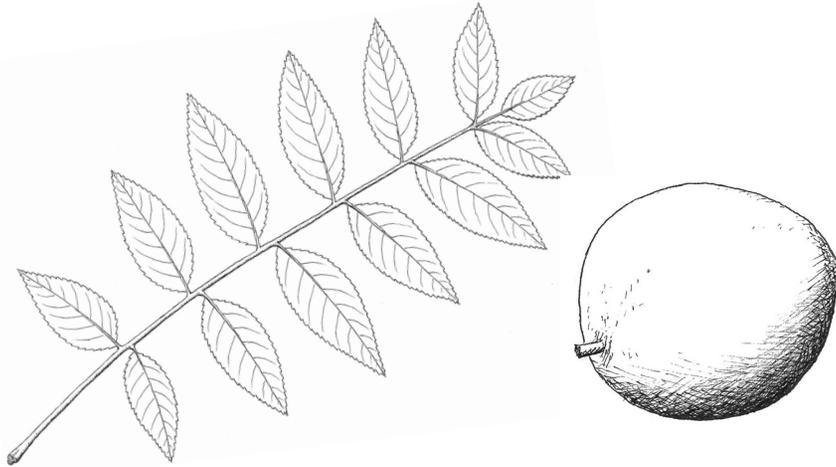
Trees with compound leaves



Green Ash

Fraxinus pennsylvanica

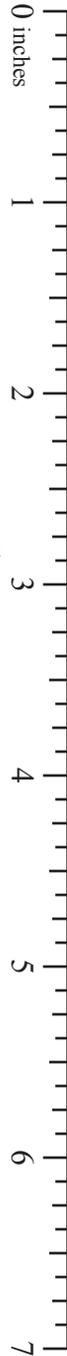
- Opposite
- 5-9 leaflets that are 3-5 inches long
- Bark has diamond-shaped ridges
- Winged fruits clustered, 1-2 inches long
- One of the most common trees in Minnesota, Green Ash is usually found in floodplains and moist uplands
- Threatened by the emerald ash borer beetle



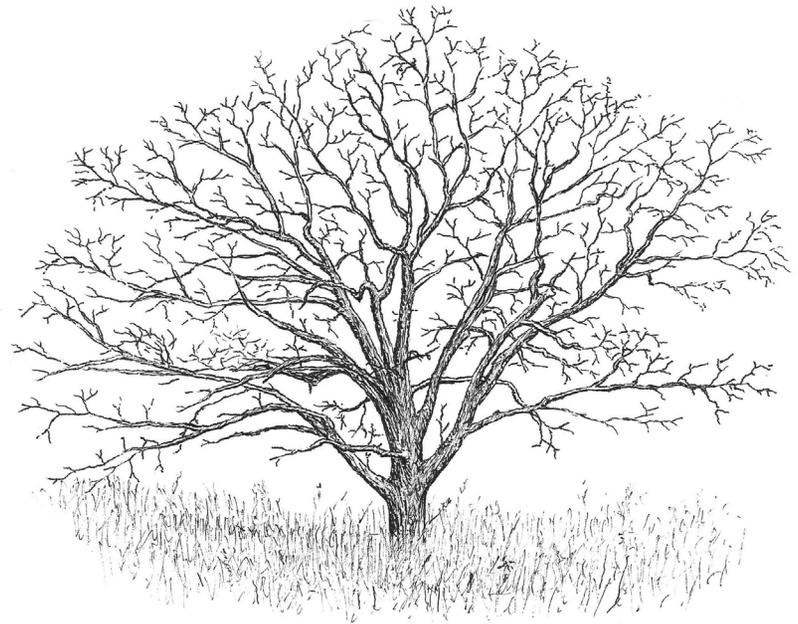
Black Walnut

Juglans nigra

- Alternate
- 12-18 leaflets, each 3-5 inches long
- Often missing end leaflet
- Bark has coarse and irregular ridges
- Fruit is round with greenish-yellow husk, 2-3 inches in diameter
- Common in moist uplands and floodplains
- Black Walnuts leach a chemical called juglone that inhibits the growth of other plant species
- Distinguished from Butternut by round fruits



