

A guide to the Trees and Shrubs of University Farm

Squire Valleevue and Valley Ridge Farms
Case Western Reserve University
Dr. Ana B. Locci, Director

Prepared by Jacob R. G. Kribel, August 2005

Important notes on this guide

- ❖ This is an introductory guide to the native and introduced tree and shrub species of University farm.
- ❖ It attempts to provide baseline information that will be useful to anyone wishing to learn more about the trees and shrubs found here.
- ❖ The physical descriptions are of major identifying characters; though a good hand lens is advisable.
- ❖ Some plants can be harmful, indicated by **CAUTION** boxes.
- ❖ Make sure you have a good field guide in hand before setting off to discover the trees and shrubs of the farm!

Important notes on this guide

- ❖ There are a few trees and shrubs of the farm that are of conservation concern, being defined as follows:
 - ❖ Endangered: A species in immediate danger of disappearing from Ohio.
 - ❖ Threatened: A species that, with increased or continued danger, will become endangered.
 - ❖ Species of Concern: A species that, with increased or continued danger, will become threatened.
- ❖ Additionally, there are many trees and shrubs that are not native to this area. In all cases, these plants were carried to an area that they did not originally occur in. However, some of these plants were carried to the farm, while others were carried to other areas and have since been able to expand their ranges to include the farm. Some of these plants are confined to where humans have carried them, others are reproducing on their own in the vicinity of where they were carried, and still others have been able to reproduce and expand into the native habitat. For simplicity, all of these plants are treated as introduced in this guide.

Picea abies

Norway Spruce

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Pinaceae
- ❖ Leaves: dark green needles; 4 angled; on all sides of twigs
- ❖ Fruit: cone; 10-15cm long; hanging down
- ❖ Bark: red-brown; scaly
- ❖ Height: to 24m

Introduced



www.wikipedia.com

Picea engelmannii

Engleman Spruce

Introduced

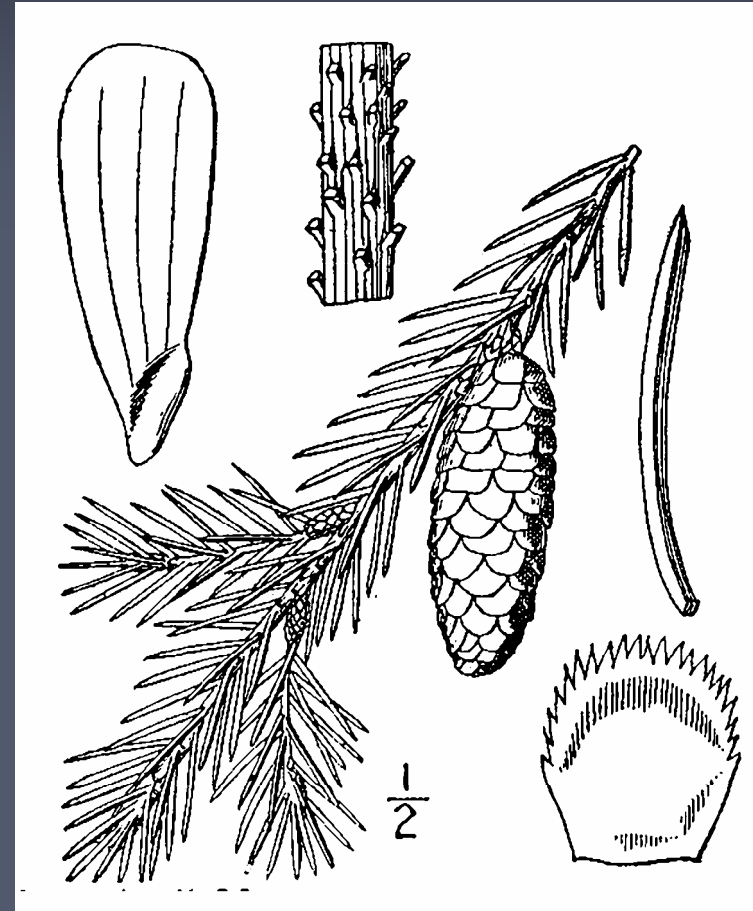
- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Pinaceae
- ❖ Leaves: blue-green needles; 4 angled; on all sides of twigs
- ❖ Fruit: violet cone; 3-8cm long; drooping down
- ❖ Bark: gray or red/brown
- ❖ Height: to 45m



Picea glauca White Spruce

Introduced

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Pinaceae
- ❖ Leaves: blue-green needles; 4 angled; mostly on upper side of twigs; skunk odor when crushed
- ❖ Fruit: cone; 3-6cm long; light brown; at end of twigs
- ❖ Height: to 30m



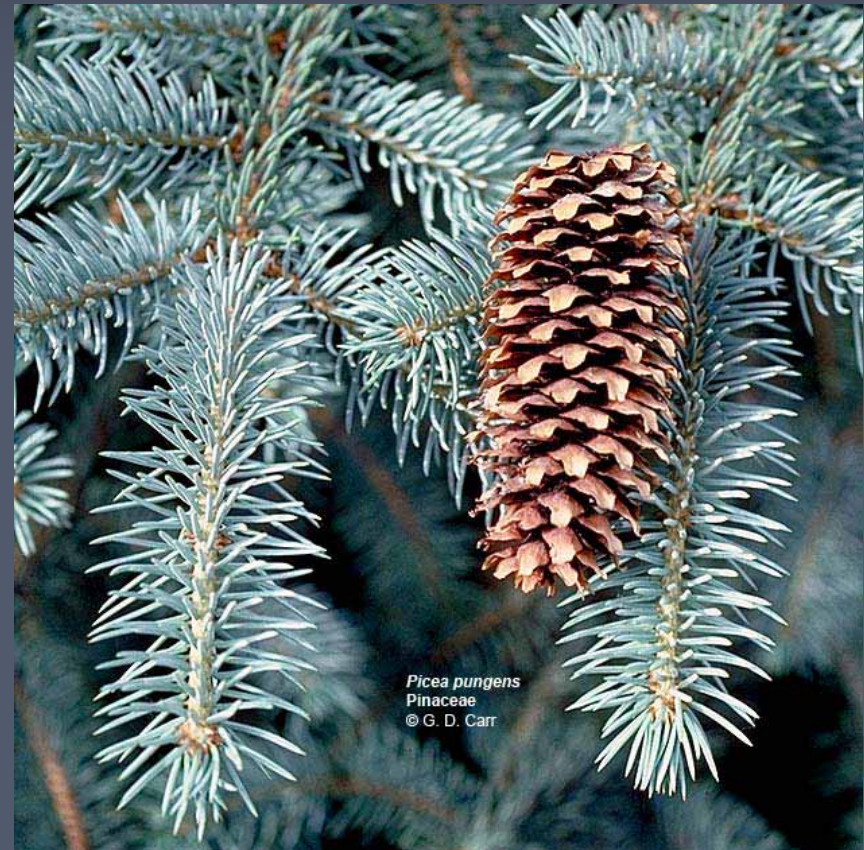
USDA NRCS PLANTS Database

Picea pungens

Blue Spruce

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Pinaceae
- ❖ Leaves: silvery-blue needles; acidic taste
- ❖ Fruit: cone; 5-10cm long; flexible scales
- ❖ Bark: gray to red/brown
- ❖ Height: to 24m

Introduced



Picea pungens
Pinaceae
© G. D. Carr

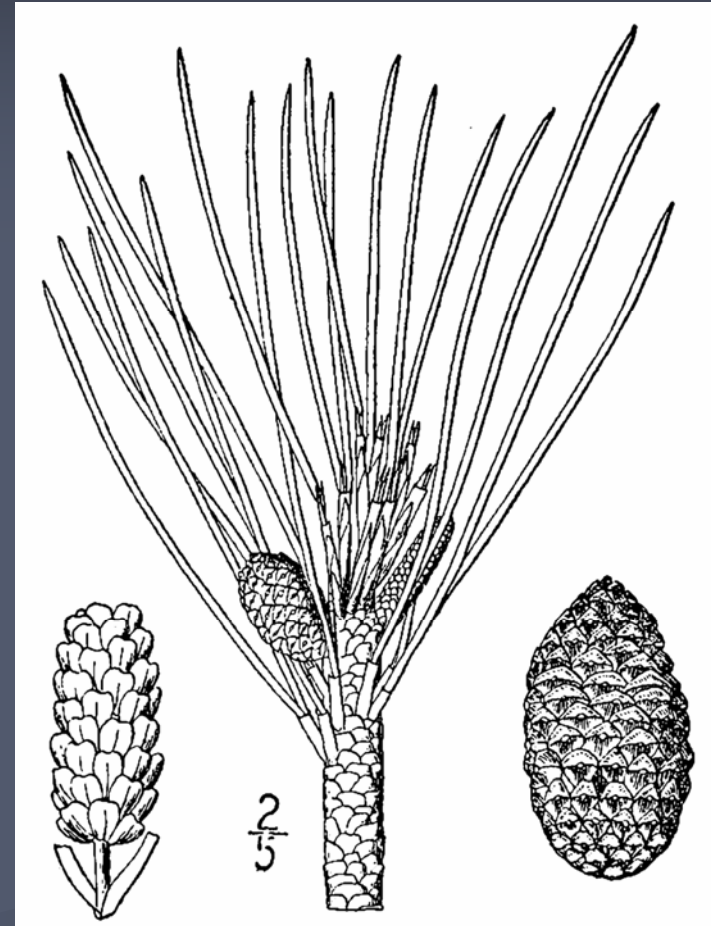
http://www.botany.hawaii.edu/faculty/carr/images/pic_pun.jpg

Pinus resinosa

Red Pine

Introduced

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Pinaceae
- ❖ Leaves: long, dark green needles; in bunches of 2
- ❖ Fruit: cone; 4-6cm long; egg-shaped; light brown
- ❖ Bark: red/brown or gray; broad, flat, thick scaly plates
- ❖ Height: to 24m



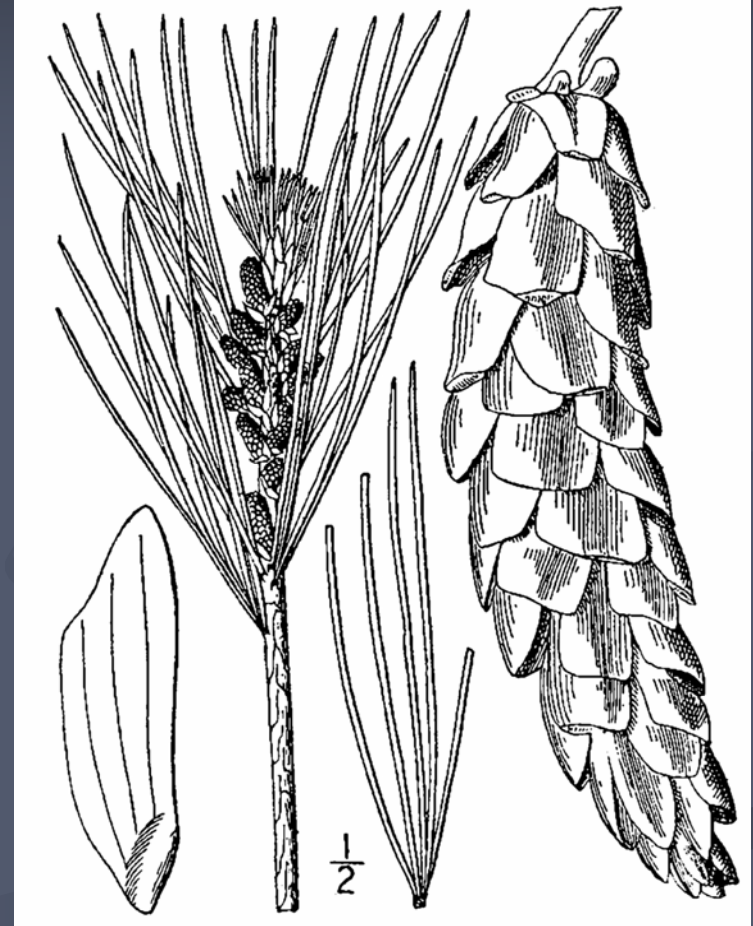
USDA NRCS PLANTS Database

Pinus strobus

Eastern White Pine

Introduced

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Pinaceae
- ❖ Leaves: long needles in bundles of 5, on branches that are horizontal, opposite and whorled
- ❖ Fruit: cone; 10-20cm long; yellow-brown; thin scales
- ❖ Bark: gray; narrow scaly ridges
- ❖ Height: to 33m

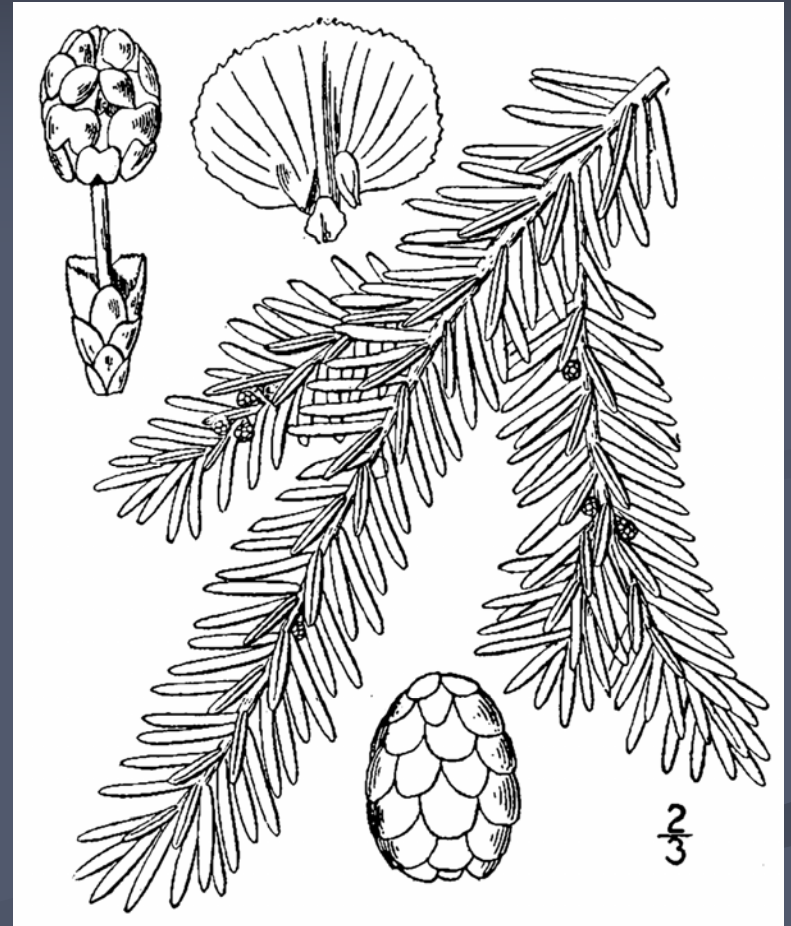


USDA NRCS PLANTS Database

Tsuga canadensis

Canada Hemlock

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Pinaceae
- ❖ Leaves: dark green needles with two white bands beneath; round tip; in 2 rows
- ❖ Fruit: cones; 1-2cm long; egg-shaped; rounded scales
- ❖ Bark: cinnamon; broad, scaly ridges
- ❖ Height: to 21m



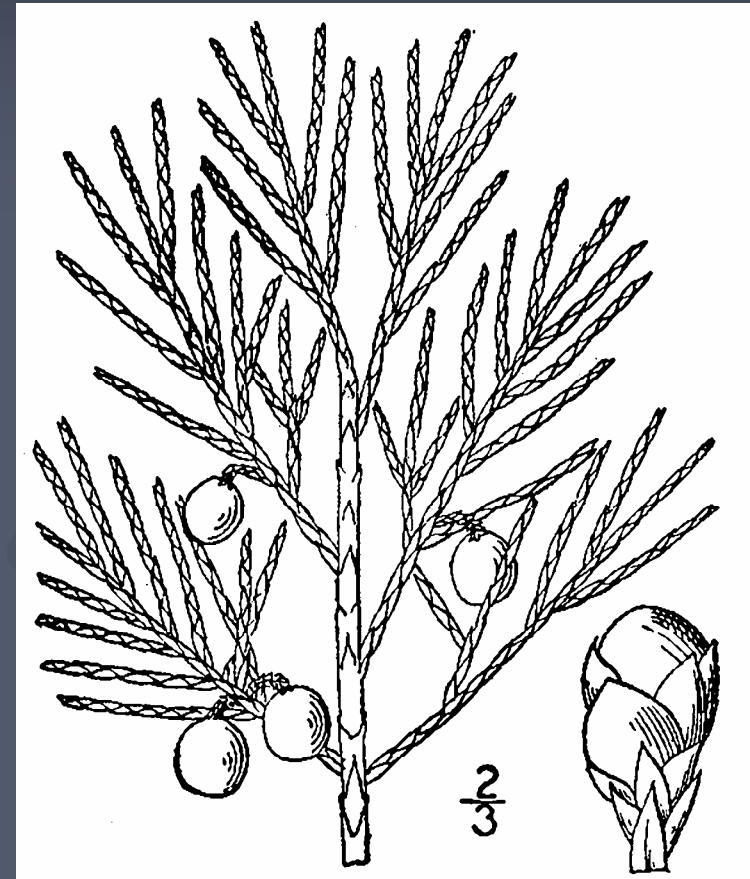
USDA NRCS PLANTS Database

Juniperus sp.

Juniper

CAUTION:
Sharp needles

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Cupressaceae
- ❖ Leaves: scale-like needles; in opposite pairs or alternating whorls; **very sharp**
- ❖ Fruit: fleshy cone; 3-20mm long; berry-like
- ❖ Bark: variable
- ❖ Height: up to 40m, but most are shrubs or small trees



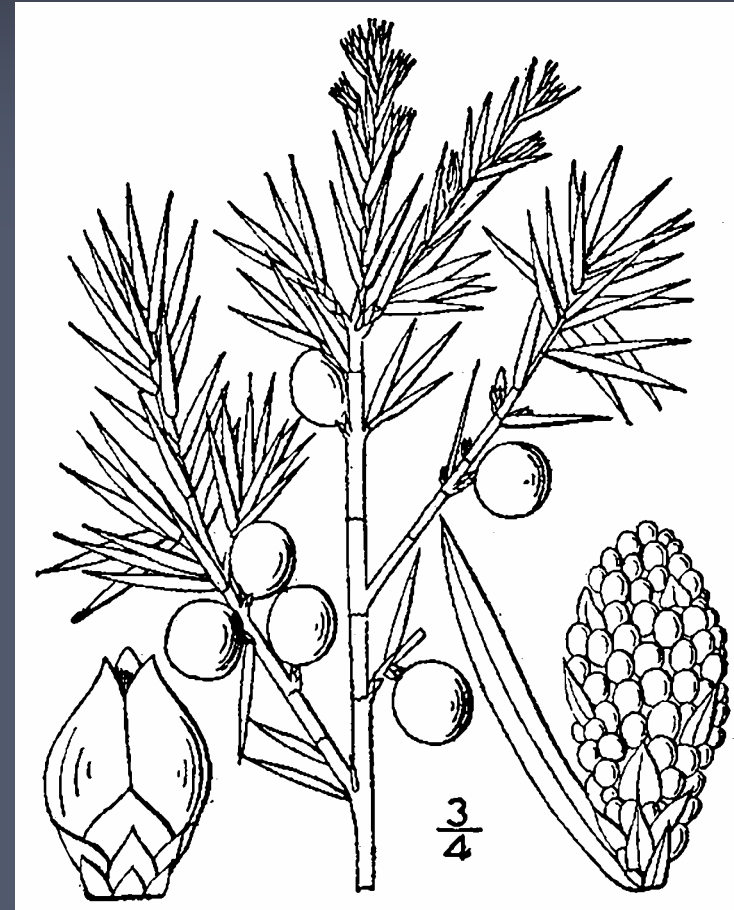
USDA NRCS PLANTS Database

Juniperus communis

Common Juniper

CAUTION:
Sharp needles

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Cupressaceae
- ❖ Leaves: needles; whitish above; yellow-green beneath; **very sharp**
- ❖ Fruit: fleshy cone; 1cm long; whitish-blue; berry-like
- ❖ Bark: red-brown; “shreddy”
- ❖ Height: to 2m



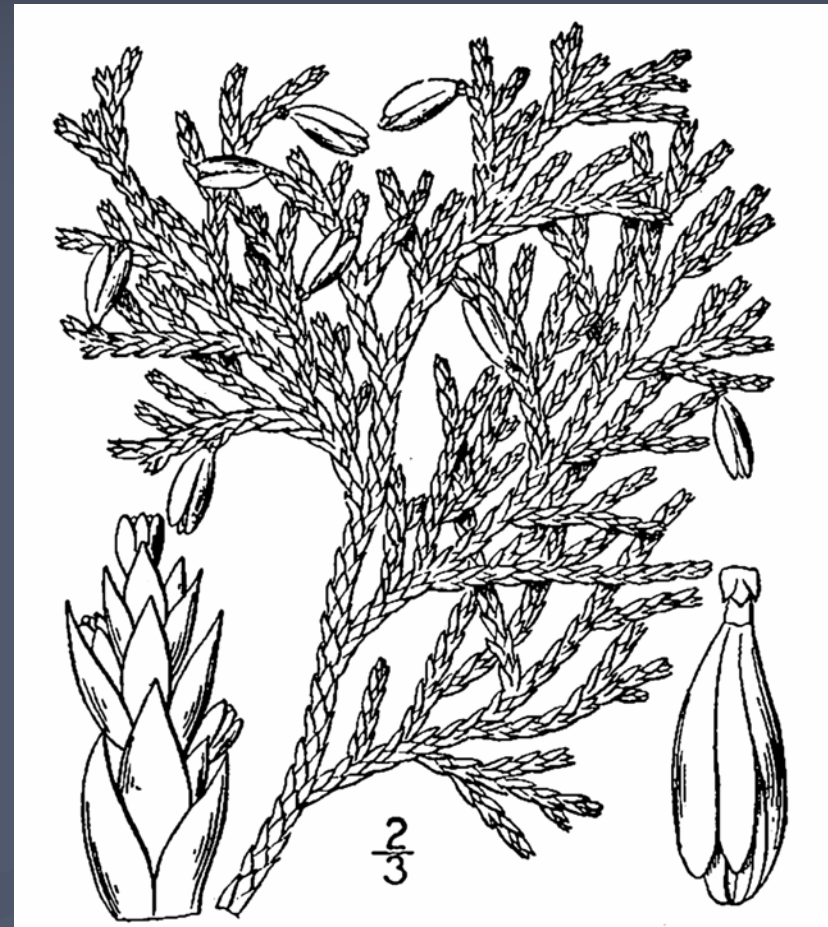
USDA NRCS PLANTS Database

Thuja occidentalis

Arbor Vitae, Northern White Cedar

Introduced

- ❖ Class Pinopsida
 - ❖ Order Pinales
 - ❖ Family Cupressaceae
- ❖ Leaves: scale-like needles; yellow-green above; blue-green below; in 4 rows
- ❖ Fruit: cone; 1cm long; elliptical; scales leathery and blunt pointed
- ❖ Bark: red-brown; “shreddy”
- ❖ Height: to 21m

