



# The Trees of Berkley, Michigan, USA: A Guide for Community Residents

## October 2020

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Cover image from [downtownberkley.com](http://downtownberkley.com)



This tree guide was developed under the direction of Dr. Asia Downtin of Michigan State University Department of Forestry and compiled by urban forestry research assistants Corinne Carpenter, Indya Hunt, and Jared Shaffer. It is intended for use by the City of Berkley's Tree Board and community residents who will engage in ongoing initiatives related to the stewardship of Berkley's urban forest.

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# Glossary

- **Alternate leaf arrangement:** Refers to the leaf arrangement on the stem, alternate leaves are arranged in every other pattern up the stem. Leaf arrangement is also seen in the position of the buds.
- **Broadleaf deciduous trees:** Trees with flat leaves that fall in the autumn.
- **Catkin:** Flowers connected to a long spike or elongated unit.
- **Coniferous trees:** Cone bearing seed plants, the majority are evergreen and have needle or scale-like leaves.
- **Compound leaves:** One leaf divided into separate leaflets.



Alternate leaf arrangement seen on a black cherry.



A catkin from an American Hazelnut



Compound leaves on a black walnut.

# Glossary (continued)

- **Lanceolate leaf:** Lance shaped, broadest just above the base and longer than wide.
- **Lobe:** Part of the leaf blade that is separated by negative space or sinuses.
- **Ovate leaf:** Refers to leaf shape, shaped like an egg with the broad section attached to the stem.
- **Opposite leaf arrangement:** Refers to the leaf arrangement on the stem, opposite leaves are arranged directly across the stem from one another. Leaf arrangement is also seen in the position of the buds.



Ovate leaf on a yellow birch.



Lanceolate leaves on a willow oak.



Opposite leaf arrangement seen on a red maple.



A northern red oak leaf with its prominent lobes.

# Glossary (continued)

- **Palmate leaf:** Hand shaped or radially lobed.
- **Samara:** A winged fruit, common with maples and ash.
- **Serrate leaf:** Toothed, referring to the edge or margin on the leaf.
- **Simple leaves:** Refers to how the leaf is divided. Simple leaves are a single leaf attached to a stem.



Ohio buckeye leaves are palmately compound



Samara from a Sugar Maple

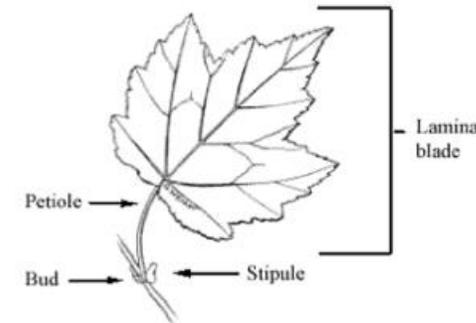


Illustration of a simple leaf. This maple leaf is attached singularly to the stem



The serrate margin of an apple leaf.