**Common Trees of the
Carleton College Cowling Arboretum**

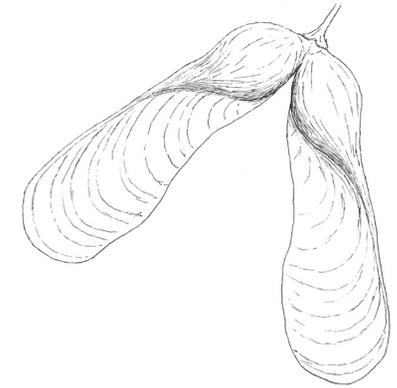


Carleton College's Cowling Arboretum consists of approximately 880 acres adjacent to the College. The Arboretum boasts several diverse habitats including tallgrass prairie and oak savanna restorations, upland forest and floodplain habitats bordering the Cannon River. With the exception of tallgrass prairie, each habitat includes a distinctive assortment of trees. This pamphlet is designed to assist users to identify the most common trees found in the Arboretum. Less common species have been omitted including the evergreens. A complete list of tree species may be found on the Arboretum website.

www.carleton.edu/campus/arb

Arboretum Office: 507 222-4543

Trees with simple leaves



Silver Maple

Acer saccharinum

- Opposite
- Leaves lobed with many pointed teeth, 3-4 inches long
- Shaggy, gray bark with peeling strips
- Winged fruits are paired, rounded and plump, 2-3 inches long
- Common in floodplains and moist uplands
- Distinguished from other maples (such as Sugar Maple) by shaggy bark, deep lobes and many pointed teeth
- Usually the first tree to bloom in spring

Trees with compound leaves



Boxelder

Acer negundo

- Opposite
- 3-5 leaflets that are often notched along the edges, 2-4 inches long
- Bark has shallow ridges, usually purple twigs
- Winged fruits paired, 1-2 inches long
- Opportunistic and fast-growing tree found in floodplains, young forests and fencerows
- Often short-lived
- Boxelder was planted to create windbreaks in southern Minnesota

Cover illustration depicts Bur Oak on Hillside Prairie in the Lower Arboretum

Illustrations by Brendan Grant '12

Text and design by Jared Beck '14

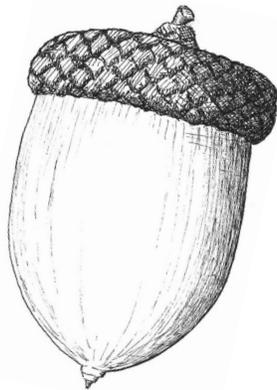
Trees with simple leaves



Bur Oak

Quercus macrocarpa

- Alternate
- Lobes rounded
- Leaves 4-8 inches long
- Bark furrowed with coarse ridges
- Large rounded acorns with fringed cap, up to 1 inch in diameter
- Found in savannahs and open forests with little shade
- Mature trees protected from fire by thick bark
- May live to be over 400 years old
- Most reliably distinguished from White Oak by fringed or “mossy” acorn caps



Red Oak/Pin Oak

Quercus rubra & *Q. ellipsoidalis*

- Alternate
- Lobes have pointed tips
- Leaves 3-7 inches long
- Bark less furrowed than Bur Oak
- Acorns smooth, 3/4 inch in diameter
- Red Oak and Pin Oak hybridize making it difficult to distinguish the two species
- Found in habitats ranging from upland forest to savannah

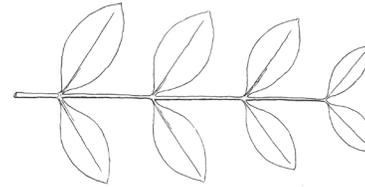
Notes on tree identification

Though illustrations are often helpful when identifying trees, variation between individuals of the same species can make relying on illustrations alone a challenge. This pamphlet focuses on several important tree characteristics that can be used to more reliably identify species. Utilizing the three features described below, you will be able to more easily differentiate between species. Leaves and fruits are not drawn to scale, but approximate sizes are listed in the species description.

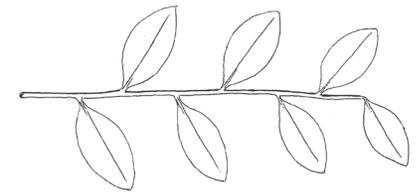
Simple and compound leaves

The stem of a leaf is soft, green, and attached to a woody twig. A tree with simple leaves (see Bur Oak) will have one leaf per stem. A tree with compound leaves (see Green Ash) will have multiple leaflets per stem.