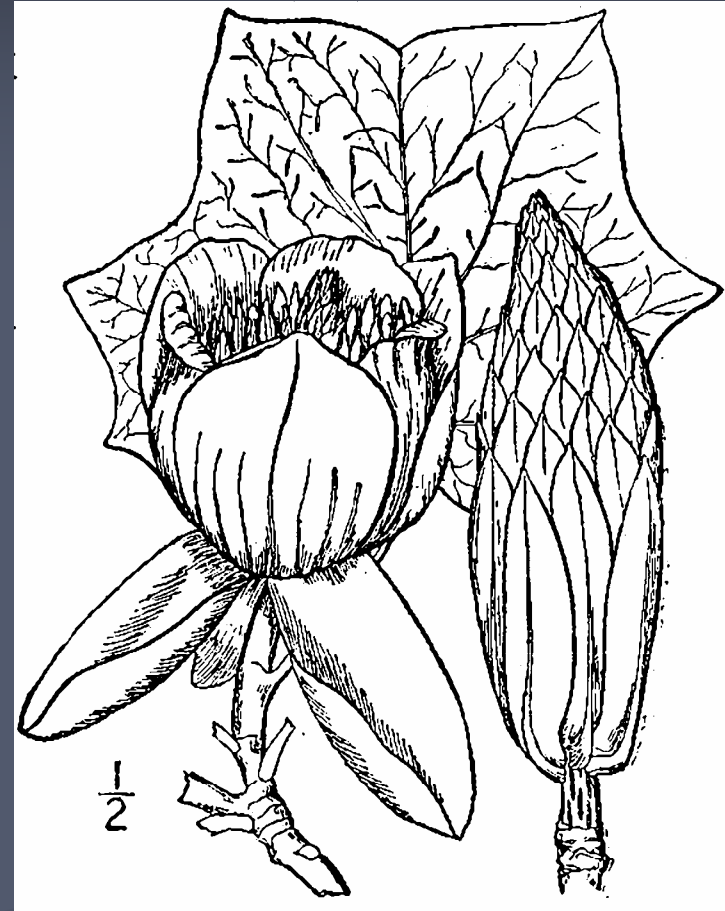


USDA NRCS PLANTS Database

Liriodendron tulipifera

Tulip Tree

- ❖ Class Magnoliopsida
 - ❖ Order Magnoliales
 - ❖ Family Magnoliaceae
- ❖ Leaves: alternate; 4-6 points; hairless; resemble a tulip
- ❖ Fruit: fleshy; cone-like; 6-8cm long
- ❖ Bark: light gray with deep furrows on straight trunk
- ❖ Height: to 37m

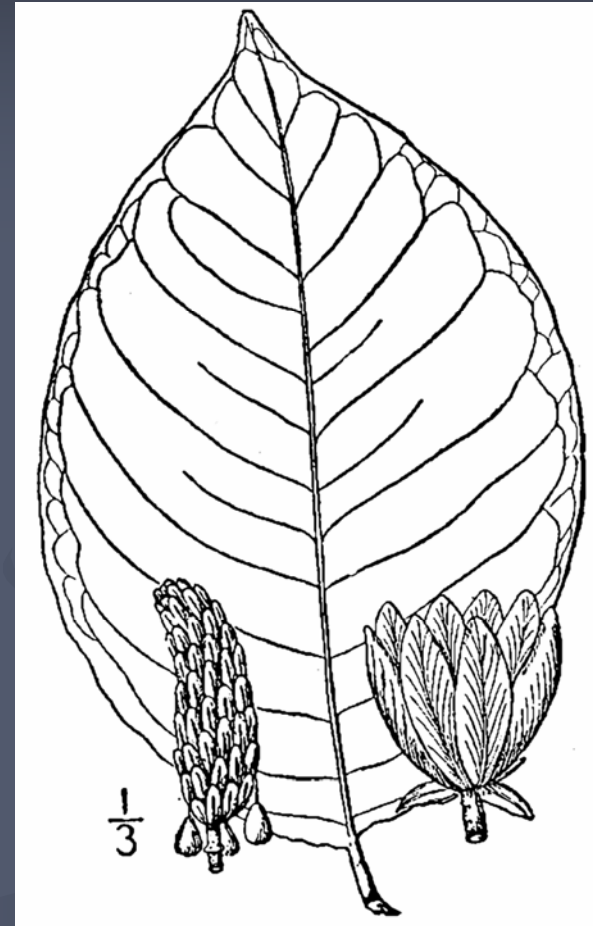


USDA NRCS PLANTS Database

Magnolia acuminata

Cucumber Tree, Cucumber Magnolia

- ❖ Class Magnoliopsida
 - ❖ Order Magnoliales
 - ❖ Family Magnoliaceae
- ❖ Leaves: alternate; elliptical; abrupt point at tip; soft white hairs beneath; 10-25cm long
- ❖ Fruit: fleshy; cone-like; dark red; 6-8cm long
- ❖ Bark: dark brown with narrow, forking ridges
- ❖ Height: to 24m



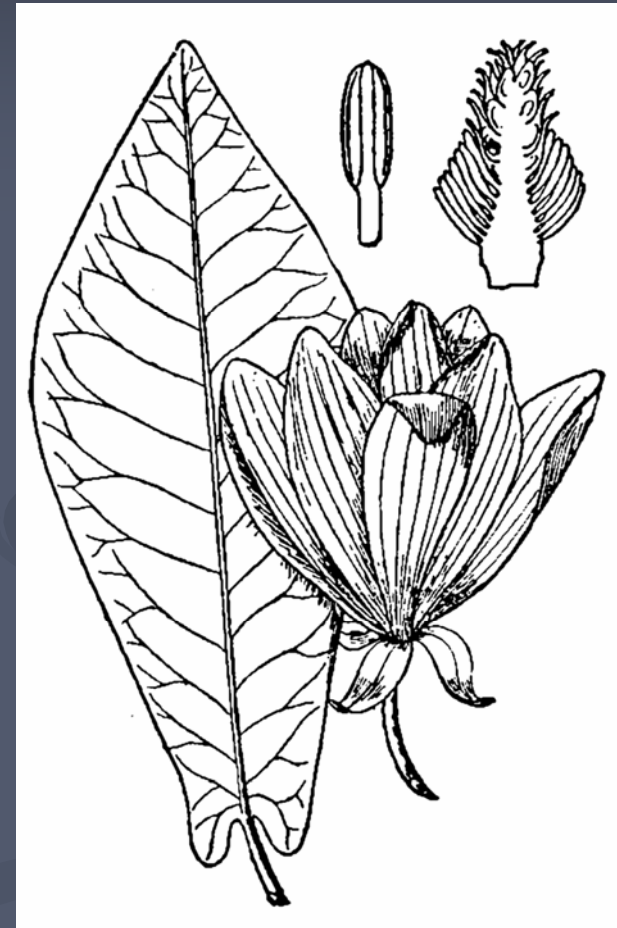
USDA NRCS PLANTS Database

Magnolia fraseri

Mountain Magnolia

- ❖ Class Magnoliopsida
 - ❖ Order Magnoliales
 - ❖ Family Magnoliaceae
- ❖ Leaves: alternate; broadest beyond middle; narrow base with 2 lobes; hairless; paler below
- ❖ Fruit: fleshy; cone-like; rose red in color; 10-13cm long
- ❖ Bark: light gray; smooth to somewhat scaly; thin
- ❖ Height: to 21m

Introduced

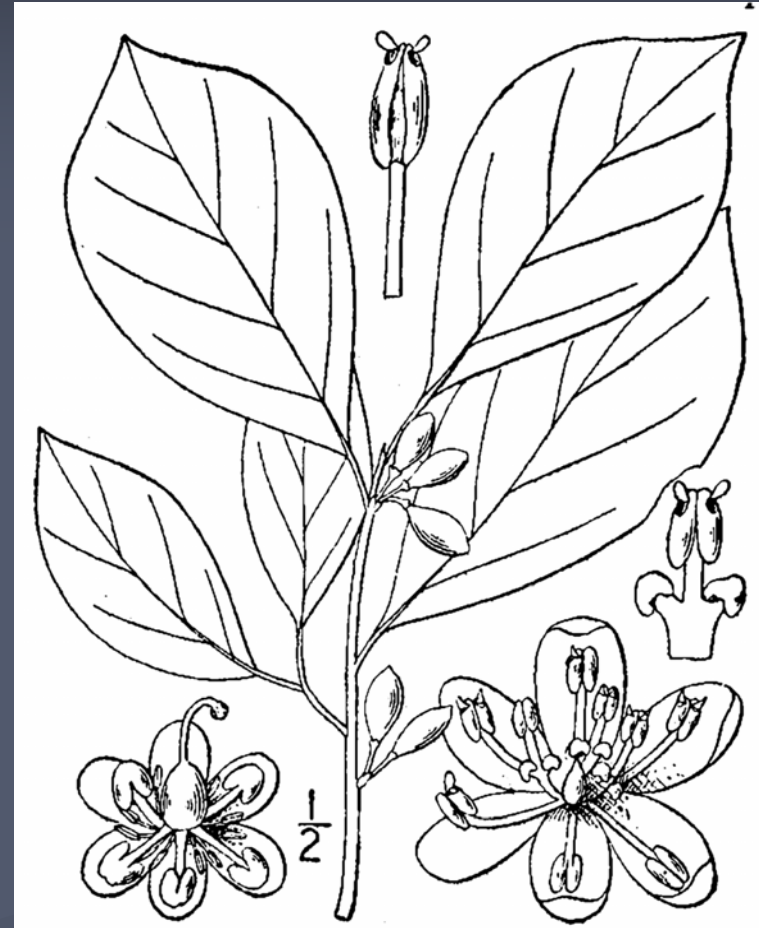


USDA NRCS PLANTS Database

Lindera benzoin

Spicebush

- ❖ Class Magnoliopsida
 - ❖ Order Laurales
 - ❖ Family Lauraceae
- ❖ Leaves: alternate; dark green; oval; fragrant when crushed
- ❖ Fruit: drupe (fruit with a single seed); shiny red berry
- ❖ Bark: light brown
- ❖ Height: to 3m; many trunked shrub

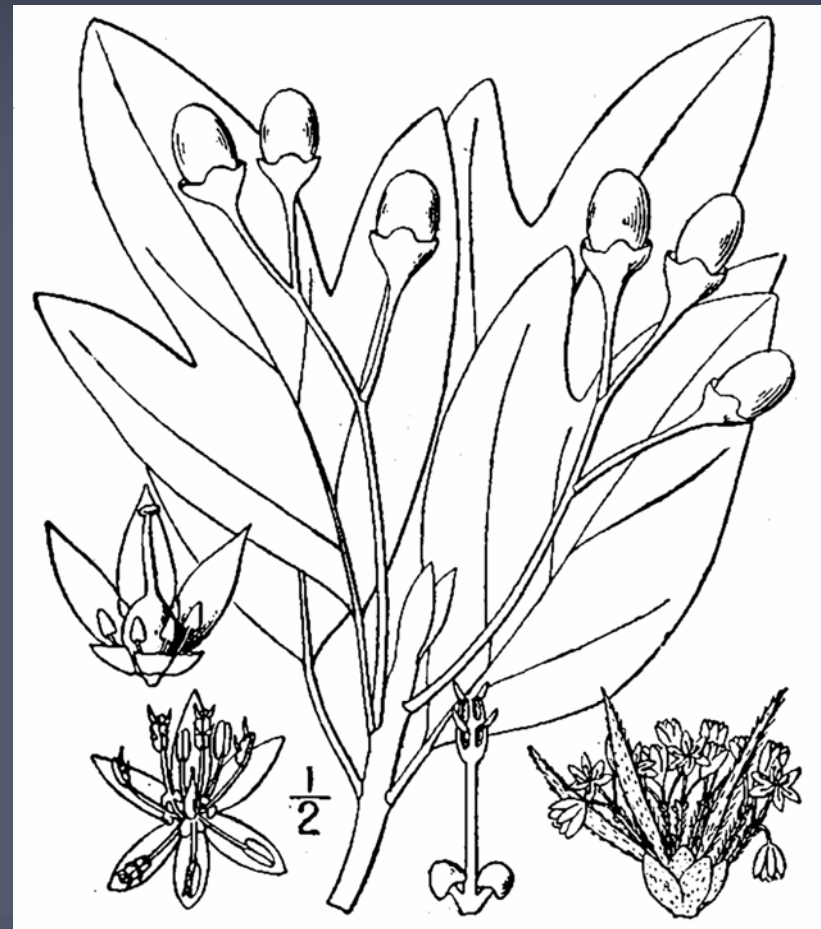


USDA NRCS PLANTS Database

Sassafras albidum

Sassafras

- ❖ Class Magnoliopsida
 - ❖ Order Laurales
 - ❖ Family Lauraceae
- ❖ Leaves: alternate; 3 distinct shapes (3-fingered, mitten with thumb, oval)
- ❖ Fruit: blue-black berries in a red cup on a red stalk
- ❖ Bark: gray brown; furrowed when older
- ❖ Height: to 18m

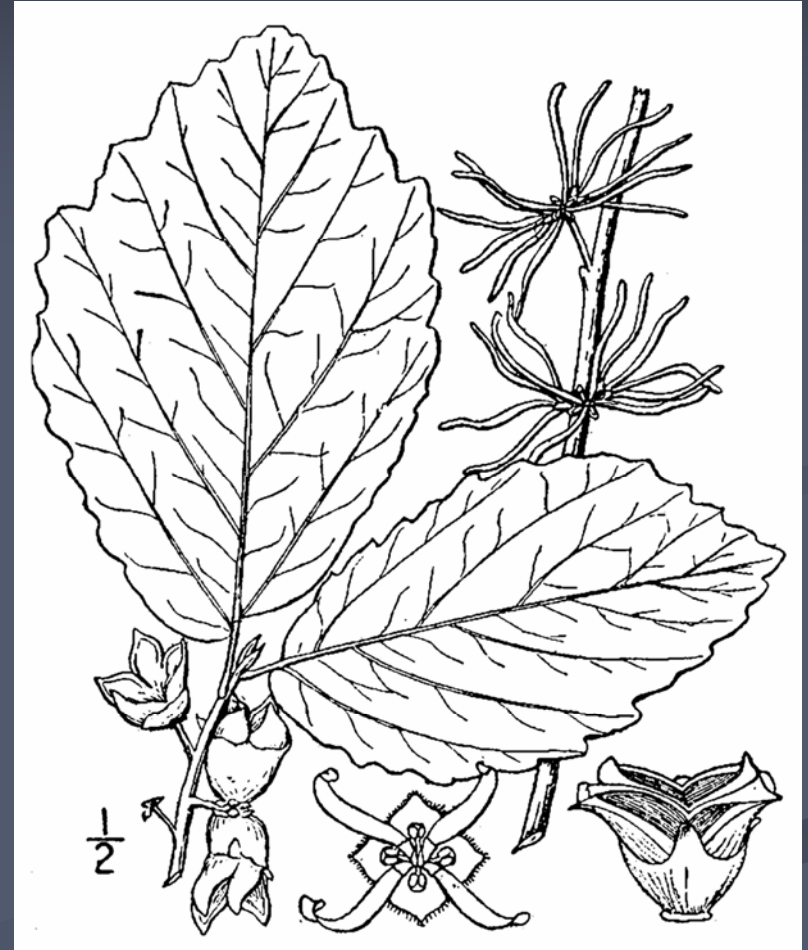


USDA NRCS PLANTS Database

Hamamelis virginiana

Witch Hazel

- ❖ Class Rosopsida
 - ❖ Order Saxifragales
 - ❖ Family Hamamelidaceae
- ❖ Leaves: alternate; wavy teeth; uneven base; 5-7 straight veins on each side of midrib
- ❖ Fruit: elliptical capsule with 4 sharp curved points
- ❖ Bark: light brown; lightly scaly or smooth
- ❖ Height: to 9m; many trunks



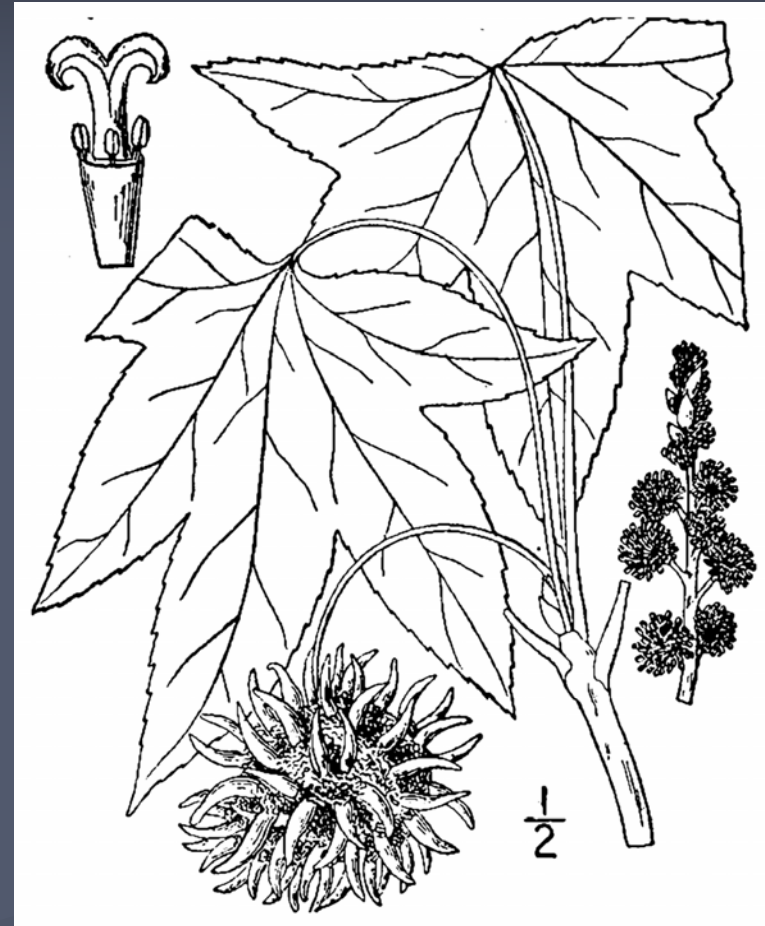
USDA NRCS PLANTS Database

Liquidambar styraciflua

Sweetgum

Introduced

- ❖ Class Rosopsida
 - ❖ Order Saxifragales
 - ❖ Family Hamamelidaceae
- ❖ Leaves: alternate; star-shaped with 5-7 points; finely toothed
- ❖ Fruit: long-stalked, drooping brown ball
- ❖ Bark: gray; narrow scaly ridges
- ❖ Height: to 30m



USDA NRCS PLANTS Database

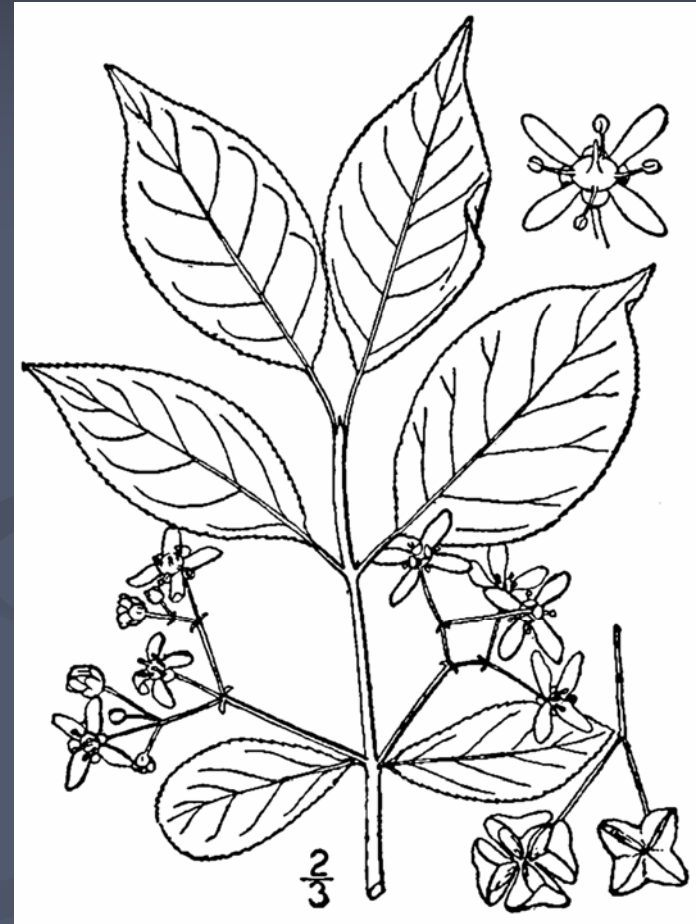
Euonymus europaea

European Spindle-tree

CAUTION:
possibly poisonous

Introduced

- ❖ Class Rosopsida
 - ❖ Order Celastrales
 - ❖ Family Celastraceae
- ❖ Leaves: opposite; ovate; finely toothed; dull green; hairless
- ❖ Fruit: pink/red, lobed capsule with orange seeds
- ❖ Bark: greenish red when young; gray-brown when older
- ❖ Height: to 9m



USDA NRCS PLANTS Database

Euonymus fortunei

Winter Creeper

CAUTION:
possibly poisonous

- ❖ Class Rosopsida
 - ❖ Order Celastrales
 - ❖ Family Celastraceae
- ❖ Leaves: opposite; evergreen; finely toothed; variable green/yellow coloration; silvery-white veins
- ❖ Fruit: small, somewhat orange, splitting capsules
- ❖ Bark: green with aerial roots
- ❖ Height: variable; vining shrub

Introduced



<http://www.saengerhof.de/garden/kletter-euonymus%20fortunei.jpg>

Euonymus hamiltonianus

Chinese Spindle Tree

CAUTION:
possibly poisonous

- ❖ Class Rosopsida
 - ❖ Order Celastrales
 - ❖ Family Celastraceae
- ❖ Leaves: opposite; dark green; red-purple in fall
- ❖ Fruit: small, pink, splitting capsule
- ❖ Bark: dark brown; smooth
- ❖ Height: to 4m

Introduced



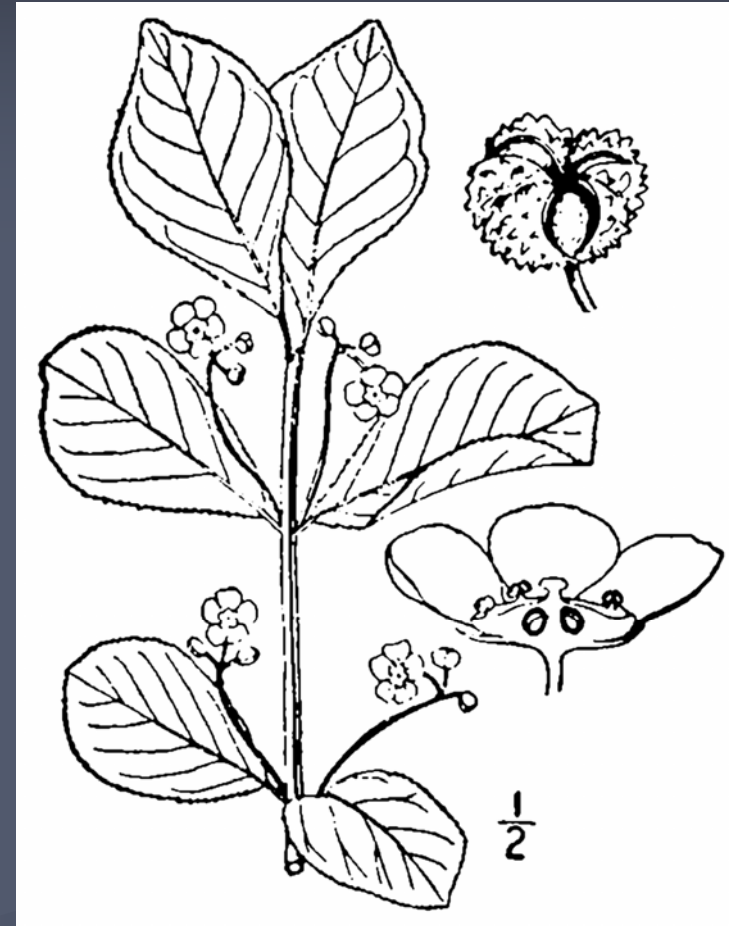
<http://www.mitomori.co.jp/hanazukan/image/ki116mayumi.jpg>

Euonymus obovatus

CAUTION:
possibly poisonous

Running Strawberry Bush

- ❖ Class Rosopsida
 - ❖ Order Celastrales
 - ❖ Family Celastraceae
- ❖ Leaves: obovate; green with curving, purplish veins
- ❖ Fruit: red/orange capsules
- ❖ Bark: gray/brown; somewhat rough
- ❖ Height: to 30cm