# **Broadleaf Deciduous Species**

## Black Maple

*Acer nigrum*

*Leaves:* Opposite, simple, leaves with 3 lobes and pubescent underside

*Fruit:* Drooping samaras

*Buds:* Greyish-black, small, pointed

*Bark:* Dark grey, corrugated with narrow ridges



## Hedge Maple

*Acer campestre*

*Leaves:* Opposite, simple, leaves with 3 - 5 lobes

*Fruit:* Drooping samaras

*Buds:* Scaled, Greyish-brown and small

*Bark:* Grey, brown, finely fissured, corky bark



## Norway Maple

### *Acer platanoides*

*Leaves:* Opposite, simple, leaves with 5 lobes

*Fruit:* Drooping samaras

*Buds:* Round, large, reddish-brown

*Bark:* Dark grey, closely fissured interlacing bark



## Red Maple

*Acer rubrum*

*Leaves:* Opposite, simple, leaves with 3 – 5 lobes

*Fruit:* Drooping samaras

*Buds:* Slightly pointed, clustered, reddish-brown

*Bark:* Dark grey, with plate-like scales, sometimes smooth



## Silver Maple

*Acer saccharinum*

*Leaves:* Opposite, simple, leaves with 5 lobes

*Fruit:* Drooping samaras

*Buds:* Round, clustered, reddish-purple

*Bark:* Silvery-grey, with thin scaly plates



## Sugar Maple

### *Acer saccharum*

*Leaves:* Opposite, simple, leaves with 5 lobes

*Fruit:* Drooping samaras

*Buds:* Pointed, dark reddish-brown

*Bark:* Dark grey, deeply furrowed and scaly



## Boxelder

### *Acer negundo*

*Leaves:* Opposite, pinnately compound, leaflets of 3 - 5

*Fruit:* Drooping samaras

*Buds:* Tight, round, lighter than bark

*Bark:* Pale gray to brown bark, interlacing ridges



## Amur Maple

### *Acer ginnala*

*Leaves:* Opposite, simple, leaves with 3 – 5 lobes

*Fruit:* Drooping samaras

*Buds:* Short, reddish-brown

*Bark:* Thin, dull grayish-brown bark, fissures with age



## Horsechestnut

### *Aesculus hippocastanum*

*Leaves:* Opposite, palmately compound with 7 - 9 leaflets

*Fruit:* Prickly, leathery, mahogany colored capsule. Toxic and not edible.

*Buds:* Large, greenish-brown, and sticky

*Bark:* Dark grey, brown with thick plates and shallow fissures



## Tree of Heaven *Ailanthus altissima*

*Leaves:* Alternate,  
pinnately compound with 11 -  
41 leaflets

*Fruit:* Twisted, long samara

*Buds:* Finely pubescent, dome  
shaped, lacks terminal bud

*Bark:* Light grey, thin with shallow  
fissures



## Black Alder *Alnus glutinosa*

*Leaves:* Alternate, simple, round leaves

*Fruit:* Drooping catkins and small cones

*Buds:* Brownish purple to reddish brown, egg-shaped

*Bark:* Purplish brown to grayish brown, finely fissured plates



**Paper Birch**  
***Betula papyrifera***

*Leaves:* Alternate, simple, ovate leaves

*Fruit:* Drooping catkins

*Buds:* Slender, reddish-brown, pointed, lacks terminal bud

*Bark:* Creamy white, readily exfoliates



## Shagbark Hickory

### *Carya ovata*

*Leaves:* Alternate, pinnately compound, with 5 leaflets

*Fruit:* Light yellow-brown nut wider than long, contains edible kernel

*Buds:* Pinkish-red, oval to egg-shaped

*Bark:* Smooth, grey, gains shaggy appearance with age



## Pignut Hickory *Carya glabra*

*Leaves:* Alternate, pinnately compound, with 5 - 7 leaflets

*Fruit:* Pear shaped nut covered in thin husk that contains edible kernel

*Buds:* Light brown to tan, oval to egg-shaped

*Bark:* Thin, grey, tight with shallow fissures



## Bitternut Hickory

*Carya cordiformis*

*Leaves:* Alternate, pinnately compound, with 7 - 9 leaflets

*Fruit:* Nut is four winged to the middle of the husk, contains edible yet bitter kernel

*Buds:* Sulfur-yellow, leaf like scales

*Bark:* Thin, grey, tight and smooth with narrow fissures



## Northern Catalpa *Catalpa speciosa*

*Leaves:* Opposite, or whorled, large, simple leaves

*Fruit:* Long, string-bean shaped capsules. Flowers in late June

*Buds:* Small, reddish-brown scales on lateral bud, lacks terminal bud

*Bark:* Thick, reddish-brown bark, deeply fissured



## Eastern Redbud *Cercis canadensis*

*Leaves:* Alternate, heart-shaped, simple leaves

*Fruit:* Pod-like capsules, reddish-pink flowers appear in early spring

*Buds:* Tiny, dark red to chestnut in color, swell and turn magenta in the spring

*Bark:* Thin, grey bark on young stems, darkens with age



## Washington Hawthorn *Crataegus phaenopyrum*

*Leaves:* Alternate, simple leaves

*Fruit:* Berry-like pome, flowers vary from pink - white

*Buds:* Small, reddish-brown, with scales that overlap like shingles

*Bark:* Brown to grey, flaky plates, twigs contain thorns



## American Beech *Fagus grandifolia*

*Leaves:* Alternate, simple leaves

*Fruit:* Nut protected by bristle covered husk

*Buds:* Reddish-brown, cigar shaped

*Bark:* Smooth, ashy-grey like elephant's skin



## European Beech *Fagus grandifolia*

*Leaves:* Alternate, simple leaves

*Fruit:* Nut protected by pubescent husk

*Buds:* Tannish-brown, cigar shaped, slightly larger than American counterpart

*Bark:* Smooth, ashy-grey



## Green Ash

### *Fraxinus pennsylvanica*

*Leaves:* Opposite, pinnately compound, with 7 – 9 leaflets

*Fruit:* Long, drooping samaras

*Buds:* Brown, round, pubescent, flat topped leaf scars. Compared to chocolate chips.