Opposite leaves



Alternate leaves



Lobed and unlobed leaves

Some leaves have projecting segments called lobes (see Silver Maple). If you think of your hand as a leaf, your fingers would be the lobes.

Additional Resources

Welby Smith's *Trees and Shrubs of Minnesota* (University of Minnesota Press: 2008) is the most comprehensive resource available for tree identification and species information. The Minnesota Department of Resources webpage (www.dnr.state.mn.us/plants) provides general information about the tree species found in Minnesota. Similarly, the United States Department of Agriculture's online plant database (www.plants.usda.gov) provides general information about tree species as well as links to further information.

Trees with simple leaves

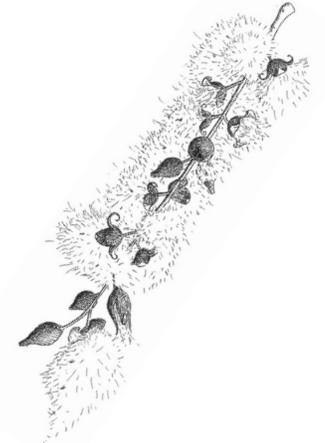


Common Buckthorn

Rhamnus cathartica

- Opposite or alternate
- Leaves dark above and pale below
- Leaves 1-2 inches long
- Smooth, gray bark when young, becomes rough and scaly
- Black, berry-like fruit in clusters, 1/4 inch in diameter
- Invasive, non-native species brought to the United States for use as an ornamental shrub
- Forms thick undergrowth crowding out native plants
- Buckthorn is the target of an active control program in the Arb

Trees with simple leaves



Eastern Cottonwood

Populus deltoides

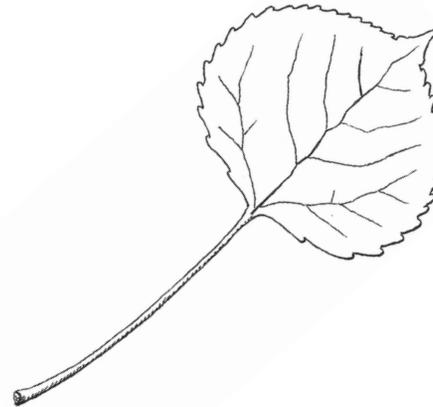
- Alternate
- Triangular leaves with square leaf base, 2-4 inches long
- Bark white on young trees, becoming gray and deeply furrowed
- Wind dispersed seeds with cotton-like appearance attached to 4-7 inch long catkin
- Common in floodplains and other frequently disturbed areas
- Fast growing
- One of the largest trees in Minnesota, Cottonwoods can grow to be over 120 feet tall



Willows

Salix spp.

- Alternate
- Leaves very narrow, 2-6 inches long
- Bark varies in appearance but many large trees have coarse ridges
- Small seeds surrounded by white fibers attached to 3-4 inch long catkin
- 18 species of willow are native to Minnesota ranging from small shrubs to large trees
- Differentiating between willow species is difficult

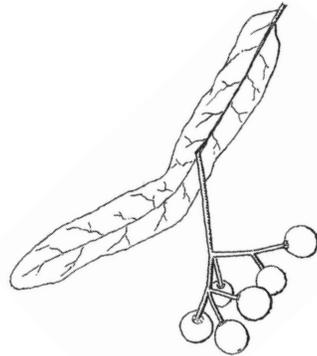
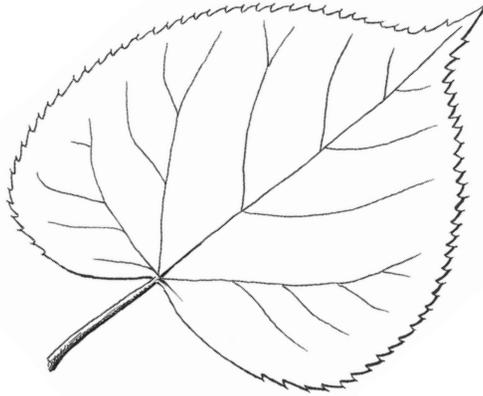