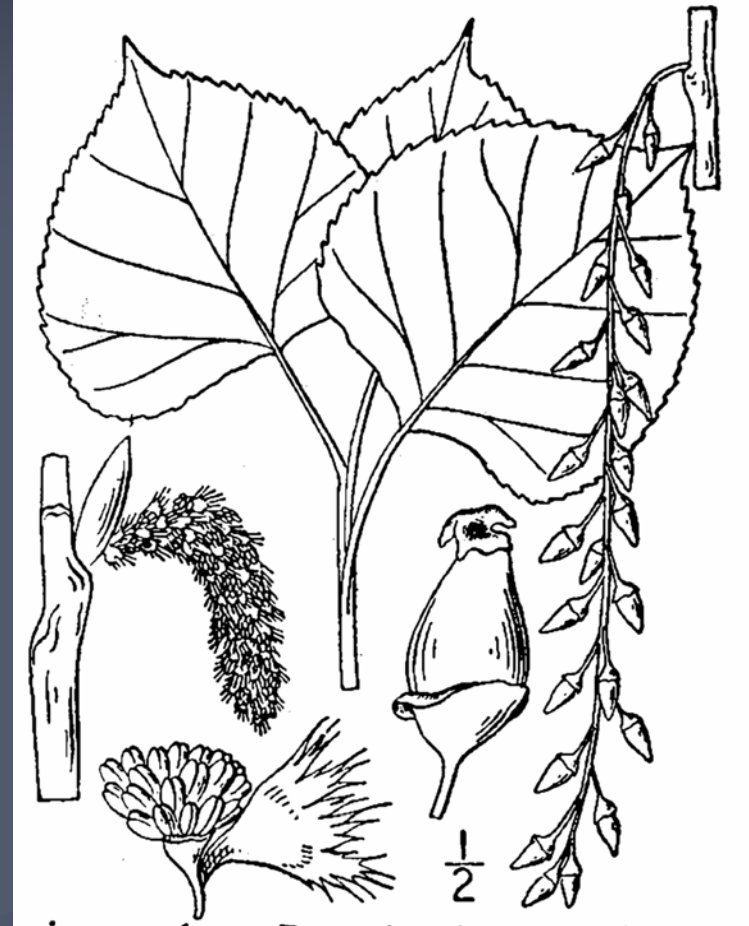


USDA NRCS PLANTS Database

Populus deltoides

Cottonwood

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Salicaceae
- ❖ Leaves: alternate; broad; flattened base; abruptly pointed tip; flat petiole
- ❖ Fruit: elliptical capsules with fluffy, white seeds
- ❖ Bark: yellow-green when young; dark and furrowed when older
- ❖ Height: to 30m

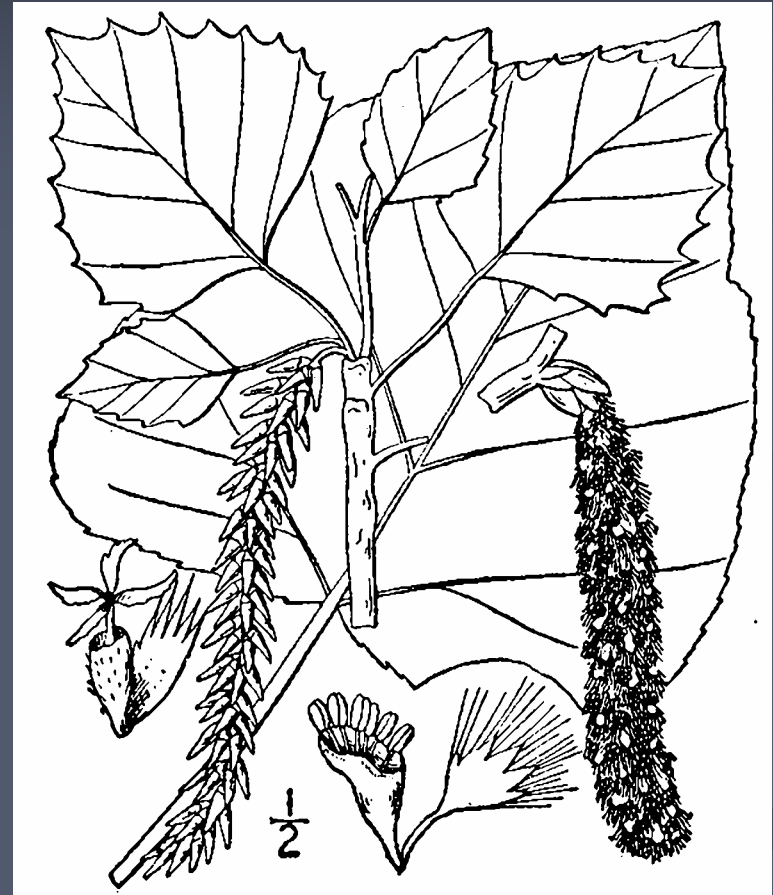


USDA NRCS PLANTS Database

Populus grandidentata

Big-Tooth Aspen

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Salicaceae
- ❖ Leaves: alternate; broad; coarse curving teeth; rounded at base; flat petiole
- ❖ Fruit: light green conical capsules with fluffy, white seeds
- ❖ Bark: green when young; dark with scaly ridges when older
- ❖ Height: to 18m



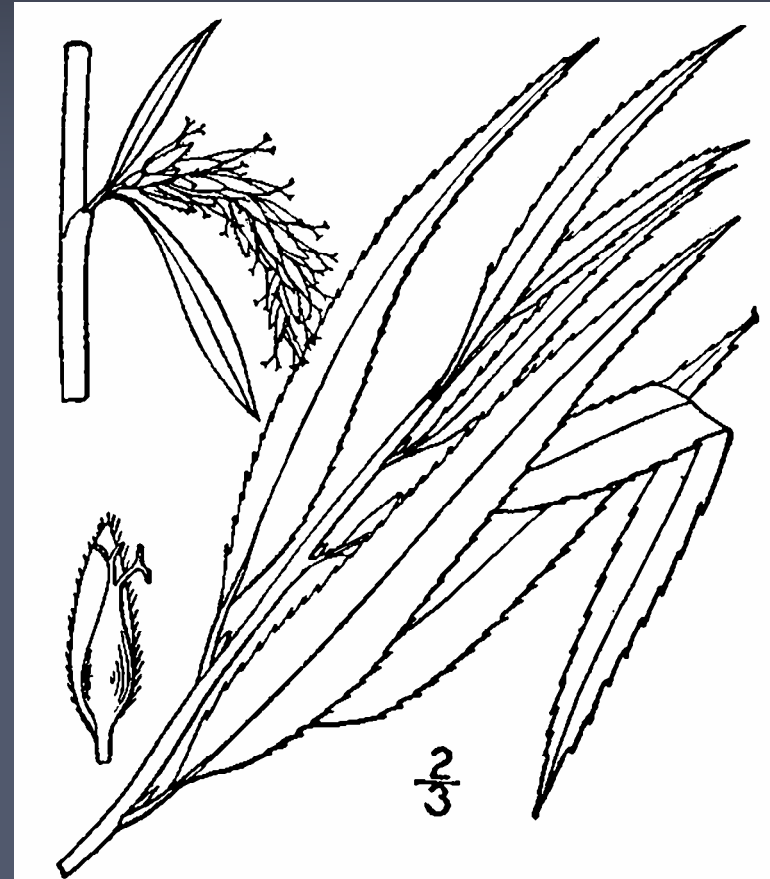
USDA NRCS PLANTS Database

Salix babylonica

Weeping Willow

Introduced

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Salicaceae
- ❖ Leaves: alternate; narrow lance shape; fine teeth; whitish beneath
- ❖ Fruit: 1mm long light brown capsules
- ❖ Bark: gray; roughly furrowed in branching ridges
- ❖ Height: to 12m



USDA NRCS PLANTS Database

Salix discolor

Large Pussywillow

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Salicaceae
- ❖ Leaves: alternate; lance shaped; irregular, wavy teeth; shiny green above; whitish beneath
- ❖ Fruit: 1 cm long light brown, slightly hairy capsules
- ❖ Bark: gray; scaly; many trunks
- ❖ Height: to 6m



USDA NRCS PLANTS Database

Salix fragilis

Crack Willow

Introduced

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Salicaceae
- ❖ Leaves: alternate; lance shape; narrow pointed tip turns to side; coarse teeth
- ❖ Fruit: 5mm long light brown capsules
- ❖ Bark: gray; rough; furrowed into narrow ridges
- ❖ Height: to 24m



USDA NRCS PLANTS Database

Salix nigra

Black Willow

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Salicaceae
- ❖ Leaves: narrow lance shaped; finely toothed
- ❖ Fruit: 5mm long red-brown capsules
- ❖ Bark: dark brown or black; furrowed into scaly, branching ridges
- ❖ Height: to 30m



USDA NRCS PLANTS Database

Salix sericea

Silky Willow

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Salicaceae
- ❖ Leaves: alternate; narrow lance shape; very fine teeth; silky hair below
- ❖ Fruit: small brownish capsules with silky hairs
- ❖ Bark: gray; furrowed
- ❖ Height: to 3m (shrub)



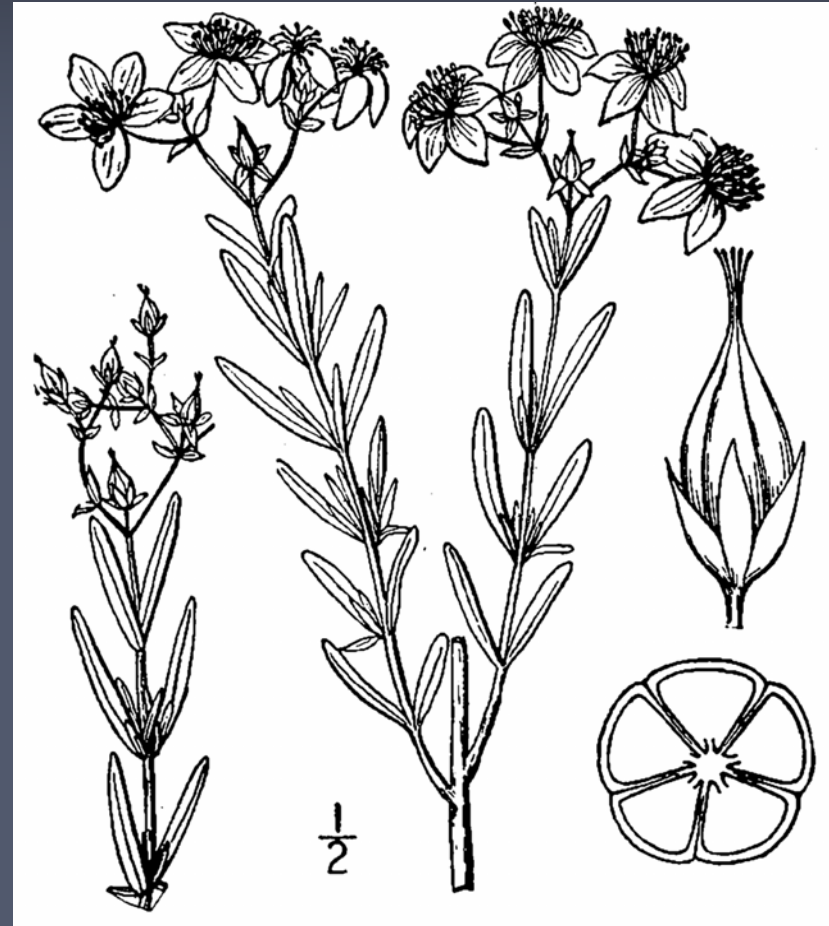
USDA NRCS PLANTS Database

Hypericum kalmianum

Kalm's St. John's Wort

Introduced

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Clusiaceae
- ❖ Leaves: opposite; oblong; translucent dots below
- ❖ Fruit: brown; produced by large, yellow flowers
- ❖ Bark: papery and peeling; branches 4-sided
- ❖ Height: to 1m



USDA NRCS PLANTS Database

Hypericum mutilum

Dwarf St. John's Wort

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Clusiaceae
- ❖ Leaves: opposite; oblong; somewhat pointed at tip, but sometimes rounded;
- ❖ Fruit: brown; produced by small yellow flowers
- ❖ Bark: brown; somewhat peeling
- ❖ Height: to 1m



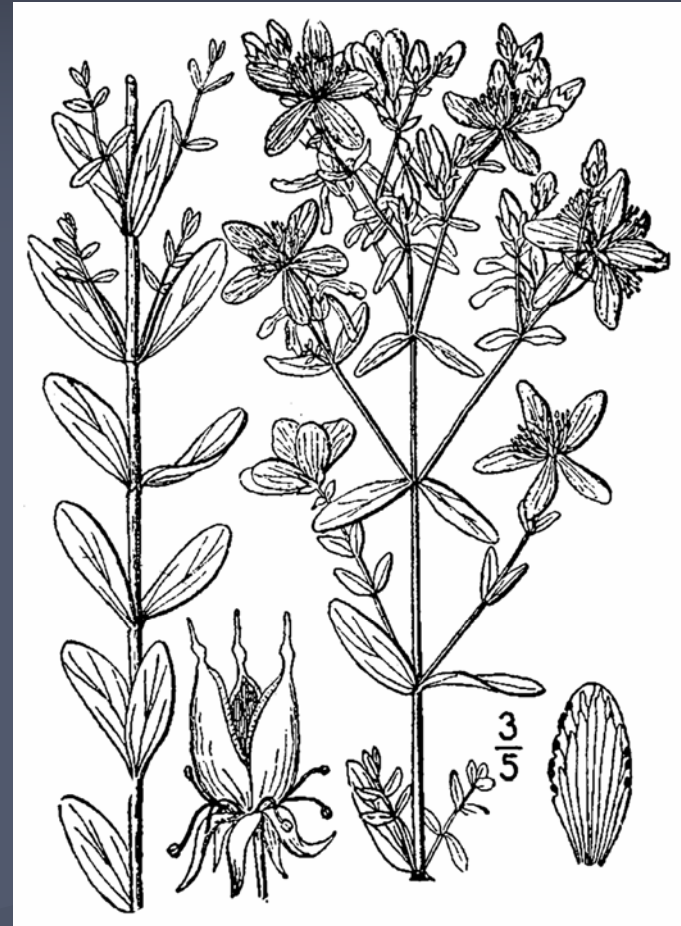
USDA NRCS PLANTS Database

Hypericum perforatum

Common St. John's Wort

Introduced

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Clusiaceae
- ❖ Leaves: opposite; oblong; translucent dots throughout
- ❖ Fruit: brown; produced by large, orange-yellow flowers
black dots on petal edges
- ❖ Bark: two raised lines on stem, making it look to be pressed flat
- ❖ Height: to 1m

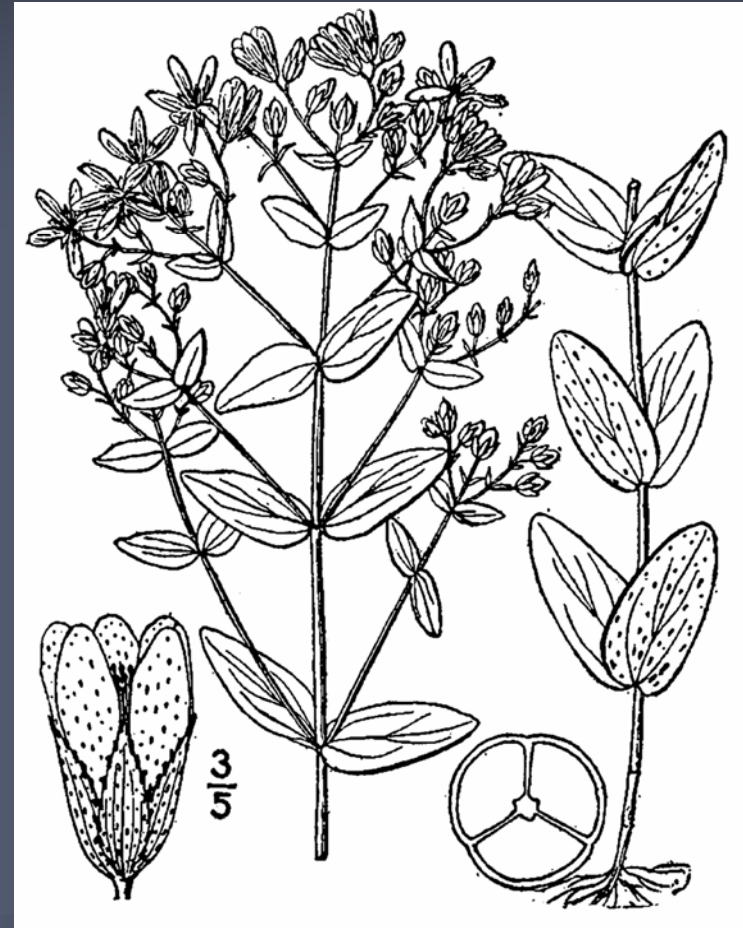


USDA NRCS PLANTS Database

Hypericum punctatum

Spotted St. John's Wort

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Clusiaceae
- ❖ Leaves: opposite; oblong; black dots
- ❖ Fruit: brown; produced by large, yellow flowers black dots on back of petals
- ❖ Bark: tan; somewhat square
- ❖ Height: to 1m

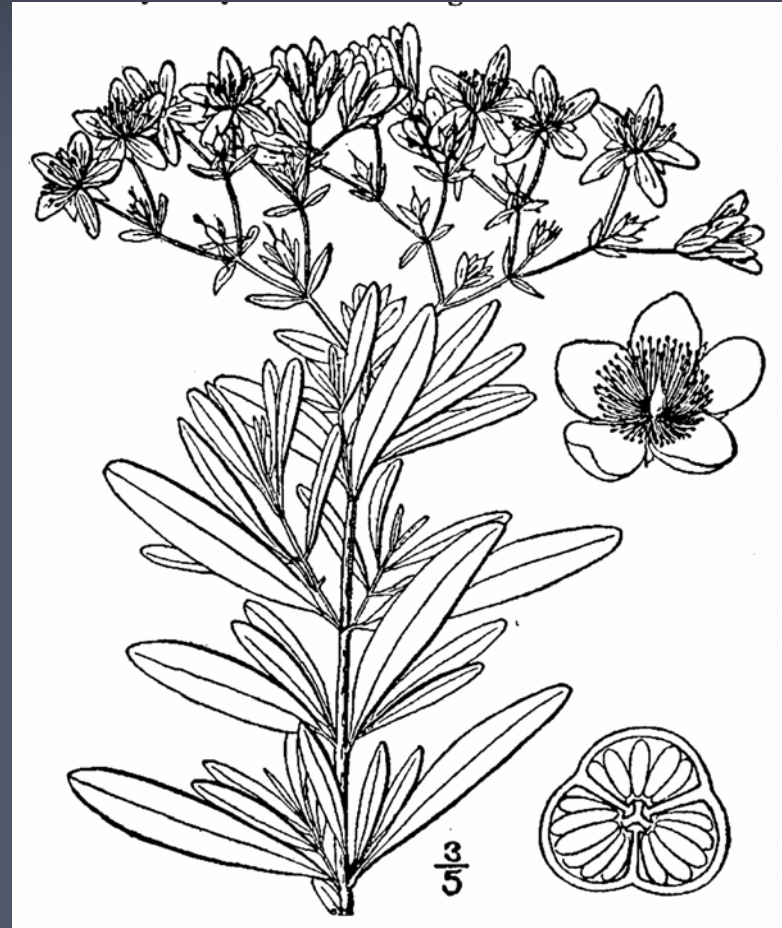


USDA NRCS PLANTS Database

Hypericum spathulatum

Shrubby St. John's Wort

- ❖ Class Rosopsida
 - ❖ Order Malpighiales
 - ❖ Family Clusiaceae
- ❖ Leaves: opposite; oblong-lanceolate; small, white tip
- ❖ Fruit: brown; produced by large yellow flowers clustered on terminal ends of branches
- ❖ Bark: gray/brown; peeling
- ❖ Height: to 2m



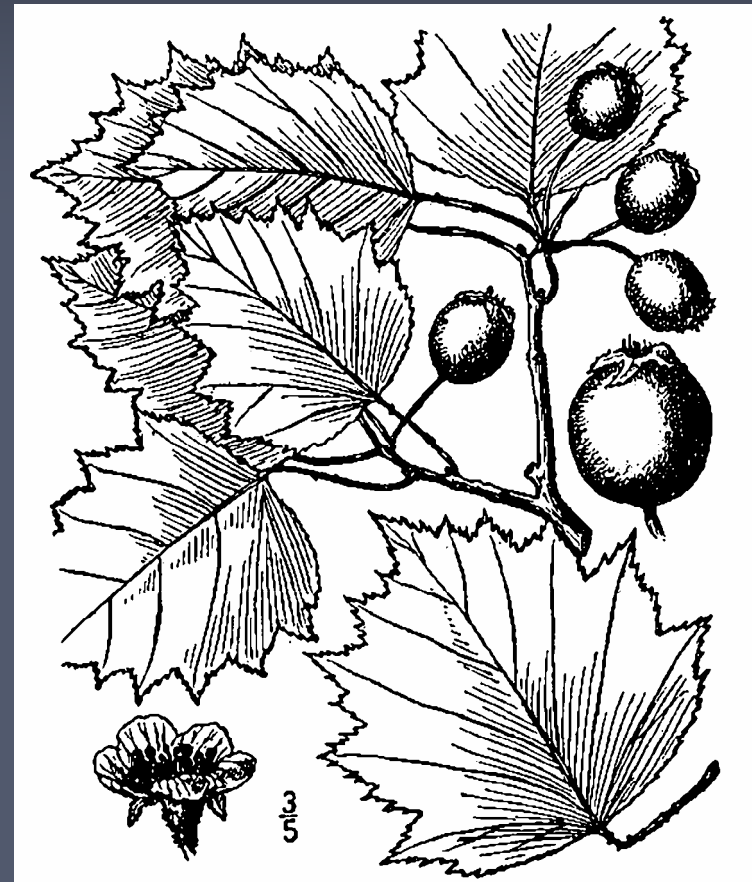
USDA NRCS PLANTS Database

Crataegus flabellata

Fanleaf Hawthorn

CAUTION:
Sharp spines

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; broad; rounded at base; double saw toothed
- ❖ Fruit: rounded; red; in drooping clusters; apple-like
- ❖ Bark: scaly; brown/gray; **curved spines on twigs**
- ❖ Height: to 6m



USDA NRCS PLANTS Database

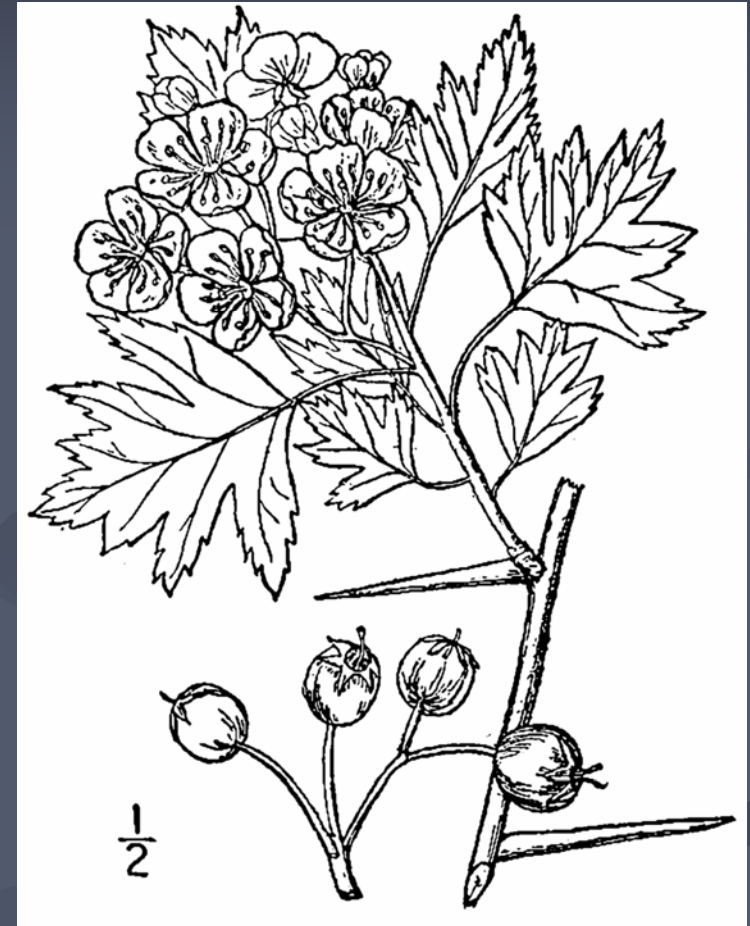
Crataegus monogyna

English Hawthorn

CAUTION:
Sharp spines

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; broad; deeply lobed; 2-4cm long
- ❖ Fruit: small, oval, red apple-like fruit; in drooping clusters
- ❖ Bark: brown with vertical orange cracks; **large, straight spines on twigs**
- ❖ Height: to 14m