*Bark:* Thick brown and grey bark, with irregular furrows or interlacing ridges



## White Ash

### *Fraxinus americana*

*Leaves:* Opposite, pinnately compound, with 7 – 9 leaflets

*Fruit:* Long, drooping samaras

*Buds:* Brown, slightly pointed, with u-shaped leaf scar

*Bark:* Thick grey bark, deeply furrowed with diamond-like pattern



## Ginkgo *Ginkgo biloba*

*Leaves:* Alternate, simple, leaves that are distinctly fan shaped.

*Fruit:* Female trees only. Yellow-orange drupe with a foul odor.

*Buds:* Red tipped buds on top of a spur.

*Bark:* Grey, corky, bark that becomes more furrowed with age.



## Honeylocust *Gleditsia tricanthos*

*Leaves:* Alternate, compound leaves that are small, oval, with entire margins.

*Fruit:* Long twisted bean pods, dark brown color.

*Buds:* Very small and brown, usually covered by the leaf scar and lacking a terminal bud.

*Bark:* Grey and deeply cracked with narrow ridges.

Long thorns are usually present however some varieties are thorn less.



## Black Walnut *Juglans nigra*

*Leaves:* Alternate, compound, leaves with 13-23 leaflets

*Fruit:* Large and spherical with a thick husk

*Buds:* Equally long as wide with a light grey pubescence.

*Bark:* Dark brown with furrowed ridges that intersect one another.

Black walnut is very similar to butternut but can be differentiated by the leaf scar. On both species it looks like a monkey's face but the butternut will have a strip of pubescence that looks like an eyebrow.



## Goldenrain Tree

### *Koelreuteria paniculata*

*Leaves:* Alternate, compound leaves with irregular serrations and lobes.

*Fruit:* Pyramid shaped made of a papery capsule.

*Buds:* Shaped like a Hershey kiss with a tuft at the top.

*Bark:* Grey with flat ridge tops and shallow furrows.



## Sweetgum

### *Liquidambar styraciflua*

*Leaves:* Alternate, simple, star shaped leaves with fine serration.

*Fruit:* Woody structure with many protruding points.

*Buds:* Shiny and resinous, color varies between red, green and yellow.

*Bark:* Grey with flattened, scaly, ridges



## Tulip tree

### *Liriodendron tulipifera*

*Leaves:* Alternate, simple, leaves that are “tulip shaped” with four large lobes

*Fruit:* Clustered group of samaras or papery seeds.

*Buds:* Dark red buck billed buds with a white bloom that can be rubbed off.

*Bark:* Grey and deeply furrowed with interlocking round ridges.



**Saucer Magnolia**  
***Magnolia soulangeana***

*Leaves:* Alternate, simple, leaves that have a fuzzy underside

*Fruit:* 1-3 inches long, aggregate of red seeds.

*Buds:* Fuzzy, tan and valved.

*Bark:* Smooth, grey and flat

Large flowers bloom in the spring



## Apple

### *Malus domestica*

*Leaves:* Alternate, simple, leaves with serrate edges, pubescent.

*Fruit:* A pome, usually green yellow or red.

*Buds:* Plump, oval shaped and hairy.

*Bark:* Thin and grey developing plates with age.



## Crabapple

### *Malus sylvestris*

*Leaves:* Alternate, simple, leaves that are irregularly serrate and wider below the middle of the leaf

*Fruit:* Small, 2-4cm long, tart and sour.

*Buds:* Terminal bud is bright red and hairy

*Bark:* Grey with vertical cracks.