Trembling Aspen

Populus tremuloides

- Alternate
- Leaves dark above and pale below, 1-3 inches long, rounded base
- Bark is white, becoming gray and furrowed at the base
- Seeds similar to Cottonwood but less puffy, attached to 1-3 inch long catkin
- Found in young forests and abandoned fields
- Most common tree in Minnesota
- Trees sprout from underground root system
- Because of their flattened stems, Aspen leaves “tremble” in the wind

Trees with simple leaves

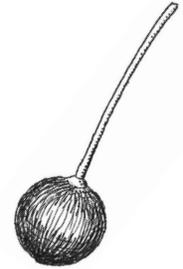
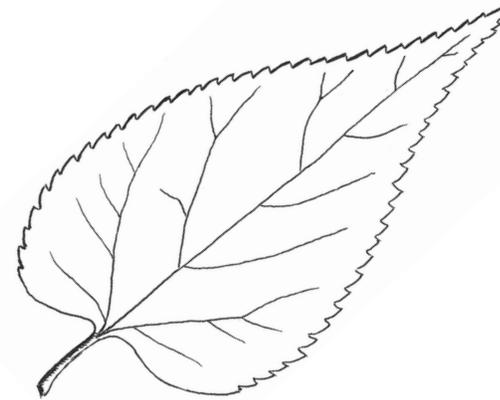


American Basswood

Tilia americana

- Alternate
- Heart-shaped leaves, 3-10 inches long
- Smooth gray bark when young, becomes gray and furrowed
- Has round, nut-like fruit 1/4 inch in diameter hanging beneath papery wing
- Found in mature forests alongside Red Oak and Sugar Maple
- Often has multiple sprouts emerging from the base of the tree
- Basswood is one of the few insect-pollinated trees in Minnesota

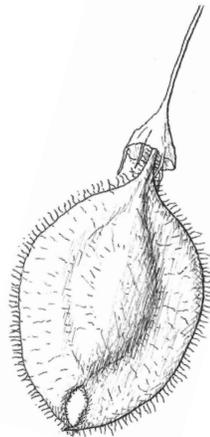
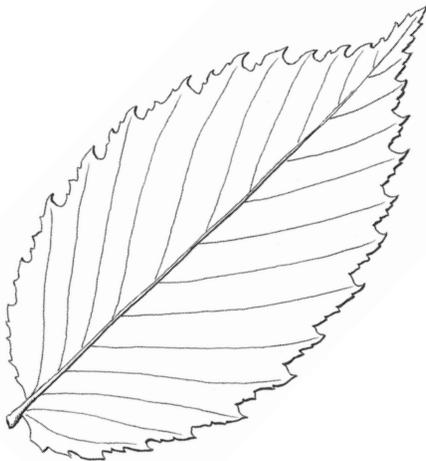
Trees with simple leaves



Northern Hackberry

Celtis occidentalis

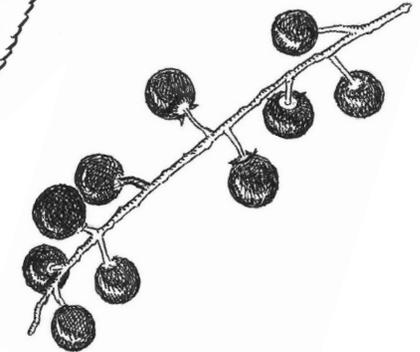
- Alternate
- Leaves arrow-shaped, 3-5 inches long
- Bark has distinct corky ridges
- Fruit berry-like, 1/4 inch in diameter
- Common in floodplains and moist uplands
- Hackberry fruit is a common food source for a variety of birds



American Elm

Ulmus americana

- Alternate
- Leaves asymmetrical, 2-4 inches long
- Bark has coarse ridges
- Oval-shaped, winged fruits with central seed, 1/2 inch long
- Found in floodplains and mature forests
- Dutch elm disease has killed many trees
- Slippery Elm and Siberian Elm are also present in the Arb, but differentiating between species can be difficult



Black Cherry

Prunus Serotina

- Alternate
- Narrow leaves, 3-5 inches long
- Bark on mature trees is dark with scaly plates
- Black, berry-like fruit 1/4 inch in diameter
- Usually found in dry or sandy upland forests
- Susceptible to fire due to thin bark
- Distinguished from other cherry species by scaly bark and narrow leaves