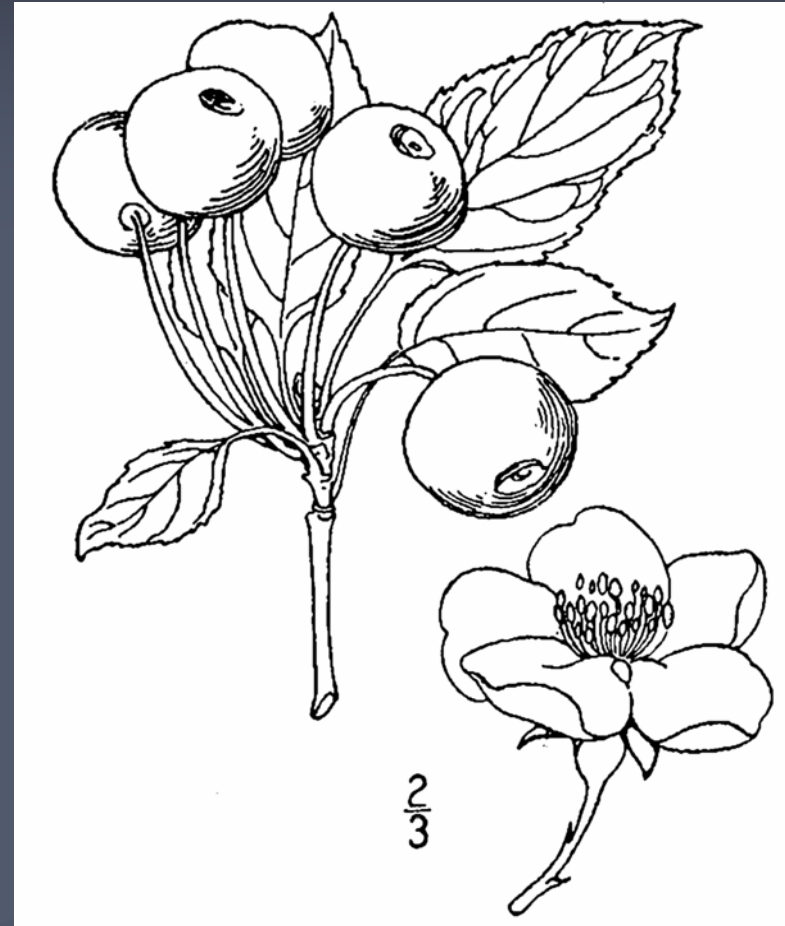
USDA NRCS PLANTS Database

Malus baccata

Siberian Crabapple

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; fine teeth; elliptical; pinnate venation
- ❖ Fruit: small, red-yellow apple
- ❖ Bark: gray/brown; scaly
- ❖ Height: to 9m

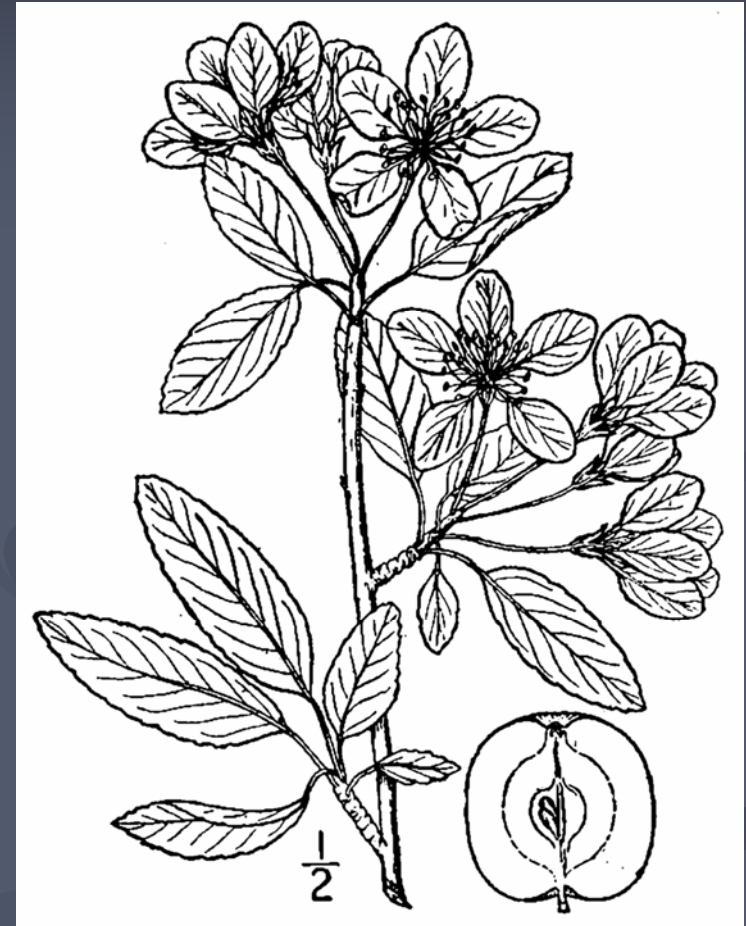


USDA NRCS PLANTS Database

Malus coronaria

Wild Crab Apple

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; ovate; saw-toothed; red hairs when young; yellow-green above; paler beneath
- ❖ Fruit: small, yellow-green apple
- ❖ Bark: reddish-brown; scaly
- ❖ Height: to 9m



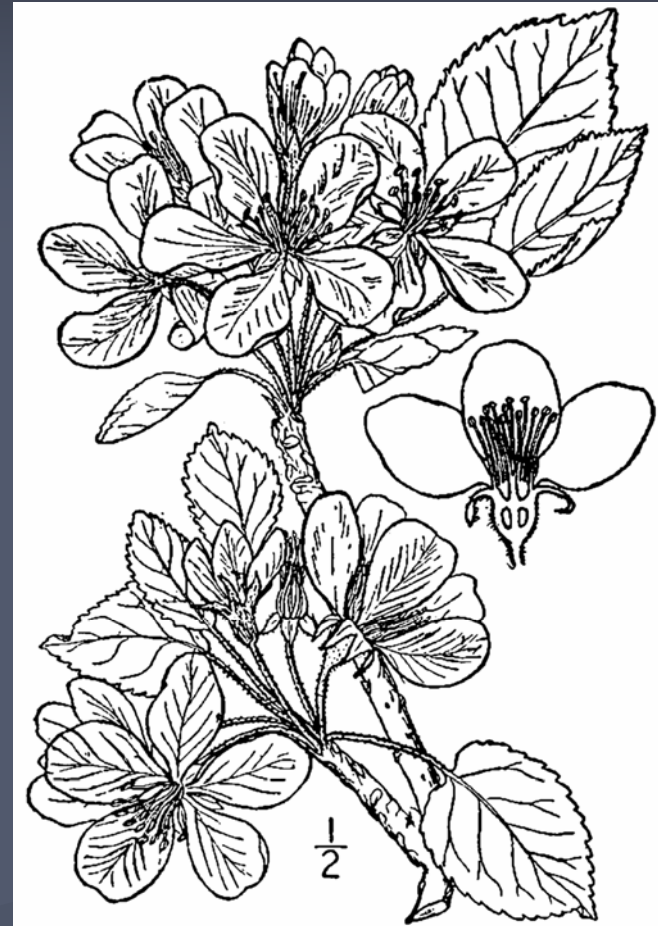
USDA NRCS PLANTS Database

Malus sylvestris

Common Apple

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; ovate; wavy teeth; gray hairs beneath
- ❖ Fruit: red or yellow apple
- ❖ Bark: gray; scaly
- ❖ Height: to 12m

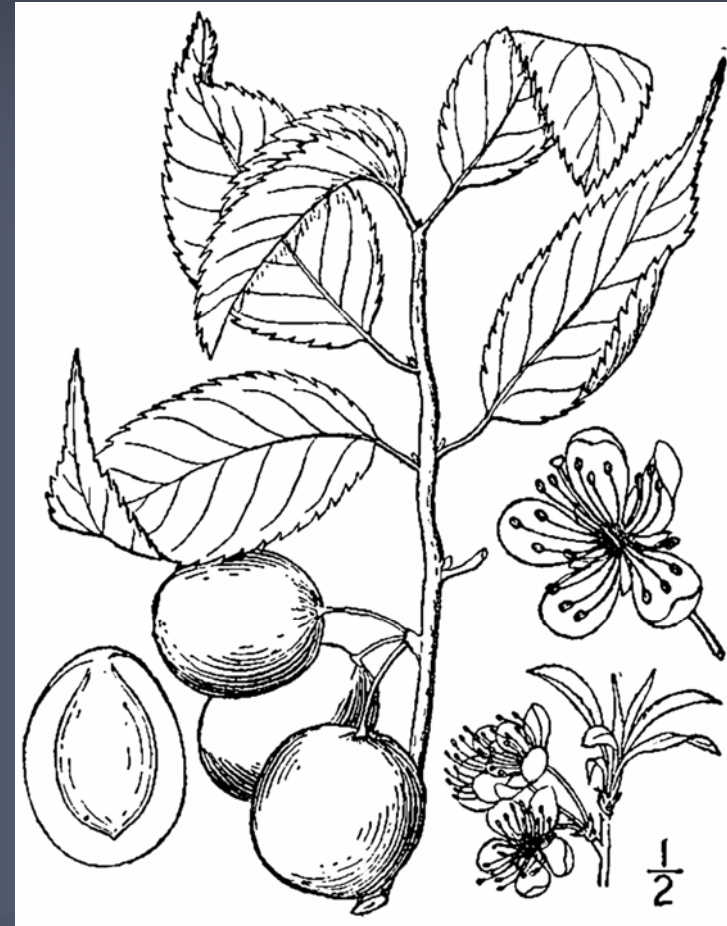


USDA NRCS PLANTS Database

Prunus americana

Wild Plum

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; elliptical; long tip; double saw toothed; sunken veins above
- ❖ Fruit: plum; thick red skin with edible flesh and large “stone” in center
- ❖ Bark: dark brown; scaly
- ❖ Height: to 9m



USDA NRCS PLANTS Database

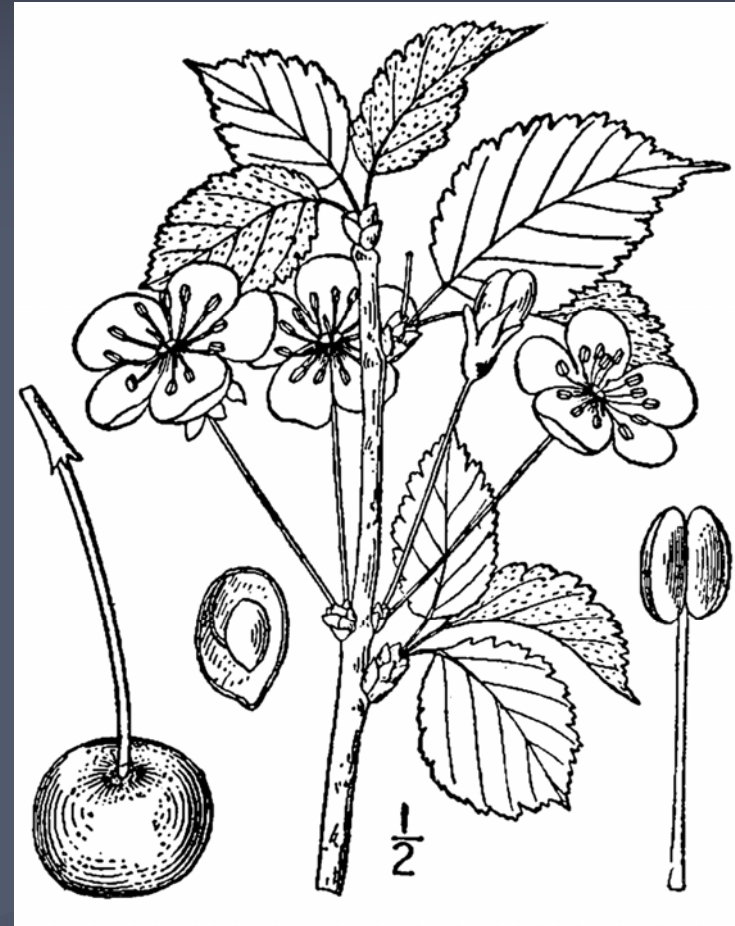
Prunus avium

Sweet Cherry

CAUTION:
Poisonous to
Livestock

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; ovate; abrupt point at tip; blunt double saw teeth; white hairs on veins beneath
- ❖ Fruit: 2.5cm cherry with red/purple skin
- ❖ Bark: red/brown; peeling
- ❖ Height: to 21m



USDA NRCS PLANTS Database

Prunus pensylvanica

Pin Cherry

CAUTION:
Poisonous to
Livestock

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; broad lance shape; long point; fine teeth; petiole with two dots near tip
- ❖ Fruit: 6mm red cherry
- ❖ Bark: red-gray; scaly plates
- ❖ Height: to 9m



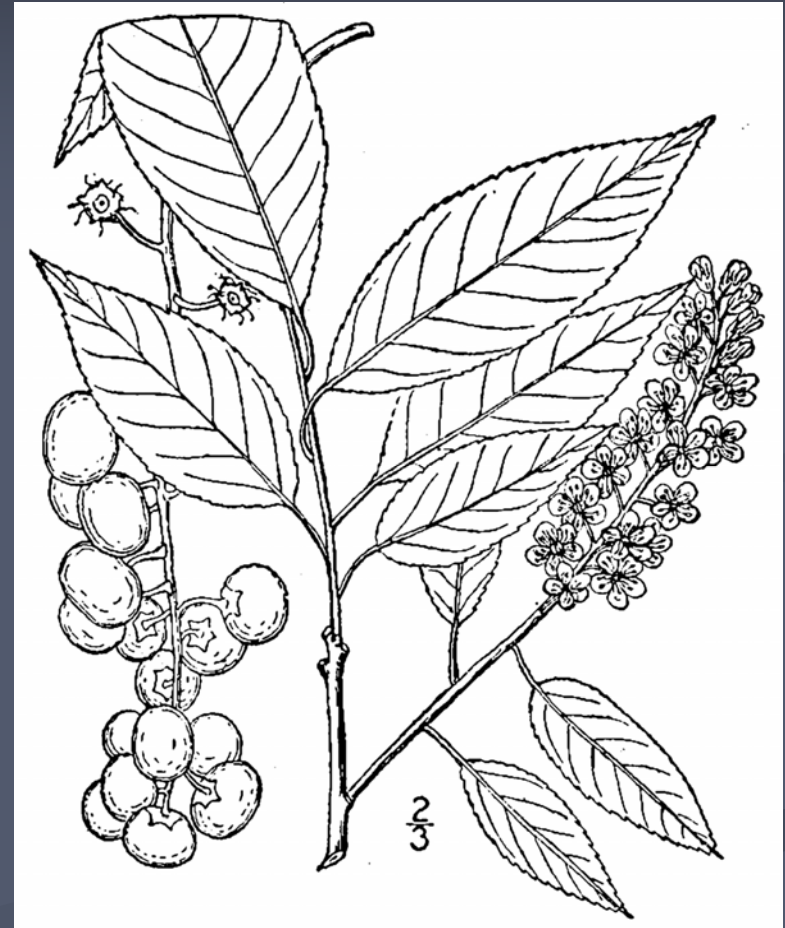
USDA NRCS PLANTS Database

Prunus serotina

Black Cherry

CAUTION:
Poisonous to
Livestock

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; elliptical; 2 red glands at base; fine, blunt teeth; midrib hairy beneath
- ❖ Fruit: 1cm red/black cherry
- ❖ Bark: dark gray; irregular cracks and scales
- ❖ Height: to 24m



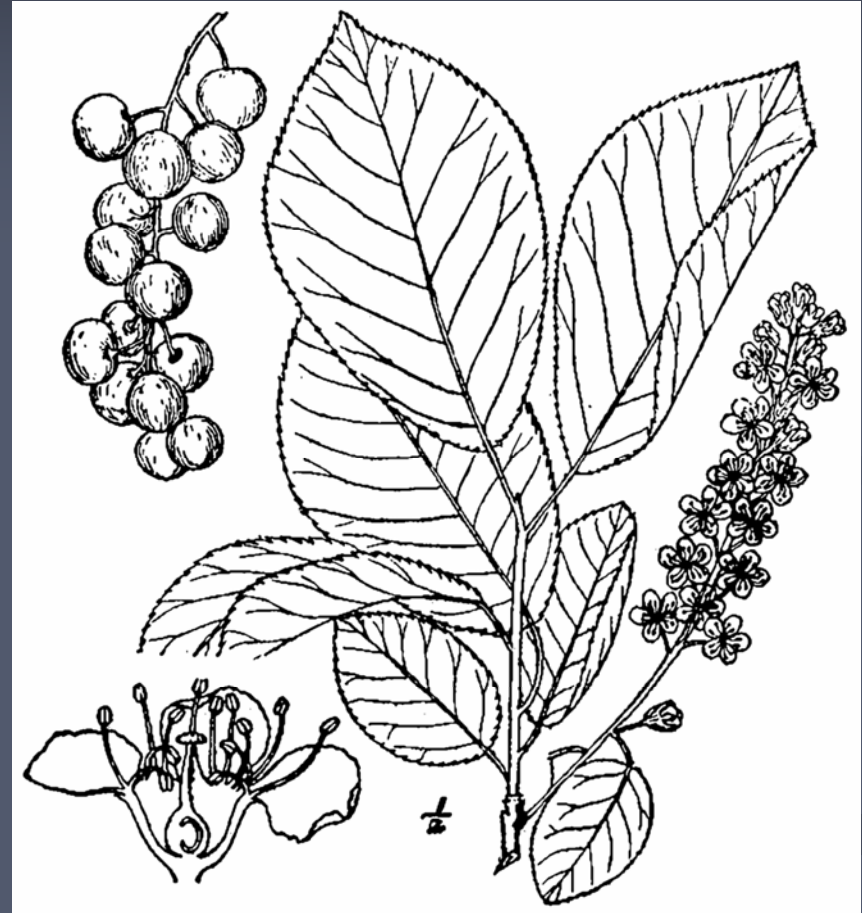
USDA NRCS PLANTS Database

Prunus virginiana

Choke Cherry

CAUTION:
Poisonous to
Livestock

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: elliptical; fine, sharp teeth; 2 glandular dots on petiole
- ❖ Fruit: 1cm red/black cherry; bitter taste
- ❖ Bark: brown/gray; slightly scaly
- ❖ Height: to 6m



USDA NRCS PLANTS Database

Rosa multiflora

Multiflora Rose

CAUTION:
Sharp spines

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; compound with 7-9 leaflets; bright green
- ❖ Fruits: small, egg-shaped hip; in dense clusters
- ❖ Bark: brown; **dense, sharp spines on branches**
- ❖ Height: to 3m (shrub)



USDA NRCS PLANTS Database

Sorbus aucuparia

European Mountain Ash

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rosaceae
- ❖ Leaves: alternate; compound with 9-17 leaflets; white hairs beneath
- ❖ Fruit: dense clusters of small, red, apple-like fruits
- ❖ Bark: dark gray; horizontal lines; aromatic
- ❖ Height: to 12m

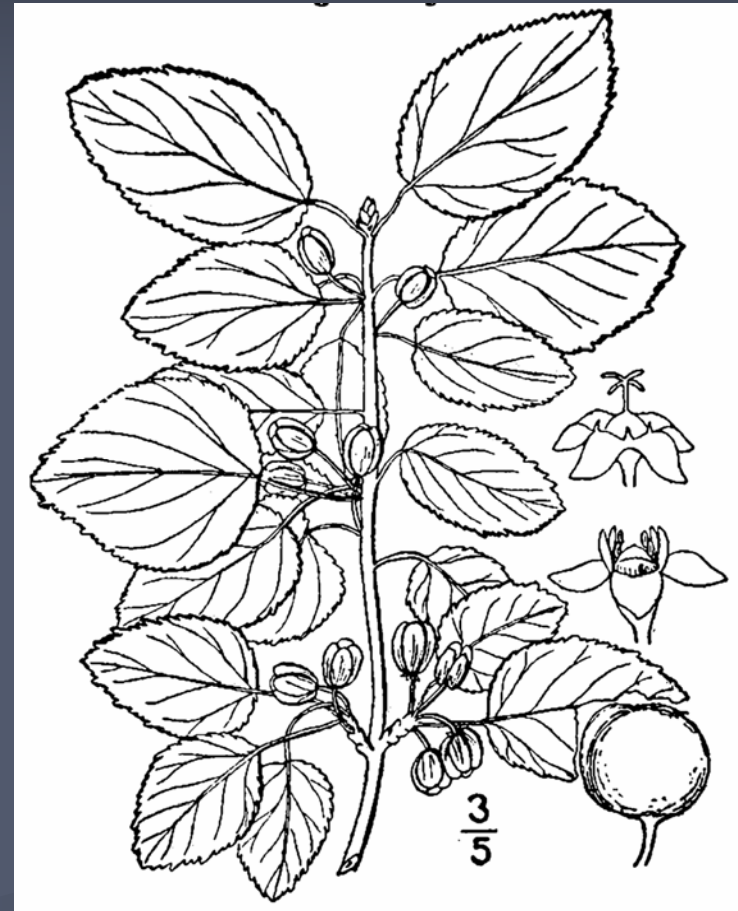


Rhamnus cathartica

Common Buckthorn

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rhamnaceae
- ❖ Leaves: mostly opposite; broad; elliptical; small, wavy teeth; pale beneath; curving secondary veins
- ❖ Fruit: small; black; berry-like; 4 seeds; bitter taste
- ❖ Bark: brown; peeling to reveal reddish inner bark
- ❖ Height: to 6m



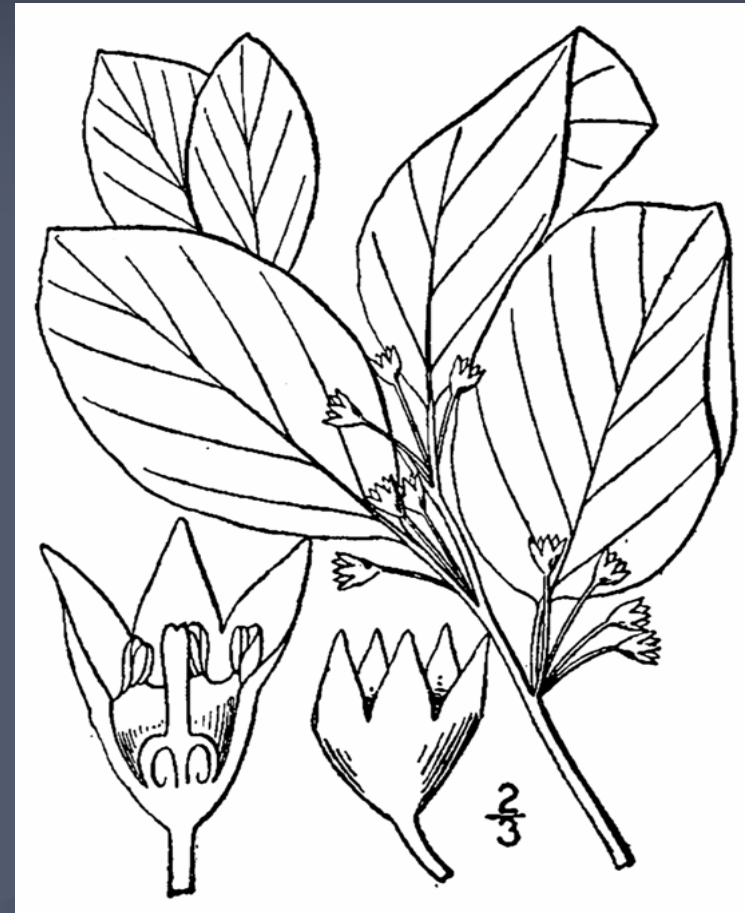
USDA NRCS PLANTS Database

Rhamnus frangula

Glossy Buckthorn

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Rhamnaceae
- ❖ Leaves: alternate; no teeth; shiny dark green above; straight secondary veins
- ❖ Fruit: small; berry-like; turning from red to black; 2-3 seeds
- ❖ Bark: gray; cracked; warty
- ❖ Height: to 6m



USDA NRCS PLANTS Database

Ulmus americana

American Elm

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Ulmaceae
- ❖ Leaves: alternate; in 2 rows; base rounded and uneven; double toothed; somewhat rough above
- ❖ Fruit: 1cm long, 1 seeded samara; hair on wing edges
- ❖ Bark: gray; broad, forking ridges
- ❖ Height: to 30m