## Red Mulberry

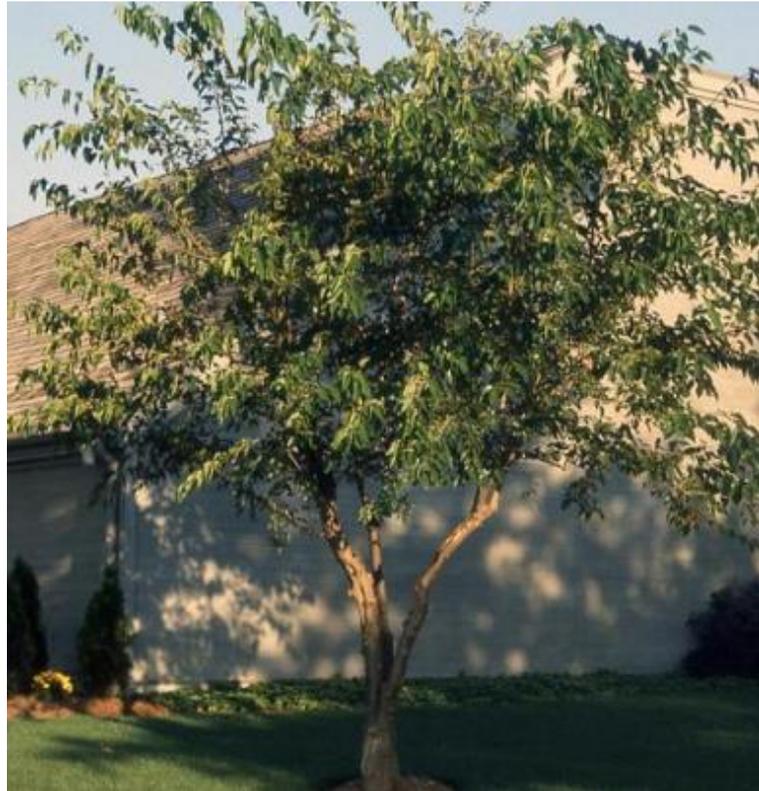
### *Morus rubra*

*Leaves:* Alternate, simple leaves with coarse serration. Can vary between zero to two lobes.

*Fruit:* similar shape to an elongated blackberry changes color from bright red to blue/black

*Buds:* Light brown, scaled and oval with a sharp tip.

*Bark:* Dark brown bark that separates into flat strips



## White Mulberry

### *Morus alba*

*Leaves:* Alternate, simple leaves with coarse serration. Can vary between zero to two lobes.

*Fruit:* Bunched white or pink drupe similar shape to an elongated blackberry.

*Buds:* No terminal bud, lateral buds are scaled, triangular and light orange/brown.

*Bark:* Orange/brown with orange visible through cracks, shallowly furrowed.

Compared to red mulberry, white mulberry has smaller leaves and buds.



## Eastern Hop Hornbeam *Ostrya virginiana*

*Leaves:* Alternate, simple leaves that are doubly serrate

*Fruit:* Layered, papery, green scales in the spring. Resemble hops

*Buds:* Scaled, green and dark brown

*Bark:* Finely peeling, “cat scratch” appearance.



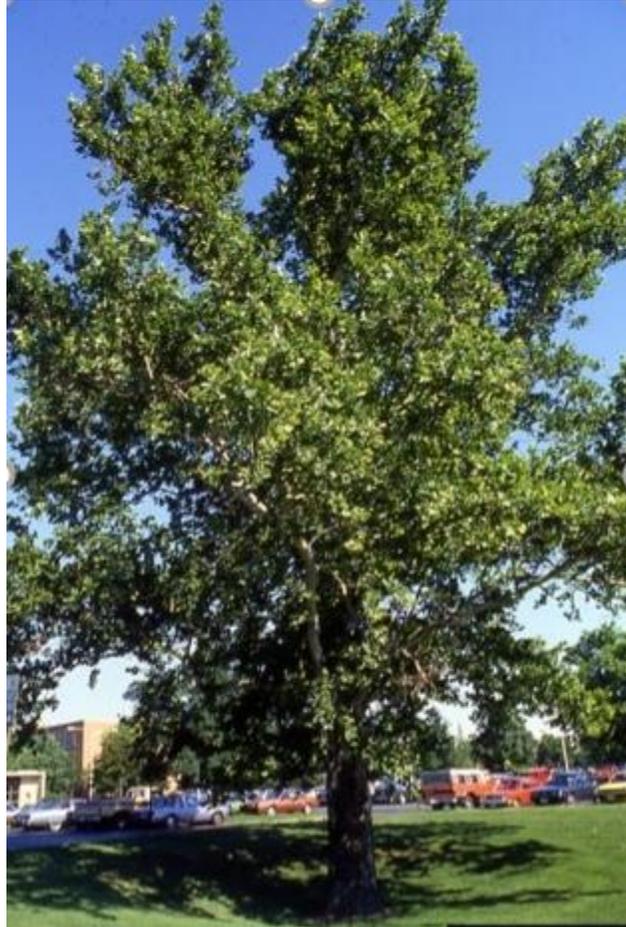
## American Sycamore *Platanus occidentalis*