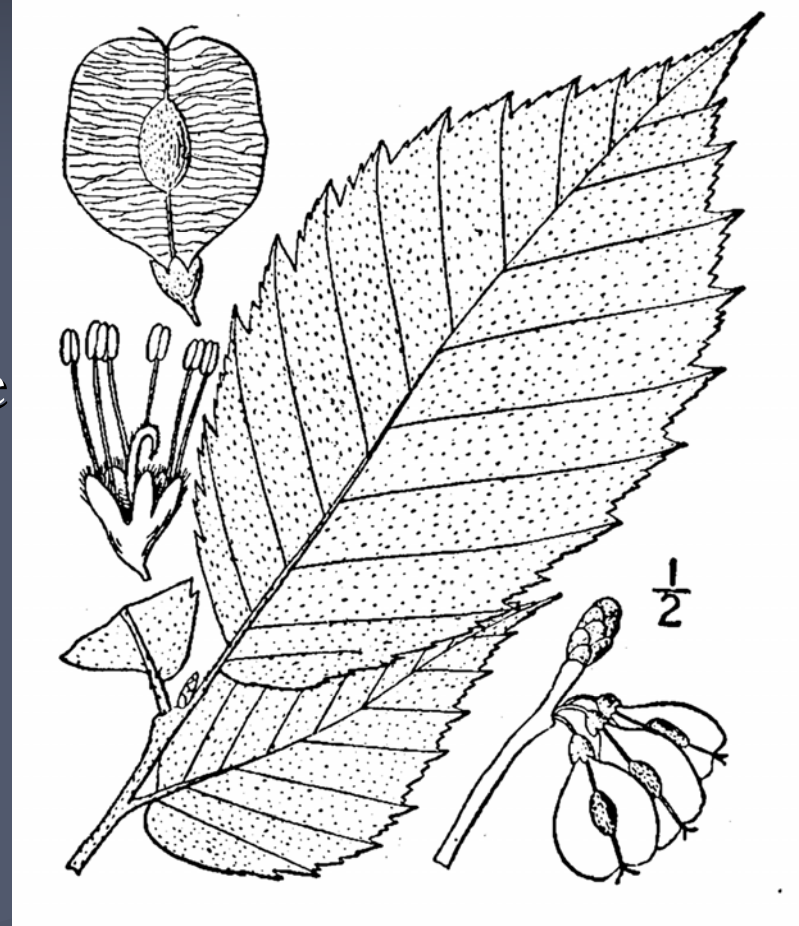


USDA NRCS PLANTS Database

Ulmus rubra

Red Elm, Slippery Elm

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Ulmaceae
- ❖ Leaves: alternate; in 2 rows; sharply uneven base; double toothed; very rough above; dense, soft hairs beneath
- ❖ Fruit: 2cm long, 1 seeded samara; green, hairless wing
- ❖ Bark: dark brown; inner bark soft, moist, slimy
- ❖ Height: to 21m



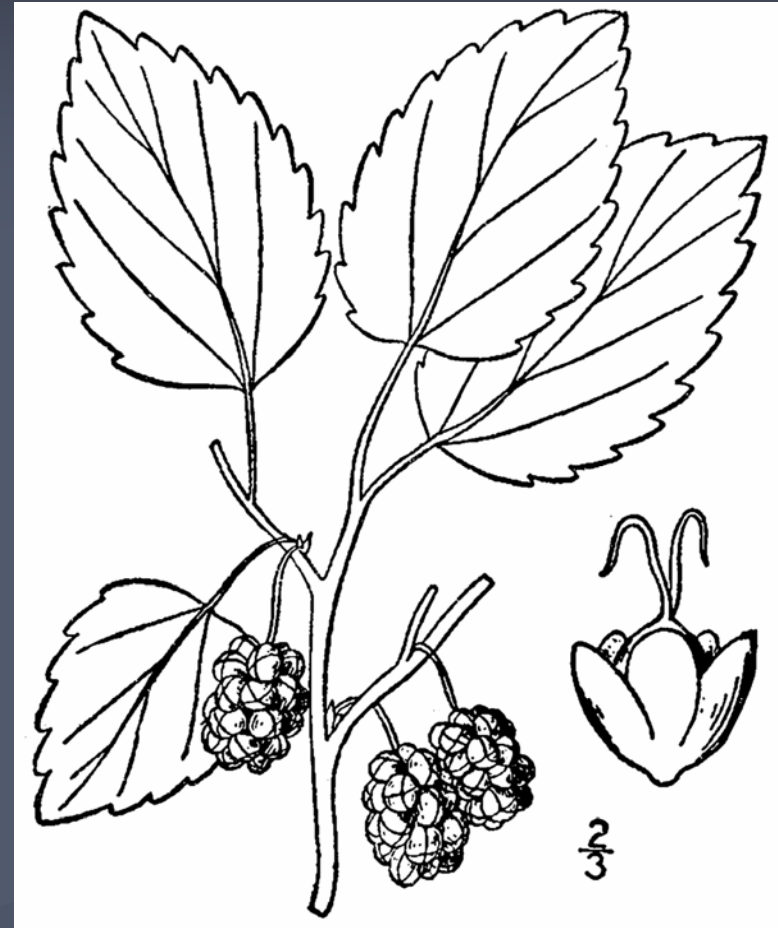
USDA NRCS PLANTS Database

Morus alba

White Mulberry

Introduced

- ❖ Class Rosopsida
 - ❖ Order Rosales
 - ❖ Family Moraceae
- ❖ Leaves: alternate; in 2 rows; ovate; 3 main veins; coarsely toothed; long petiole
- ❖ Fruit: purple/white mulberry; clusters of many small, sweet fruits
- ❖ Bark: tan-brown; scaly ridges
- ❖ Height: to 12m



USDA NRCS PLANTS Database

Castanea dentata

American Chestnut

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Fagaceae
- ❖ Leaves: alternate; numerous straight, parallel side veins; curved teeth; yellow-green above
- ❖ Fruit: 5-6cm diameter bur, containing 2-3 chestnuts
- ❖ Bark: gray/brown; flat ridges
- ❖ Height: to 6m; formerly to 30m

Species of Concern in Ohio



USDA NRCS PLANTS Database

Fagus grandifolia

American Beech

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Fagaceae
- ❖ Leaves: alternate; in 2 rows; side veins straight, parallel, with one tooth at end
- ❖ Fruit: brown, prickly burs; usually containing 2 nuts
- ❖ Bark: smooth, thin, gray; long tan buds on twigs
- ❖ Height: to 24m

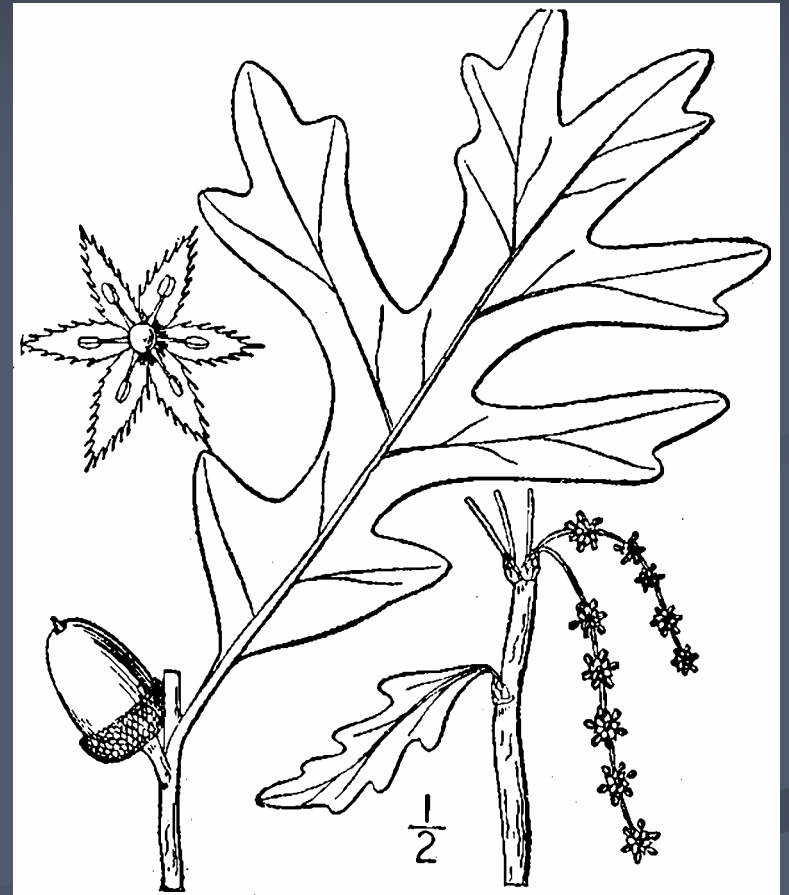


USDA NRCS PLANTS Database

Quercus alba

Eastern White Oak

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Fagaceae
- ❖ Leaves: alternate; 5-9 rounded lobes with deep sinuses; hairless
- ❖ Fruit: 1-3cm long acorn; shallow cup
- ❖ Bark: gray; broken into large, broad, scaly, loose plates
- ❖ Height: to 30m

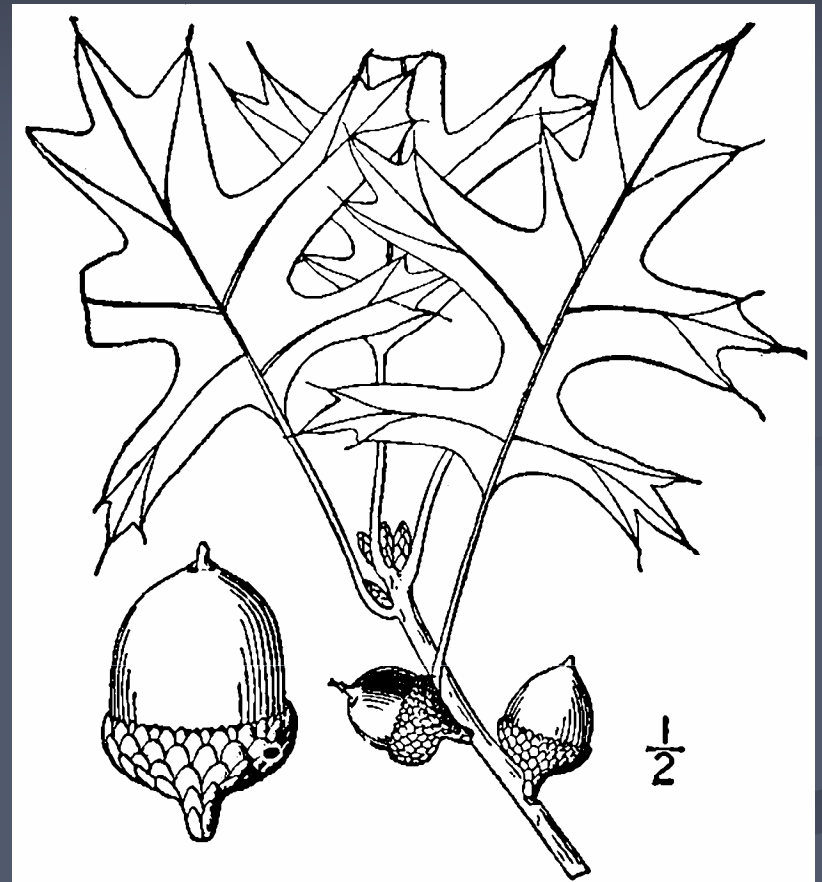


USDA NRCS PLANTS Database

Quercus palustris

Pin Oak

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Fagaceae
- ❖ Leaves: alternate; 5-7 sharp lobes with very deep sinuses; shiny dark green above
- ❖ Fruit: 1cm long acorns; almost spherical
- ❖ Bark: dark gray; hard; with uneven, narrow ridges
- ❖ Height: to 27m

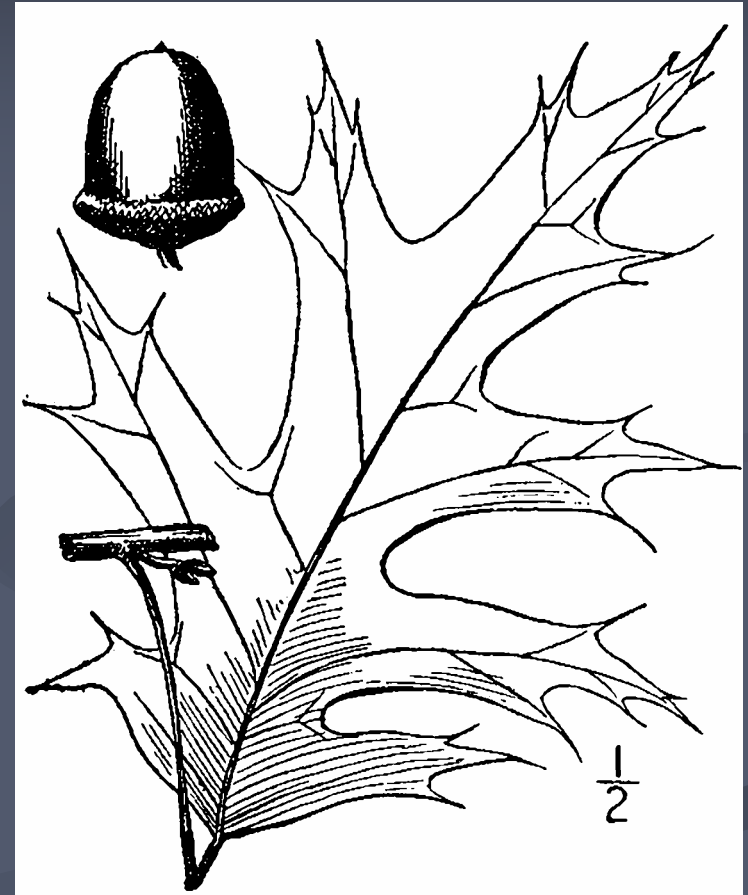


USDA NRCS PLANTS Database

Quercus rubra

Northern Red Oak

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Fagaceae
- ❖ Leaves: alternate; 7-11 sharp lobes; sinuses less than halfway to midvein
- ❖ Fruit: 1-3cm long acorns; egg-shaped; broad, flattened cup
- ❖ Bark: dark gray; ridged; light colored vertical striping
- ❖ Height: to 27m

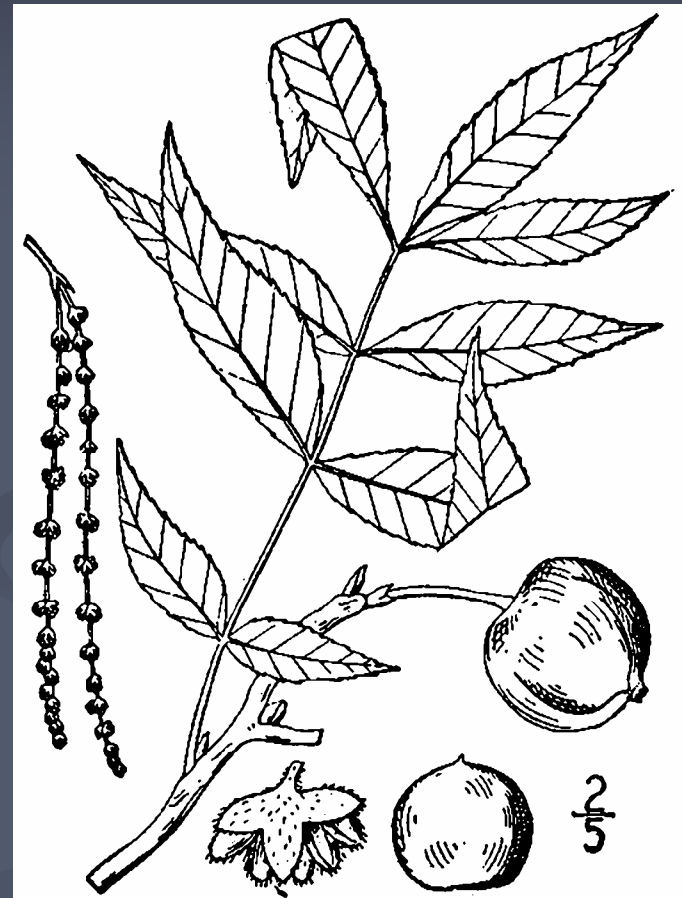


USDA NRCS PLANTS Database

Carya cordiformis

Bitternut Hickory

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Juglandaceae
- ❖ Leaves: alternate; compound; 15-25cm long; 7-9 leaflets with no stalk; fine teeth; slightly hairy beneath;
- ❖ Fruit: 2-3cm round nut with thin husk
- ❖ Bark: gray; narrow ridges; yellow buds on twigs
- ❖ Height: to 24m

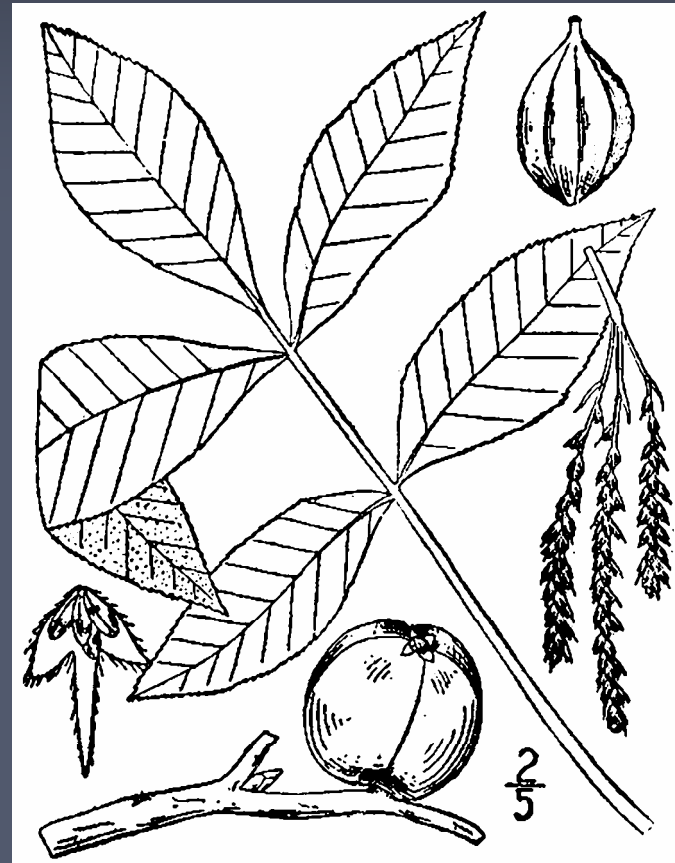


USDA NRCS PLANTS Database

Carya ovata

Shagbark Hickory

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Juglandaceae
- ❖ Leaves: alternate; compound; 20-35cm long; 5 leaflets with no stalk; fine teeth; hairy edges;
- ❖ Fruit: 3-6 cm round nut with thick husk
- ❖ Bark: gray; large, loose, curved strips
- ❖ Height: to 30m

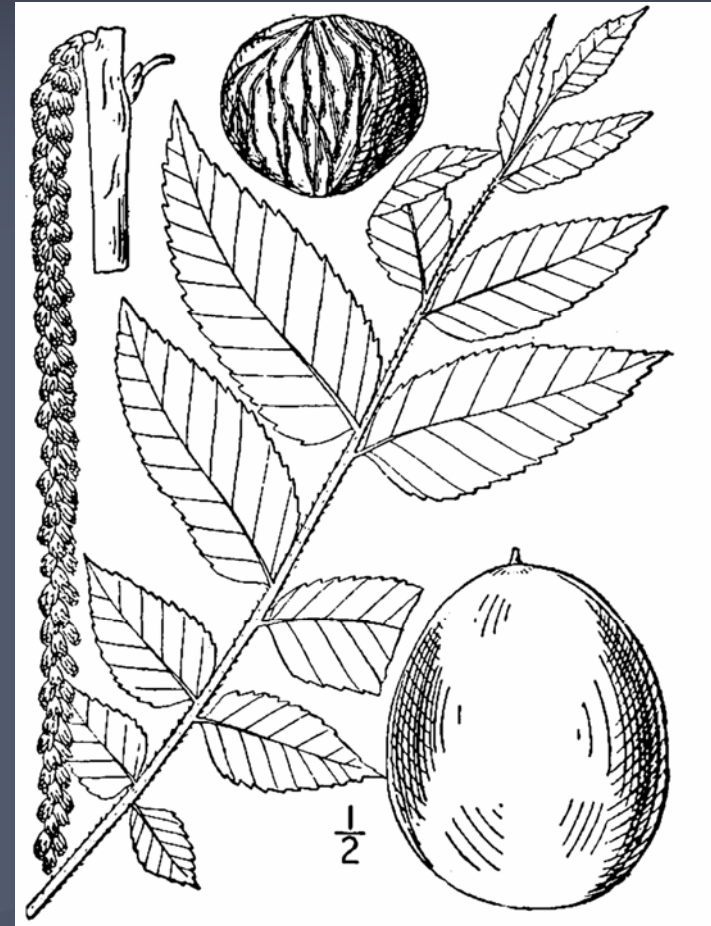


USDA NRCS PLANTS Database

Juglans nigra

Black Walnut

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Juglandaceae
- ❖ Leaves: alternate; compound; 30-60cm long; aromatic; 9-21 leaflets with no stalk
- ❖ Fruit: 4-6cm nut; thick green/brown husk
- ❖ Bark: brown; scaly ridges
- ❖ Height: to 27m

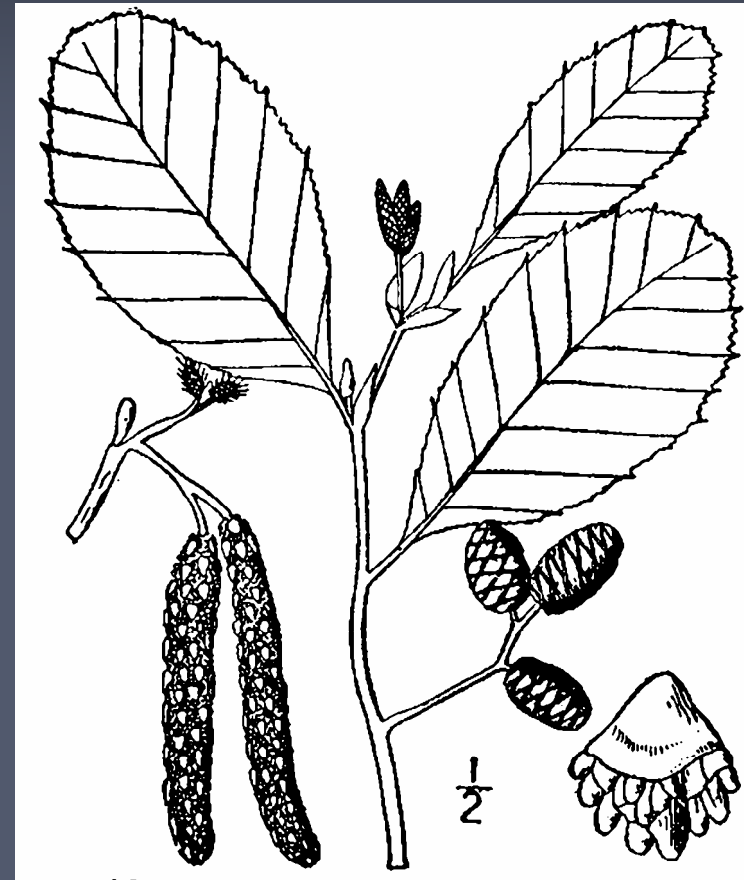


USDA NRCS PLANTS Database

Alnus rugosa

Speckled Alder

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Betulaceae
- ❖ Leaves: alternate; in 3 rows; irregular, double teeth; 9-12 prominent, ladder-like side veins
- ❖ Fruit: 1cm long cone-like cluster; black; rounded, flat nutlets
- ❖ Bark: gray; smooth
- ❖ Height: to 6m

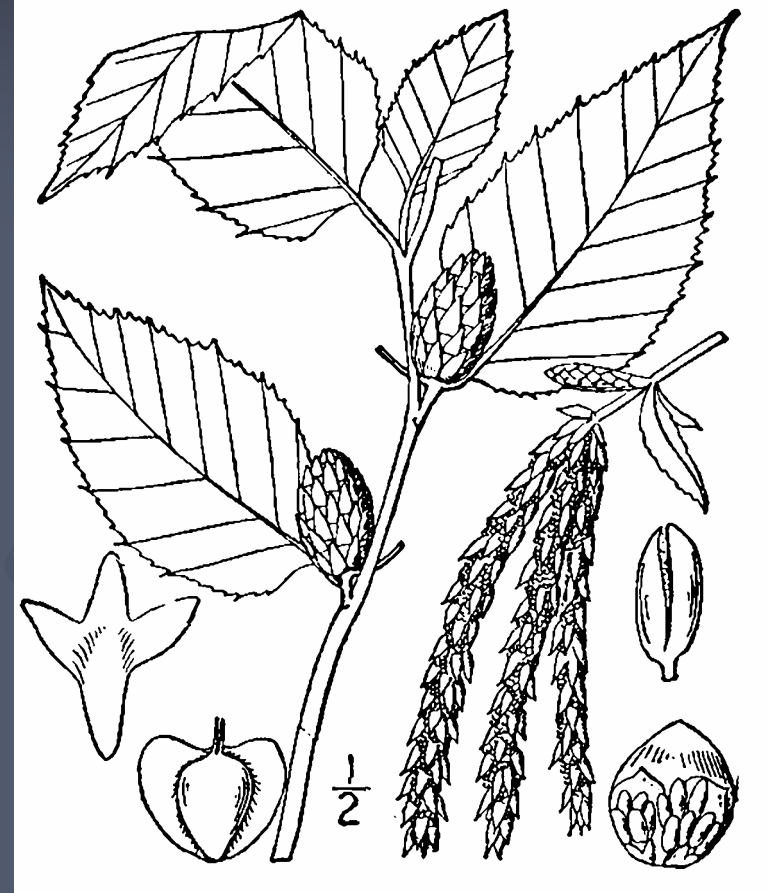


USDA NRCS PLANTS Database

Betula lenta

Sweet Birch

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Betulaceae
- ❖ Leaves: alternate; elliptical; long point; notched base; double toothed; 9-11 side veins
- ❖ Fruit: 2-4cm long cone-like cluster with 2-winged nutlets
- ❖ Bark: smooth; shiny; dark brown
- ❖ Height: to 24m

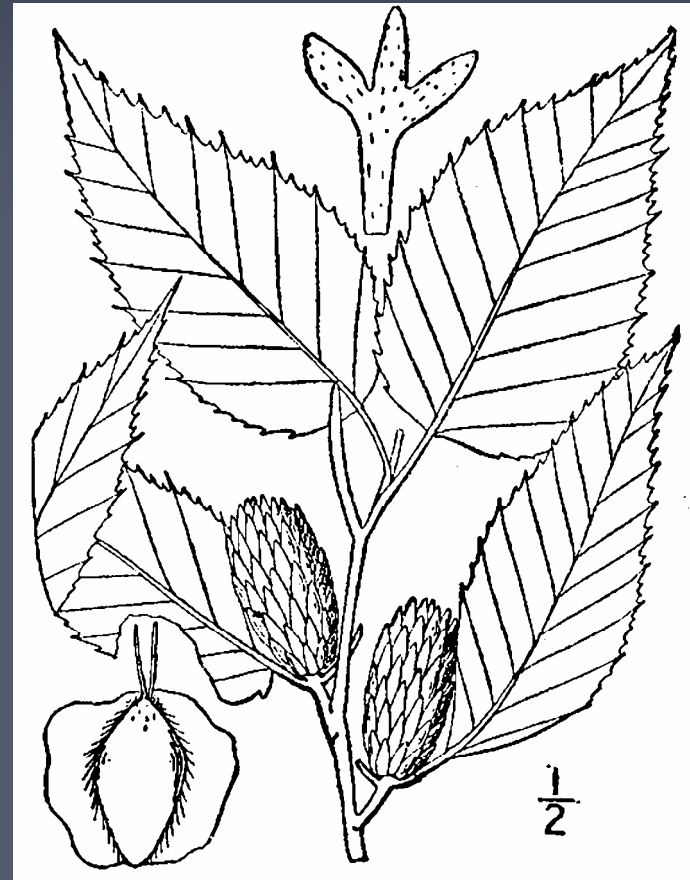


USDA NRCS PLANTS Database

Betula lutea

Yellow Birch

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Betulaceae
- ❖ Leaves: alternate; egg-shaped; pointed tip; double toothed
- ❖ Fruit: 0.5cm long cone-like structure; 2-winged nutlets
- ❖ Bark: yellow to silver/gray; thin; somewhat peeling when younger only
- ❖ Height: to 24m



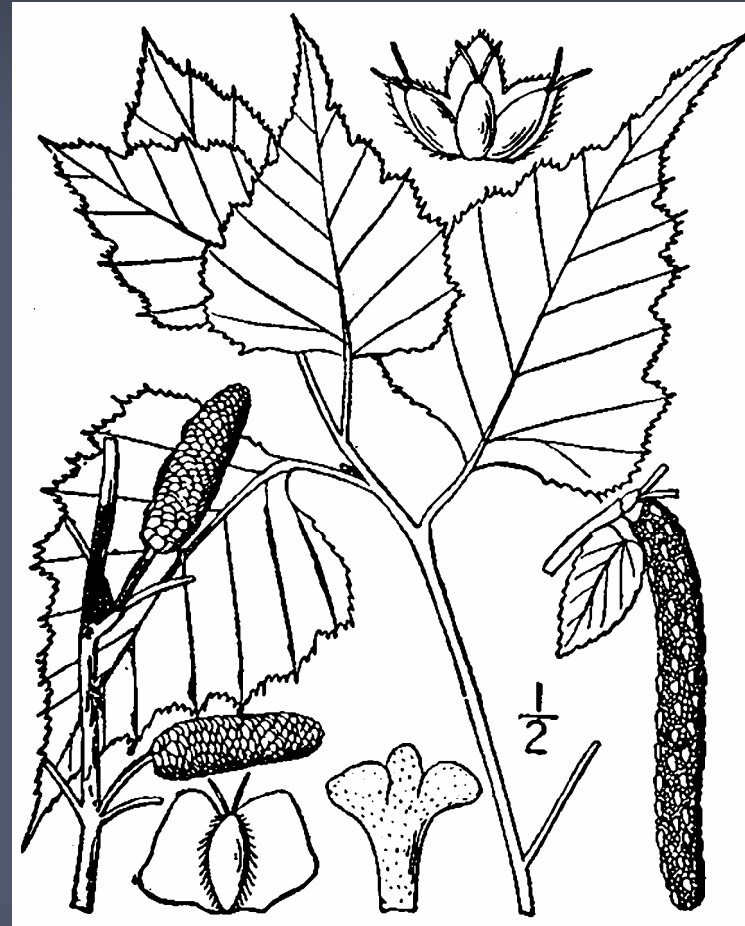
USDA NRCS PLANTS Database

Betula populifolia

Gray Birch

Introduced

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Betulaceae
- ❖ Leaves: alternate; triangular; long, pointed tip; double toothed; 4-8 side veins
- ❖ Fruit: 2-3cm long cone-like structure; brown; hairy, 2 winged nutlets
- ❖ Bark: chalky to gray/white; smooth
- ❖ Height: to 9m

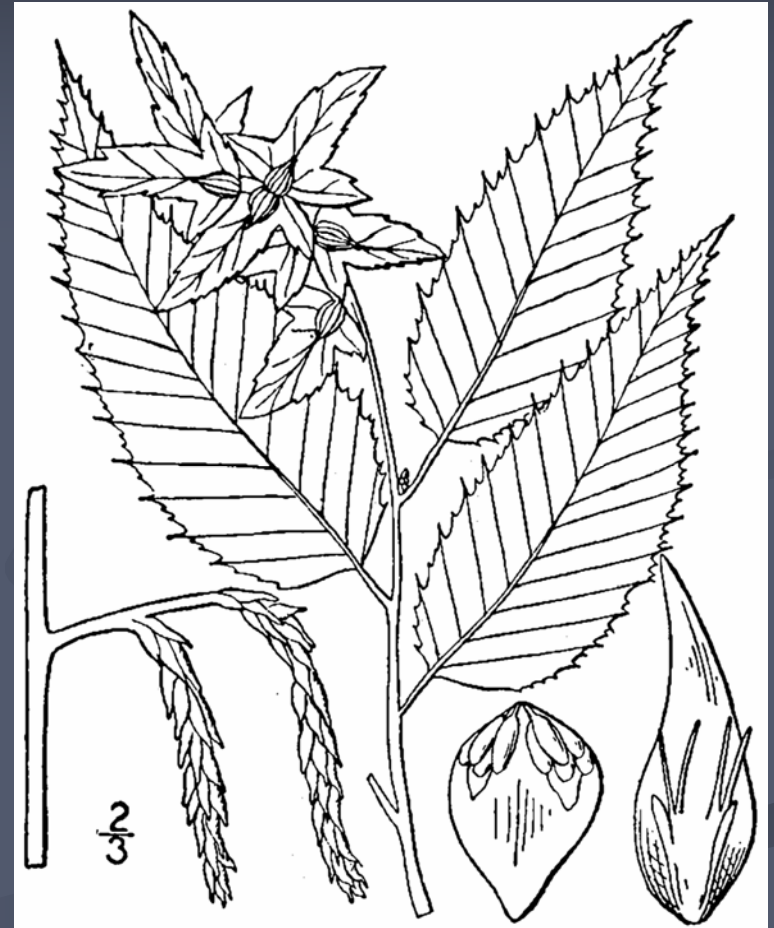


USDA NRCS PLANTS Database

Carpinus caroliniana

Ironwood, Bluebeech

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Betulaceae
- ❖ Leaves: alternate; oval; double toothed; veins hairy below
- ❖ Fruit: 0.5cm long nutlets; paired; egg-shaped; green; hairy
- ❖ Bark: blue-gray; thin; smooth; with deep, twisting, “muscular” ripples
- ❖ Height: to 9m

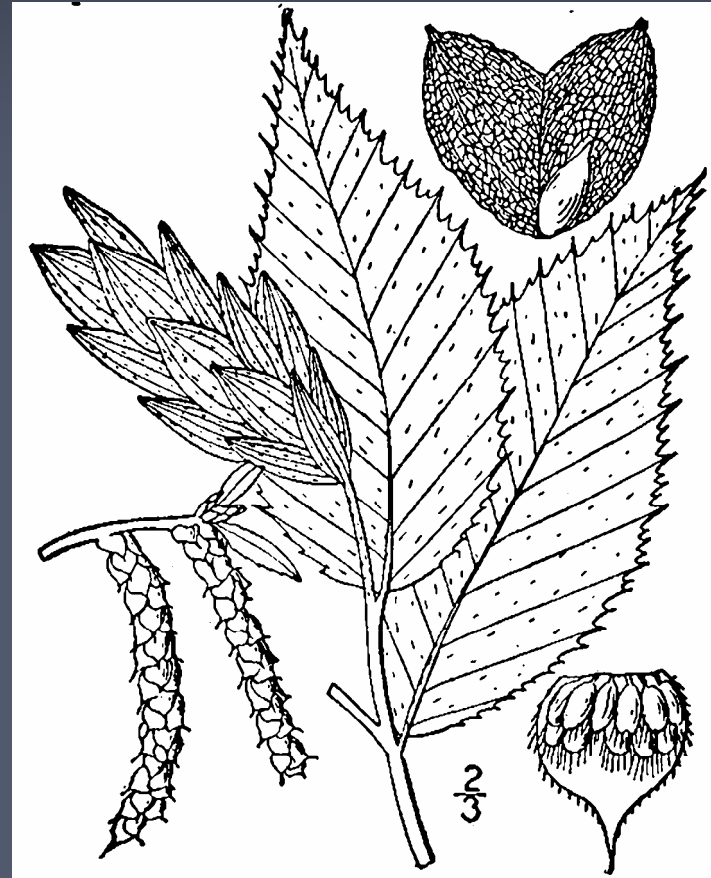


USDA NRCS PLANTS Database

Ostrya virginiana

Hop Hornbeam

- ❖ Class Rosopsida
 - ❖ Order Fagales
 - ❖ Family Betulaceae
- ❖ Leaves: alternate; double-toothed; dull yellow-green above; some side veins are forked
- ❖ Fruit: 4-5cm long cone-like structures; hanging
- ❖ Bark: brownish; grooved; shredding
- ❖ Height: to 15m



USDA NRCS PLANTS Database

Hibiscus syriacus

Rose of Sharon

Introduced

- ❖ Class Rosopsida
 - ❖ Order Malvales
 - ❖ Family Malvaceae
- ❖ Leaves: alternate; often 3-lobed; leathery; glossy
- ❖ Fruit: capsule; cultivars may not produce seeds; large, showy flowers
- ❖ Bark: light brown; many trunks from base
- ❖ Height: to 3m

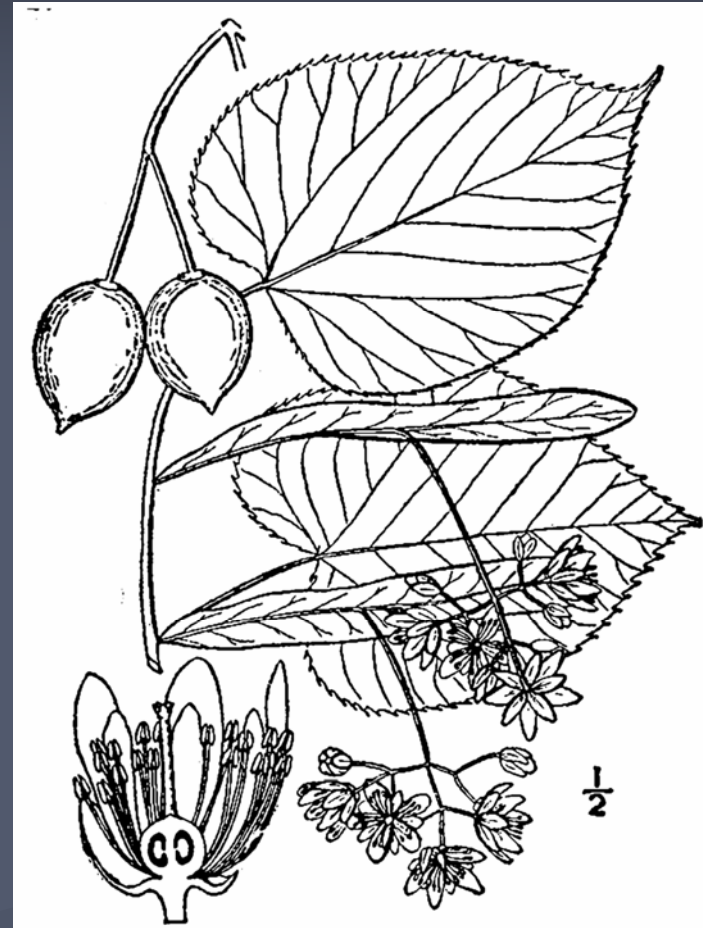


USDA NRCS PLANTS Database

Tilia americana

Basswood

- ❖ Class Rosopsida
 - ❖ Order Malvales
 - ❖ Family Malvaceae
- ❖ Leaves: alternate; in 2 rows; heart-shaped; fine teeth; palmate veins
- ❖ Fruit: 1cm long; elliptical; nutlike; hairy
- ❖ Bark: dark gray; smooth; ridged when older
- ❖ Height: to 30m



USDA NRCS PLANTS Database

Acer negundo

Box-elder

- ❖ Class Rosopsida
 - ❖ Order Sapindales
 - ❖ Family Sapindaceae
- ❖ Leaves: opposite; pinnately compound; 3-7 leaflets that are sometimes lobed; coarsely toothed
- ❖ Fruit: 2-4cm long paired samara; long, curving wings
- ❖ Bark: gray/brown; deep furrows
- ❖ Height: to 18m



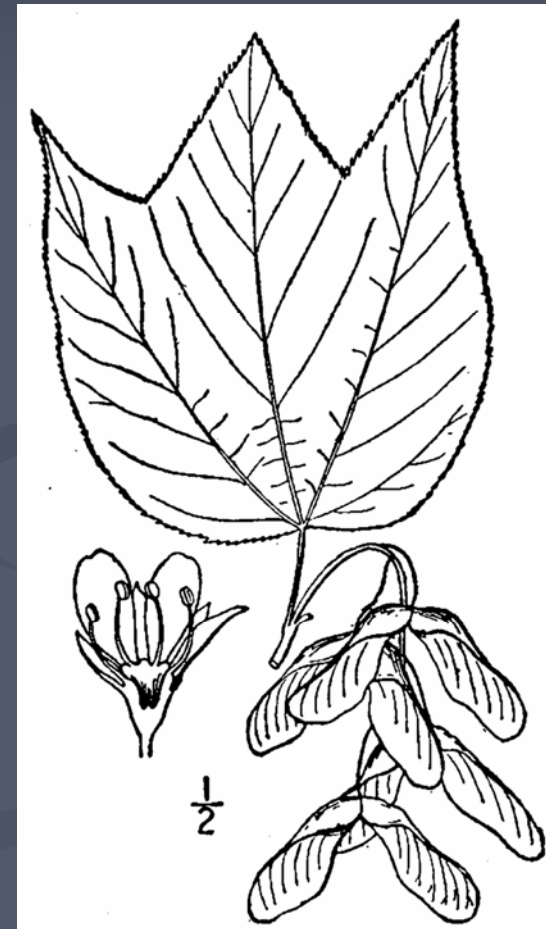
USDA NRCS PLANTS Database

Acer pensylvanicum

Moosewood, Striped Maple

Endangered in Ohio

- ❖ Class Rosopsida
 - ❖ Order Sapindales
 - ❖ Family Sapindaceae
- ❖ Leaves: opposite; as long as they are broad; 3 short, pointed lobes at tip; 3 main veins; double toothed
- ❖ Fruit: 3cm long samara
- ❖ Bark: green with white stripes when young; red-brown with pale vertical lines when older
- ❖ Height: to 9m

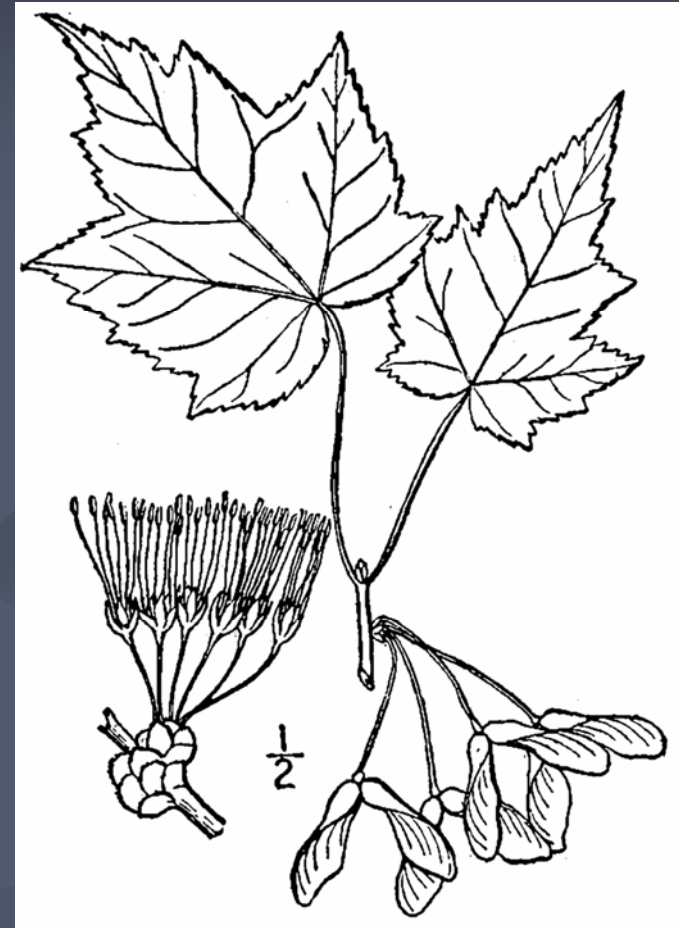


USDA NRCS PLANTS Database

Acer rubrum

Red Maple

- ❖ Class Rosopsida
 - ❖ Order Sapindales
 - ❖ Family Sapindaceae
- ❖ Leaves: opposite; 3 short pointed lobes with 2 smaller lobes at base; irregular, coarse teeth; reddish petiole
- ❖ Fruit: 2.5cm long, reddish samara
- ❖ Bark: smooth and gray when young; dark, broken when older
- ❖ Height: to 27m



USDA NRCS PLANTS Database

Acer saccharinum

Silver Maple

- ❖ Class Rosopsida
 - ❖ Order Sapindales
 - ❖ Family Sapindaceae
- ❖ Leaves: opposite; 5 lobes with very deep, rounded sinuses; double toothed; 5 main veins
- ❖ Fruit: 4-6cm long, brown samara
- ❖ Bark: gray; flaky, shaggy ridges
- ❖ Height: to 24m

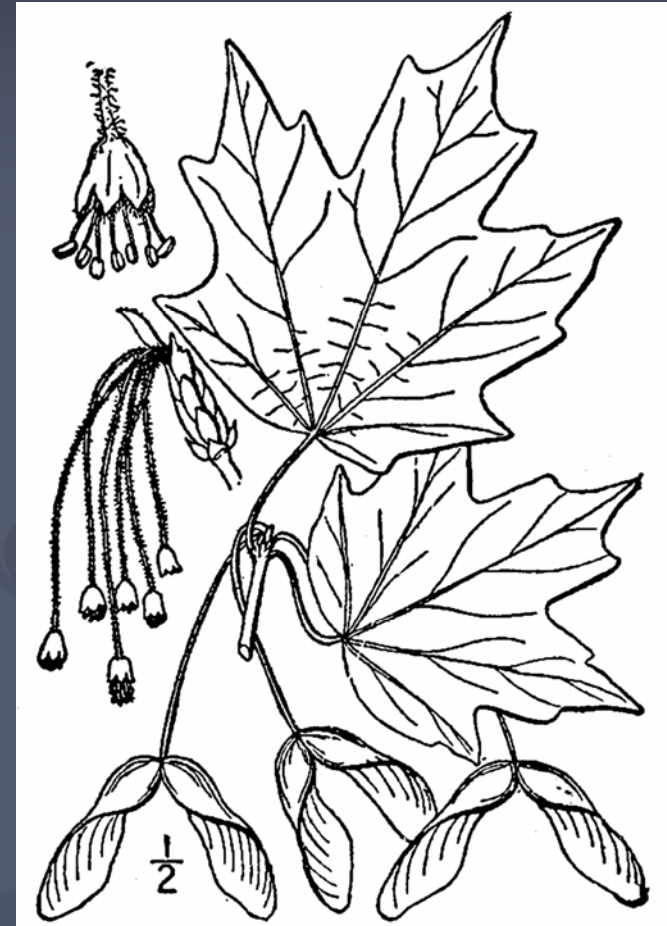


USDA NRCS PLANTS Database

Acer saccharum

Sugar Maple

- ❖ Class Rosopsida
 - ❖ Order Sapindales
 - ❖ Family Sapindaceae
- ❖ Leaves: opposite; 5 broad lobes; sinuses shallower than silver maple; 5 main veins; very few teeth
- ❖ Fruit: 2-3cm long, brown samara
- ❖ Bark: gray; narrow scaly ridges
- ❖ Height: to 30m