*Leaves:* Alternate, simple leaves that are wide with 3-5 lobes and wavy-toothed margins.

*Fruit:* Brown, round and dense, one per stalk

*Buds:* Conical, blunt and pale brown.

*Bark:* Mottled and peeling revealing colorful patches that fade to white further up the tree.



## London Planetree *Platanus acerifolia*

*Leaves:* Alternate, simple leaves that are coarsely-toothed.

*Fruit:* Brown, round and studded, two per stalk.

*Buds:* Conical, blunt and red.

*Bark:* Peeling bark that reveals a light green or yellow upper trunk.



## Eastern Cottonwood *Populus deltoides*

*Leaves:* Alternate, simple leaves with a “D” shape and toothed margins.

*Fruit:* Small light colored seeds attached to a fluff of cotton.

*Buds:* Long buds with a pointed tip. Shiny and resinous

*Bark:* Grey bark with deep furrowed, flat topped ridges.



## Kwanzan Cherry *Prunus serrulata*

*Leaves:* Alternate, simple, serrate leaves that are shiny and dark green.

*Fruit:* No fruit, sterile variety.

*Buds:* Very large, reddish, scaled buds.

*Bark:* Thin and smooth, reddish to brown with lenticels.

Deep pink, clumped flowers bloom in spring



**Callery/Bradford Pear**  
*Pyrus calleryana*

*Leaves:* Alternate, simple, heart shaped leaves. Finely serrate

*Fruit:* Small, brown, pome.

*Buds:* Large, oval with wooly hairs.

*Bark:* Lenticels when young. Grey to brown with shallow ridges.

Flowers bloom before leaves,  
clusters of white flowers.



**Redspire Pear**  
*Pyrus calleryana*  
**'Redspire'**

*Leaves:* Alternate, simple leaves with wavy margins

*Fruit:* Small, brown, pea-sized fruit. Popular with birds.

*Buds:* Large terminal buds, very hairy.

*Bark:* Thin, light brown, develops lenticels with age.

White showy flowers bloom in spring.



## Bur Oak

### *Quercus macrocarpa*

*Leaves:* Alternate, simple, lobed leaves with sharp bristled tips.

*Fruit:* Acorn, cap is heavily fringed.

*Buds:* Stout, conical, reddish brown.

*Bark:* Thin, greyish brown, furrowed with scaly ridges.

Undersides of leaves have a fine white pubescence.



## Northern Red Oak *Quercus rubra*

*Leaves:* Alternate, simple, lobed leaves with sharp bristled tips.

*Fruit:* Acorn, cap is shallow and sits on the nut like a beret.

*Buds:* Ovoid, reddish brown, glabrous.

*Bark:* Grey with shallow, dark, furrows, compared to a ski trail.



## Pin Oak

### *Quercus palustris*

*Leaves:* Alternate, simple leaves with deep U-shaped sinuses and sharp bristle tips.

*Fruit:* Nearly spherical acorn with a shallow cap that only covers the top of the nut.

*Buds:* Ovoid, conical, light brown and smooth.

*Bark:* Gray brown with shallow ridges.



## Swamp White Oaks *Quercus bicolor*

*Leaves:* Alternate, simple leaves with rounded, shallow lobes.

*Fruit:* Acorns borne on a long stem, caps are bowl shaped.

*Buds:* Oval, light brown and furry above the middle.

*Bark:* Thick, grayish brown with deep fissures and flat topped ridges.