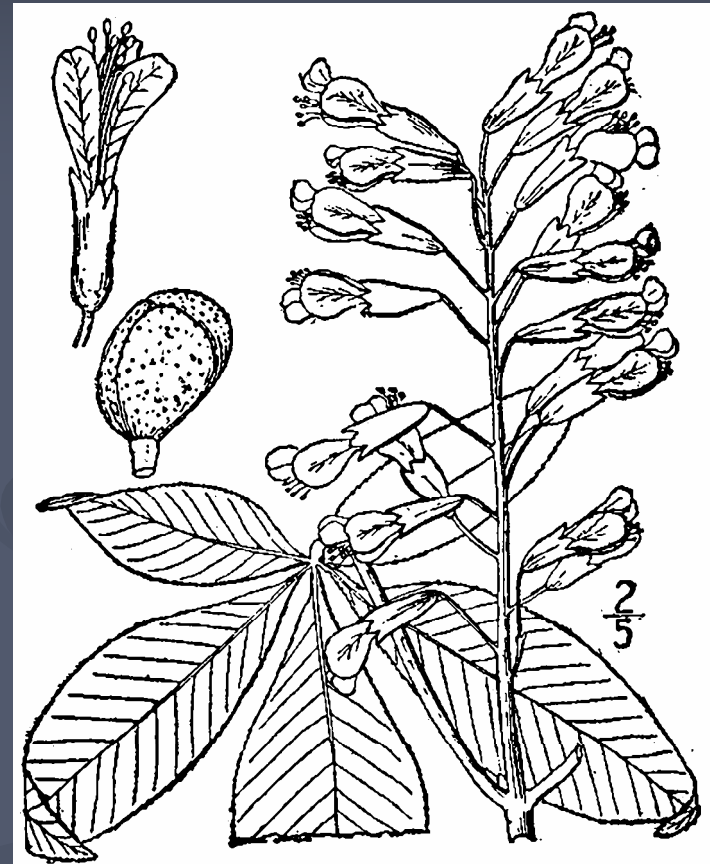


USDA NRCS PLANTS Database

Aesculus parviflora

Bottlebrush Buckeye

- ❖ Class Rosopsida
 - ❖ Order Sapindales
 - ❖ Family Sapindaceae
- ❖ Leaves: opposite; palmately compound; 5 (sometimes 7) leaflets; fine teeth
- ❖ Fruit: tan capsule; 2-5cm long; pear-shaped; smooth
- ❖ Bark: brown/gray; smooth; multi-stemmed shrub
- ❖ Height: to 4m

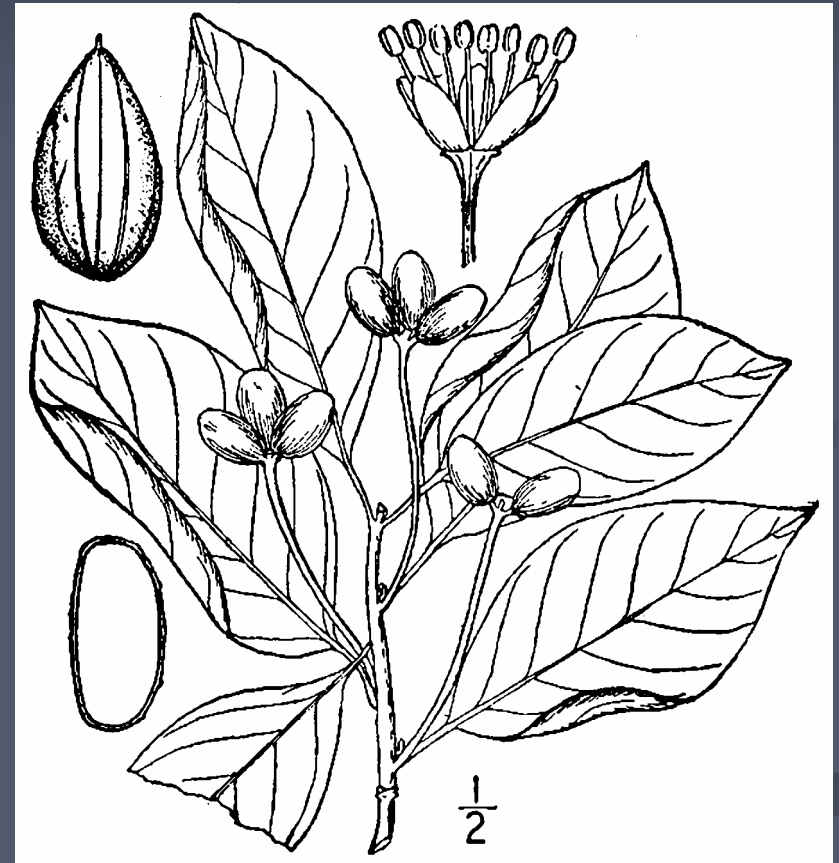


USDA NRCS PLANTS Database

Nyssa sylvatica

Blackgum, Black Tupelo

- ❖ Class Rosopsida
 - ❖ Order Cornales
 - ❖ Family Nyssaceae
- ❖ Leaves: alternate; elliptical; no teeth; shiny green above; pale, somewhat hairy below
- ❖ Fruit: 1cm long; berry-like; black; elliptical
- ❖ Bark: gray/brown; irregular, rectangular ridges (checkerboard)
- ❖ Height: to 30m

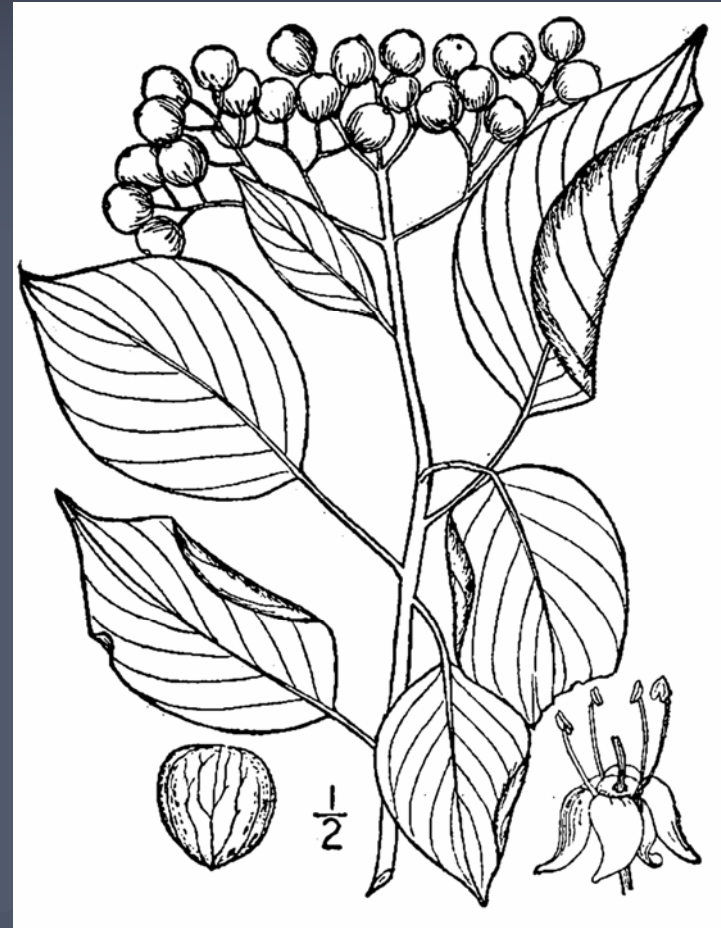


USDA NRCS PLANTS Database

Cornus alternifolia

Alternate-leaved Dogwood

- ❖ Class Rosopsida
 - ❖ Order Cornales
 - ❖ Family Cornaceae
- ❖ Leaves: alternate; clustered at ends of twigs; elliptical; tiny teeth; 5-6 long, curved side veins
- ❖ Fruit: berry-like; blue/black; on red stalks
- ❖ Bark: gray/brown; smooth or with narrow ridges
- ❖ Height: to 8m

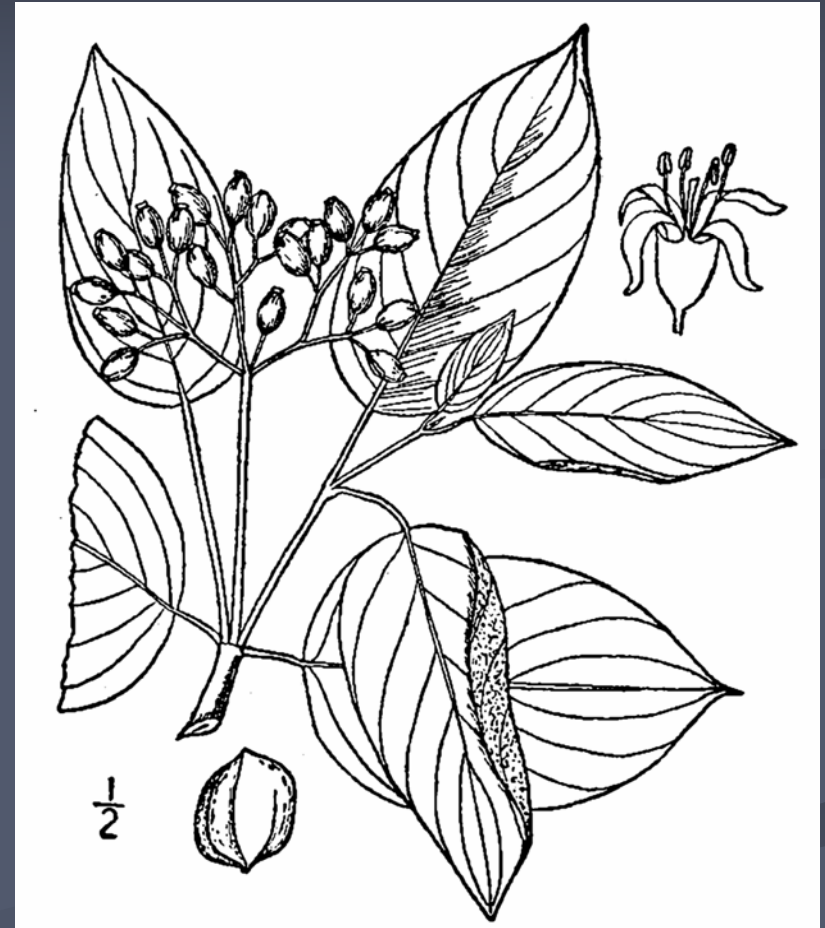


USDA NRCS PLANTS Database

Cornus amomum

Silky Dogwood

- ❖ Class Rosopsida
 - ❖ Order Cornales
 - ❖ Family Cornaceae
- ❖ Leaves: opposite; elliptical; wavy edges; fine hairs on petiole and veins; curving side veins
- ❖ Fruit: drupe; blue; very small
- ❖ Bark: red/brown; shallow fissures
- ❖ Height: to 2m

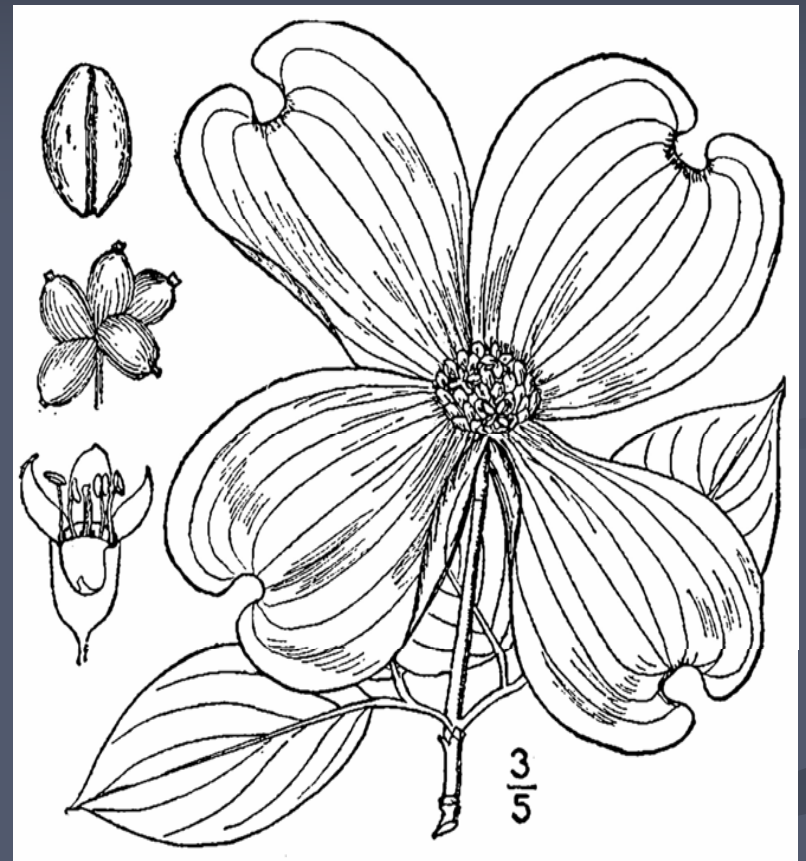


USDA NRCS PLANTS Database

Cornus florida

Flowering Dogwood

- ❖ Class Rosopsida
 - ❖ Order Cornales
 - ❖ Family Cornaceae
- ❖ Leaves: opposite; elliptical; wavy edges; teeth only visible under magnification; 6-7 long, curving veins; fine hairs below
- ❖ Fruit: berry-like; shiny red
- ❖ Bark: dark red/brown; broken into small square plates
- ❖ Height: to 9m

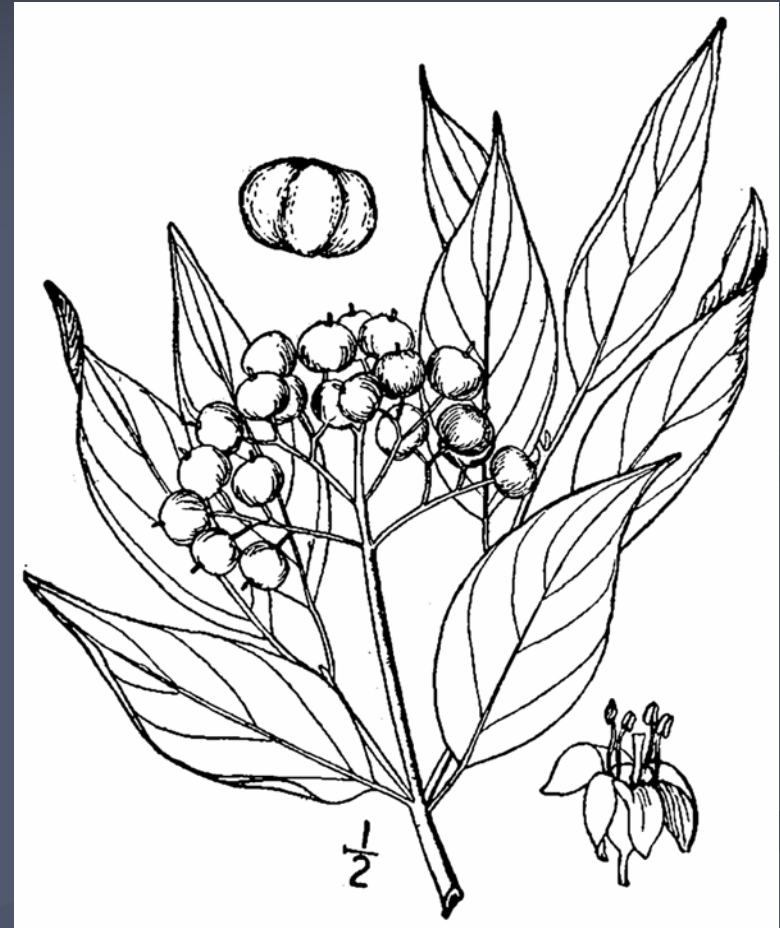


USDA NRCS PLANTS Database

Cornus racemosa

Gray Dogwood

- ❖ Class Rosopsida
 - ❖ Order Cornales
 - ❖ Family Cornaceae
- ❖ Leaves: opposite; narrow elliptical; long, pointed tip; curving side veins
- ❖ Fruit: berry-like; white; on red/pink stalks
- ❖ Bark: orange/brown when young; gray when older
- ❖ Height: to 4m

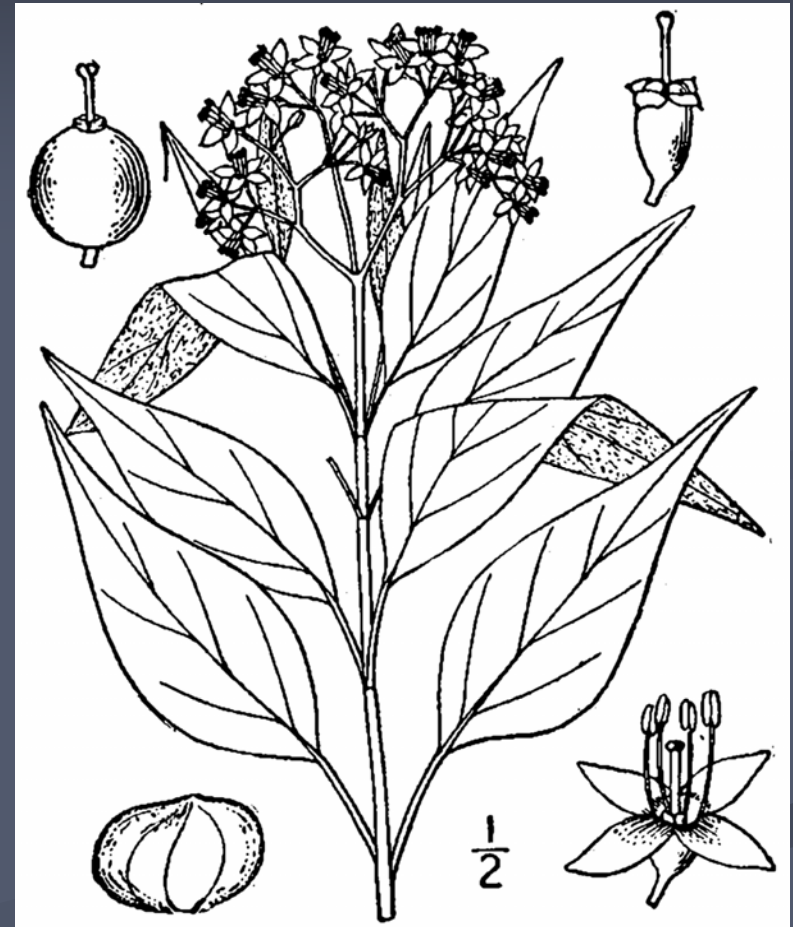


USDA NRCS PLANTS Database

Cornus stolonifera

Red-osier Dogwood

- ❖ Class Rosopsida
 - ❖ Order Cornales
 - ❖ Family Cornaceae
- ❖ Leaves: opposite; elliptical; no teeth; 5-7 long, curved, sunken side veins; white-green above; fine hairs beneath
- ❖ Fruit: berry-like; whitish; 2 seeds
- ❖ Bark: gray/brown; flat plates
- ❖ Height: to 3m



USDA NRCS PLANTS Database

Oxydendrum arboreum

Sourwood

Introduced

- ❖ Class Rosopsida
 - ❖ Order Ericales
 - ❖ Family Ericaceae
- ❖ Leaves: elliptical; fine teeth; yellow-green above; veins hairy below; sour taste
- ❖ Fruit: gray, egg-shaped capsule; on curved stalks
- ❖ Bark: brown/gray; narrow, scaly ridges
- ❖ Height: to 15m



USDA NRCS PLANTS Database

Rhododendron maximum

Great Laurel

Introduced

- ❖ Class Rosopsida
 - ❖ Order Ericales
 - ❖ Family Ericaceae
- ❖ Leaves: evergreen; abrupt point at both ends; leathery; edges roll under; shiny dark green above
- ❖ Fruit: red/brown, egg-shaped capsule
- ❖ Bark: red/brown; scaly; thin
- ❖ Height: to 6m



USDA NRCS PLANTS Database

Vaccinium corymbosum

Northern Highbush Blueberry

- ❖ Class Rosopsida
 - ❖ Order Ericales
 - ❖ Family Ericaceae
- ❖ Leaves: alternate; elliptical; no teeth; 1-2cm long; dark green above; pale below
- ❖ Fruit: 1cm blue-black berry; edible
- ❖ Bark: gray/brown; narrow furrows
- ❖ Height: to 3m

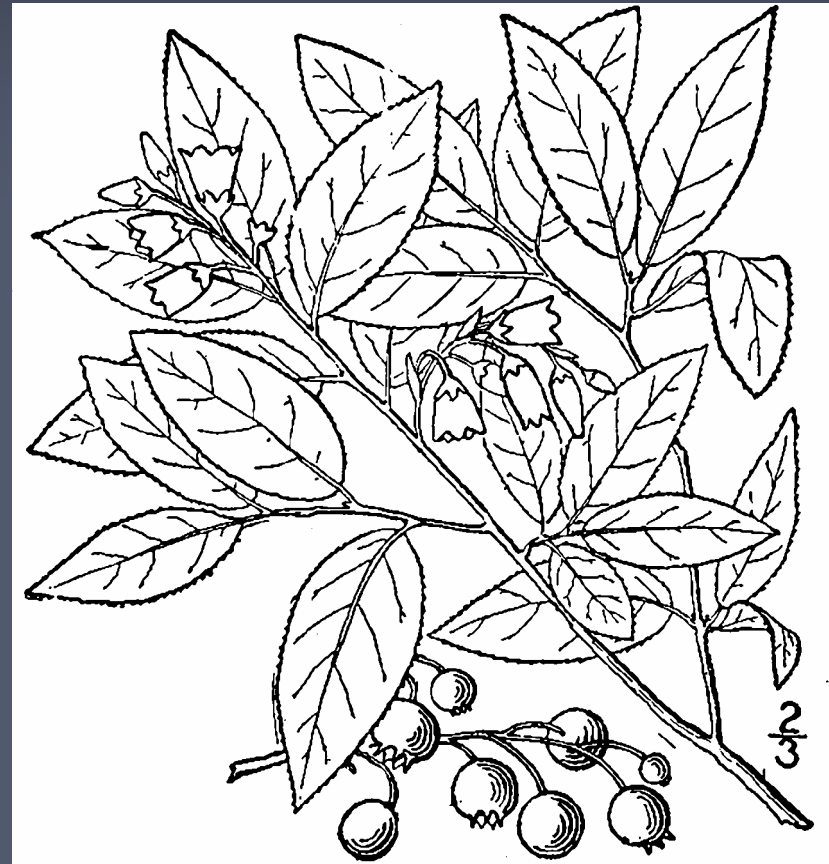


USDA NRCS PLANTS Database

Vaccinium pallidum

Low Bush Blueberry

- ❖ Class Rosopsida
 - ❖ Order Ericales
 - ❖ Family Ericaceae
- ❖ Leaves: alternate; fine teeth; 2.5-5cm long; elliptical; veins hairy below
- ❖ Fruit: 1cm blue/black berry; edible
- ❖ Bark: green; twigs brown
- ❖ Height: to 60cm



USDA NRCS PLANTS Database

Forsythia suspensa

Weeping Forsythia

Introduced

- ❖ Class Rosopsida
 - ❖ Order Lamiales
 - ❖ Family Oleaceae
- ❖ Leaves: opposite; sometimes with 2 or 3 lobes; wedge-shaped; variable green color
- ❖ Fruit: brown capsule; flowers are showy & yellow
- ❖ Bark: yellow/brown; many stems; distinct lenticels
- ❖ Height: to 2.5m



<http://www.meemelink.com/prints%20images/13399.Oleaceae%20-%20Forsythia%20suspensa.jpg>

Fraxinus americana

White Ash

- ❖ Class Rosopsida
 - ❖ Order Lamiales
 - ❖ Family Oleaceae
- ❖ Leaves: opposite; pinnately compound; 7 (rarely 5 or 9) leaflets on short stalks; green above; whitish, hairy below
- ❖ Fruit: 2.5-5cm long; solitary, brown samara; straight wings
- ❖ Bark: dark gray; thick; diamond-shaped ridges
- ❖ Height: to 24m

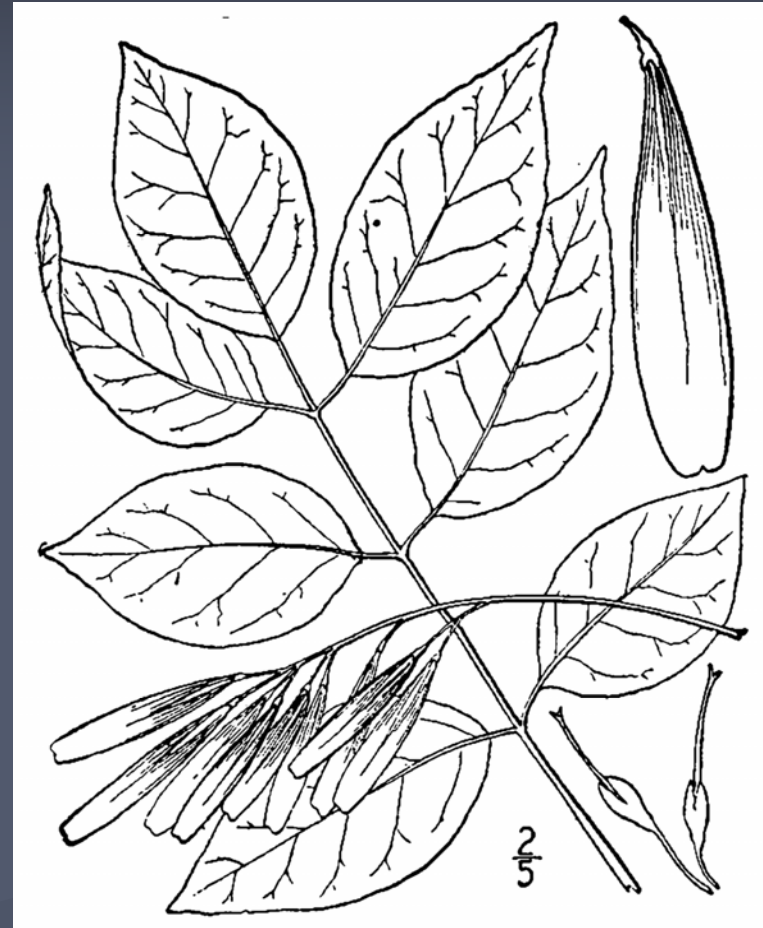


USDA NRCS PLANTS Database

Fraxinus pennsylvanica

Green Ash

- ❖ Class Rosopsida
 - ❖ Order Lamiales
 - ❖ Family Oleaceae
- ❖ Leaves: opposite; pinnately compound; 5-9 (usually 7) leaflets on stalks; coarse or small teeth; shiny green above
- ❖ Fruit: 3-6cm long; solitary, yellowish samara; straight wings
- ❖ Bark: gray; ridged; red inside
- ❖ Height: to 18m



USDA NRCS PLANTS Database

Syringa vulgaris

Lilac

- ❖ Class Rosopsida
 - ❖ Order Lamiales
 - ❖ Family Oleaceae
- ❖ Leaves: opposite; ovate; no teeth; pointed tip; base somewhat heart-shaped
- ❖ Fruit: large panicles of capsules; flowers purple and showy
- ❖ Bark: light gray; smooth
- ❖ Height: to 3m



USDA NRCS PLANTS Database

Aralia elata

CAUTION:
Sharp spines

Japanese Angelica Tree

Introduced

- ❖ Class Rosopsida
 - ❖ Order Apiales
 - ❖ Family Araliaceae
- ❖ Leaves: alternate; bi or tripinnately compound, with 7 leaflets each; 5-10cm long
- ❖ Fruit: black drupe; formed by large panicles of white flowers
- ❖ Bark: rough gray with **spines**; large leaf scars
- ❖ Height: to 8m



<http://www.ibiblio.org/herbmed/p02/images/aralia-elata-3.jpg>



<http://www.mytho-fleurs.com/images/arbustes/aralia%20elata%20variegata%20fleurs.JPG>

Aralia spinosa

Devil's Walking Stick

CAUTION:
Sharp spines

Introduced

- ❖ Class Rosopsida
 - ❖ Order Apiales
 - ❖ Family Araliaceae
- ❖ Leaves: alternate; bipinnately compound, with 7 leaflets each; to 1m long
- ❖ Fruit: small black drupe; formed by 25cm long clusters of white flowers
- ❖ Bark: yellowish with **spines**; moon-shaped leaf scars
- ❖ Height: to 9m

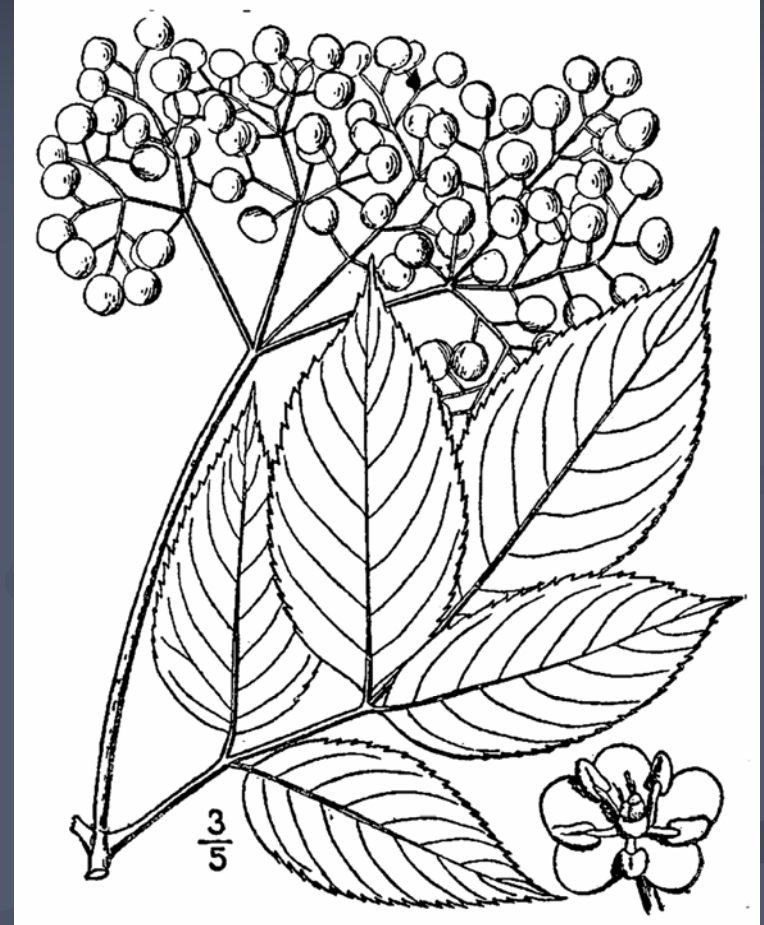


USDA NRCS PLANTS Database

Sambucus canadensis

Common Elderberry

- ❖ Class Rosopsida
 - ❖ Order Dipscales
 - ❖ Family Caprifoliaceae
- ❖ Leaves: opposite; pinnately compound; 3-7 leaflets; sharply toothed; sometimes bipinnate
- ❖ Fruit: purple/black berry; sweet; with up to 5 nutlets
- ❖ Bark: gray/brown; raised dots; smooth
- ❖ Height: to 5m



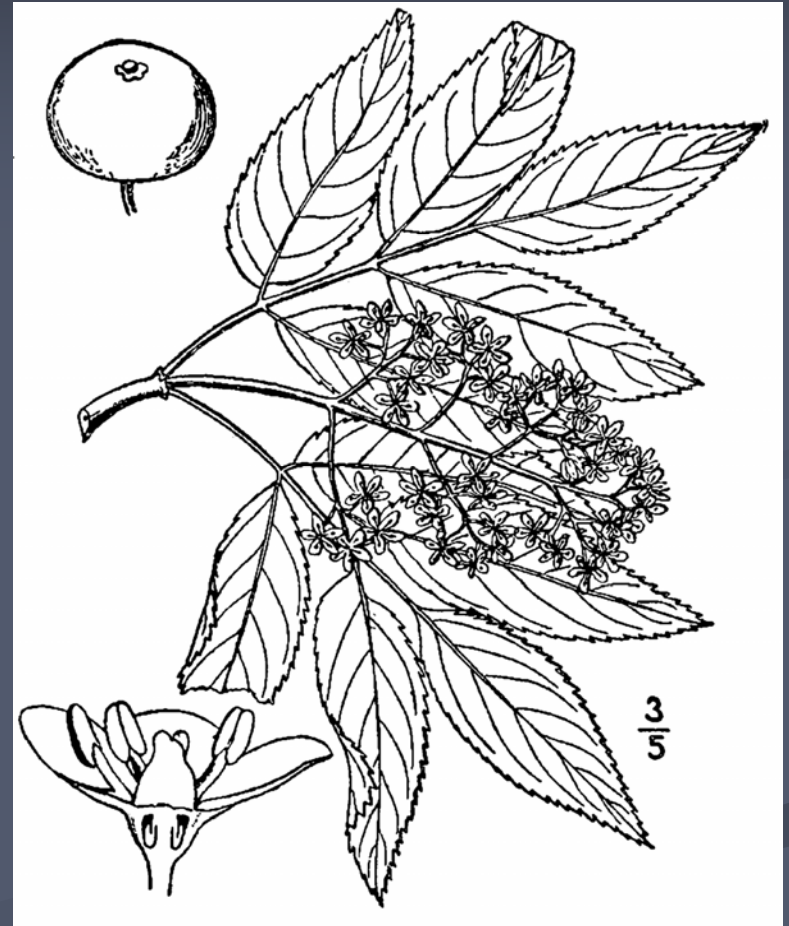
USDA NRCS PLANTS Database

Sambucus racemosa

Red Elderberry

CAUTION:
Possibly poisonous

- ❖ Class Rosopsida
 - ❖ Order Dipscales
 - ❖ Family Caprifoliaceae
- ❖ Leaves: opposite; pinnately compound; 5-9 leaflets;
- ❖ Fruit: bright red berries; 2-4 seeds; **do not eat (slightly poisonous, not deadly)**
- ❖ Bark: gray/brown; smooth
- ❖ Height: to 5m

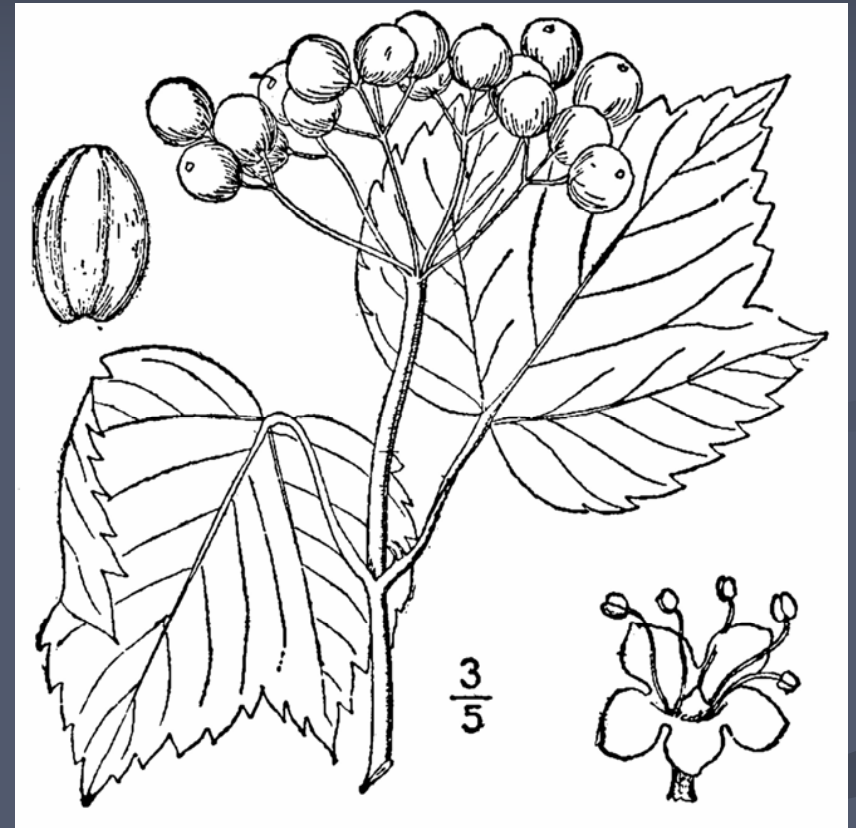


USDA NRCS PLANTS Database

Viburnum acerifolium

Mapleleaf Viburnum

- ❖ Class Rosopsida
 - ❖ Order Dipscales
 - ❖ Family Caprifoliaceae
- ❖ Leaves: opposite; dentate teeth; 3 lobes; somewhat hairy
- ❖ Fruit: black, egg-shaped drupe
- ❖ Bark: hairy, brown stems
- ❖ Height: to 2m

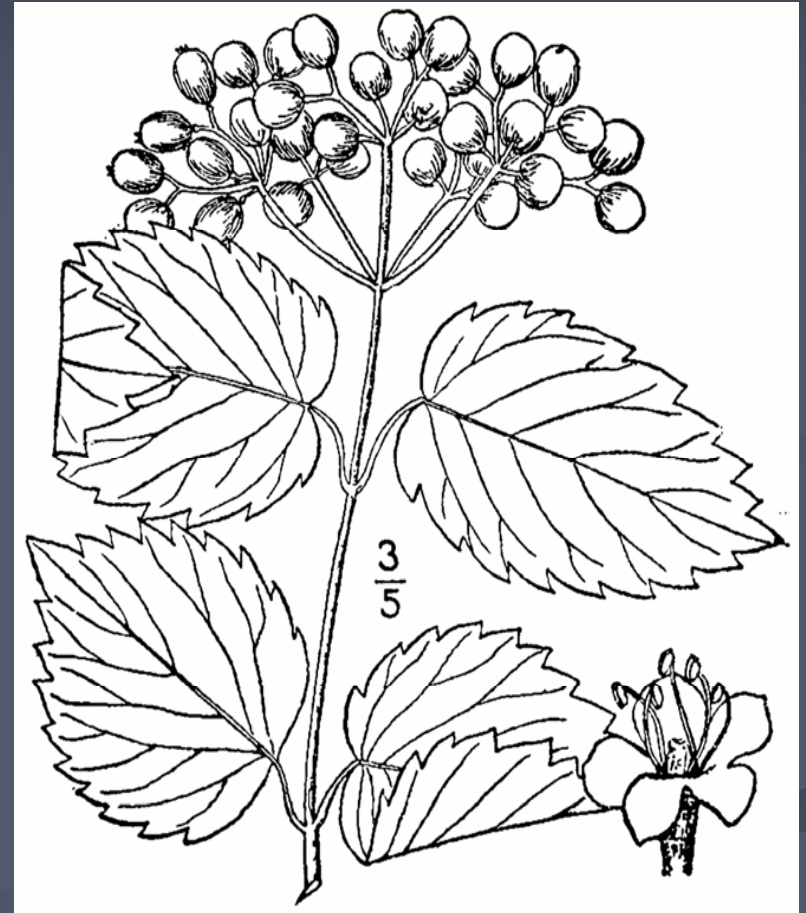


USDA NRCS PLANTS Database

Viburnum dentatum

Southern Arrowwood

- ❖ Class Rosopsida
 - ❖ Order Dipscales
 - ❖ Family Caprifoliaceae
- ❖ Leaves: oval or rounded; notched base; straight side veins with large tooth at end; hairy below only
- ❖ Fruit: rounded blue/black berried in terminal clusters
- ❖ Bark: gray or red/brown; smooth
- ❖ Height: to 3m



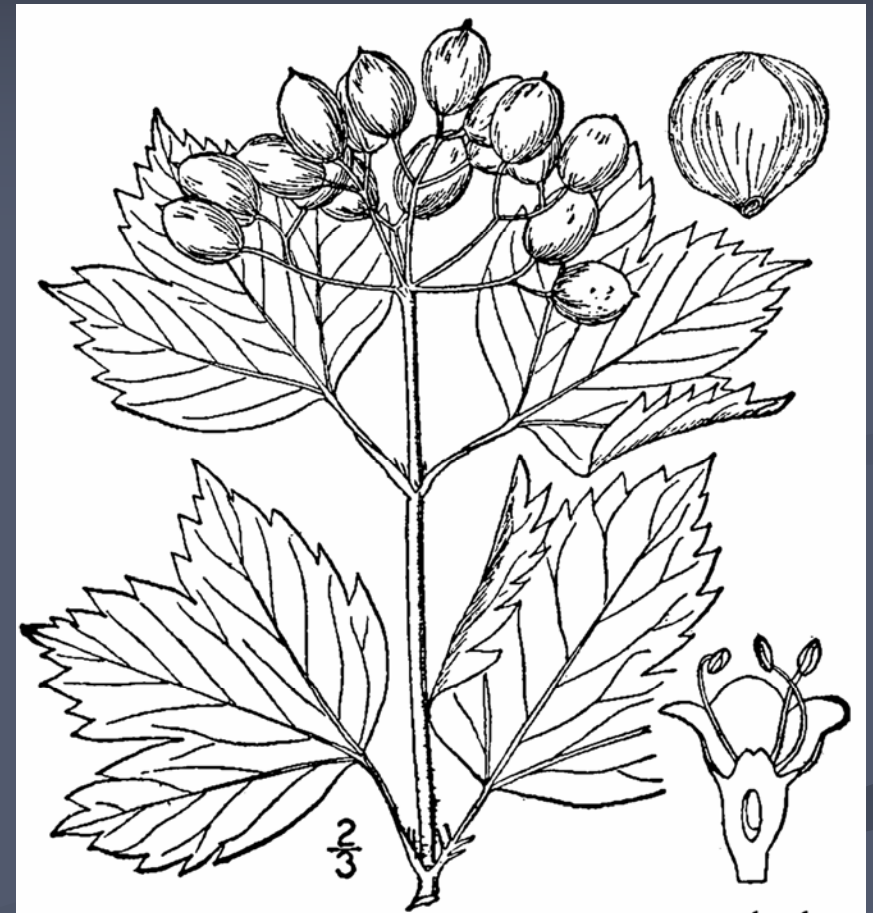
USDA NRCS PLANTS Database

Viburnum opulus

European Cranberrybush

Introduced

- ❖ Class Rosopsida
 - ❖ Order Dipscales
 - ❖ Family Caprifoliaceae
- ❖ Leaves: opposite; 3 lobes; irregular, coarse teeth; petiole with disk-like glands
- ❖ Fruit: bright red berries in terminal clusters
- ❖ Bark: red/brown to gray
- ❖ Height: to 3m



USDA NRCS PLANTS Database

Weigela florida

Old Fashioned Weigela

- ❖ Class Rosopsida
 - ❖ Order Dipscales
 - ❖ Family Caprifoliaceae
- ❖ Leaves: opposite; ovate; fine teeth; curving side veins
- ❖ Fruit: 2.5cm long capsule; smooth; produced by showy, bell-shaped flowers
- ❖ Bark: gray/brown; circular lenticels; hair between nodes
- ❖ Height: to 2.5m

Introduced



<http://www.us.edu.pl/katowice/informator/Drzewa/ilustr/kucz128.jpg>

Summary of Trees and Shrubs at the University Farm

❖ Division Pinopyta

❖ Class Pinopsida

❖ Order Pinales

❖ Family Pinaceae

- ❖ *Picea abies* I
- ❖ *Picea engelmannii* I
- ❖ *Picea glauca* I
- ❖ *Picea pungens* I
- ❖ *Pinus resinosa* I
- ❖ *Pinus strobus* I
- ❖ *Tsuga canadensis*

❖ Family Cupressaceae

- ❖ *Juniperus* sp.
- ❖ *Juniperus communis*
- ❖ *Thuja occidentalis* I

I = Introduced (not native to this area)

Summary of Trees and Shrubs at the University Farm

❖ Division Magnoliophyta

❖ Class Magnoliopsida

❖ Order Magnoliales

❖ Family Magnoliaceae

❖ *Liriodendron tulipifera*

❖ *Magnolia acuminata*

❖ *Magnolia fraseri* I

❖ Order Laurales

❖ Family Lauraceae

❖ *Lindera benzoin*

❖ *Sassafras albidum*

❖ Class Rosopsida

❖ Order Saxifragales

❖ Family Hamamelidaceae

❖ *Hamamelis virginiana*

❖ *Liquidambar styraciflua* I

❖ Order Celastrales

❖ Family Celastraceae

❖ *Euonymus europaea* I

❖ *Euonymus fortunei* I

❖ *Euonymus hamiltonian* I

❖ *Euonymus obovatus*

Summary of Trees and Shrubs at the University Farm

❖ Class Rosopsida (contd.)

❖ Order Malpighiales

❖ Family Salicaceae

- ❖ *Populus deltoides*
- ❖ *Populus grandidentata*
- ❖ *Salix babylonica* I
- ❖ *Salix discolor*
- ❖ *Salix fragilis* I
- ❖ *Salix nigra*
- ❖ *Salix sericea*

❖ Family Clusiaceae

- ❖ *Hypericum kalmianum* I
- ❖ *Hypericum mutilum*
- ❖ *Hypericum perforatum* I
- ❖ *Hypericum punctatum*
- ❖ *Hypericum spathulatum*

❖ Order Rosales

❖ Family Rosaceae

- ❖ *Crataegus flabellata*
- ❖ *Crataegus monogyna* I
- ❖ *Malus baccata* I
- ❖ *Malus coronaria*
- ❖ *Malus sylvestris* I
- ❖ *Prunus americana*
- ❖ *Prunus avium* I
- ❖ *Prunus pennsylvanica*
- ❖ *Prunus serotina*
- ❖ *Prunus virginiana*
- ❖ *Rosa multiflora* I
- ❖ *Sorbus aucuparia* I

Summary of Trees and Shrubs at the University Farm

❖ Class Rosopsida (contd.)

❖ Order Rosales (contd.)

❖ Family Rhamnaceae

❖ *Rhamnus cathartica* I

❖ *Rhamnus frangula* I

❖ Family Ulmaceae

❖ *Ulmus americana*

❖ *Ulmus rubra*

❖ Family Moraceae

❖ *Morus alba* I

❖ Order Fagales

❖ Family Fagaceae

❖ *Castanea dentata*

❖ *Fagus grandifolia*

❖ *Quercus alba*

❖ *Quercus palustris*

❖ *Quercus rubra*

❖ Family Juglandaceae

❖ *Carya cordiformis*

❖ *Carya ovata*

❖ *Juglans nigra*

Summary of Trees and Shrubs at the University Farm

❖ Class Rosopsida (contd.)

❖ Order Fagales (contd.)

❖ Family Betulaceae

- ❖ *Alnus rugosa*
- ❖ *Betula lenta*
- ❖ *Betula lutea*
- ❖ *Betula populifolia* I
- ❖ *Carpinus caroliniana*
- ❖ *Ostrya virginiana*

❖ Order Malvales

❖ Family Malvaceae

- ❖ *Hibiscus syriacus* I
- ❖ *Tilia americana*

❖ Order Sapindales

❖ Family Sapindaceae

- ❖ *Acer negundo*
- ❖ *Acer pensylvanicum*
- ❖ *Acer rubrum*
- ❖ *Acer saccharinum*
- ❖ *Acer saccharum*
- ❖ *Aesculus parviflora*

❖ Order Cornales

❖ Family Nyssaceae

- ❖ *Nyssa sylvatica*

Summary of Trees and Shrubs at the University Farm

❖ Class Rosopsida (contd.)

❖ Order Cornales (contd.)

❖ Family Cornaceae

- ❖ *Cornus alternifolia*
- ❖ *Cornus amomum*
- ❖ *Cornus florida*
- ❖ *Cornus racemosa*
- ❖ *Cornus stolonifera*

❖ Order Ericales

❖ Family Ericaceae

- ❖ *Oxydendrum arboreum* I
- ❖ *Rhododendron maximum* I
- ❖ *Vaccinium corymbosum*
- ❖ *Vaccinium pallidum*

❖ Order Lamiales

❖ Family Oleaceae

- ❖ *Forsythia suspensa* I
- ❖ *Fraxinus americana*
- ❖ *Fraxinus pennsylvanica*
- ❖ *Syringa vulgaris*

❖ Order Apiales

❖ Family Araliaceae

- ❖ *Aralia elata* I
- ❖ *Aralia spinosa* I

Summary of Trees and Shrubs at the University Farm

- ❖ Class Rosopsida (contd.)

- ❖ Order Dipscales

- ❖ Family Caprifoliaceae

- ❖ *Sambucus canadensis*
 - ❖ *Sambucus racemosa*
 - ❖ *Viburnum acerifolium*
 - ❖ *Viburnum dentatum*
 - ❖ *Viburnum opulus* I
 - ❖ *Weigela florida* I

References

- ❖ Case Western Reserve University Farm Inventory and Analysis. 1983
- ❖ Little, E.L. National Audubon Society Field Guide to Trees, Eastern Region. Knopf, New York, NY. 1980
- ❖ Pertides, G.A. and J. Wehr. A Field Guide to Eastern Trees, Peterson Field Guide Series. 1st Edition, Expanded
- ❖ Stevens, P.F. (2001 onwards). Angiosperm Phylogeny Website. Version 6, May 2005 [and more or less continuously updated since].
<http://www.mobot.org/MOBOT/research/APweb/>.
- ❖ Strausbaugh, P. D. and E. L. Core. *Flora of West Virginia*. Seneca Books, Morgantown, WV. Second Edition