Upper half of leaves is much wider than the lower half.



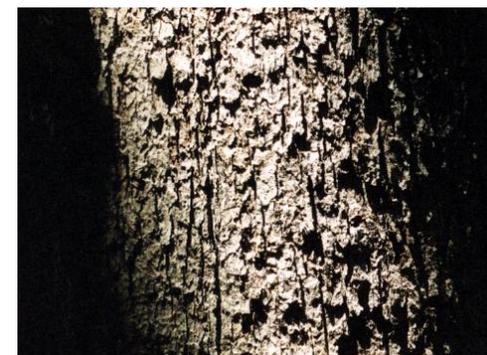
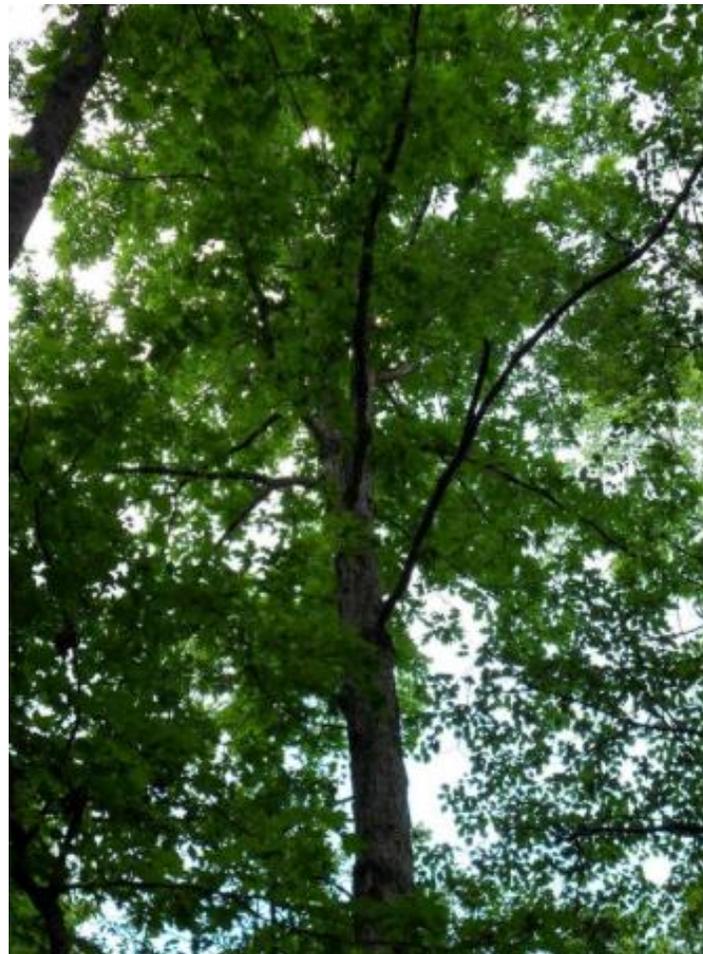
## White Oak *Quercus alba*

*Leaves:* Alternate, simple leaves with rounded lobes.

*Fruit:* Acorn, cup covers about  $\frac{1}{4}$  of the nut, sits like a beanie.

*Buds:* Dark brown, scaled, oval with a blunt tip.

*Bark:* Light grey, rectangular ark that becomes less organized further up the tree.



## Black Locust

### *Robinia pseudoacacia*

*Leaves:* Alternate, pinnately compound. Leaflets are oval shaped and entire.

*Fruit:* A legume or seed pod that is smooth, dark and flat containing 4-8 seeds.

*Buds:* No terminal bud, lateral buds are small and sunken into the leaf scar.

*Bark:* Reddish-brown to black in color with deep furrows and interlacing ridges.

Black locust leaflets are larger than honey locust leaflets.



## Corkscrew Willow

### *Salix matsudana*

*Leaves:* Alternate, simple, leaves that are slender, finely serrate and usually twisted.

*Fruit:* Small cluster of brown capsules containing fuzzy seeds.

*Buds:* Oval shaped and darkish grey in color

*Bark:* Grey brown and shallowly fissured, smooth with diamond shaped lenticels when young.



## Weeping Willow

### *Salix babylonica*

*Leaves:* Alternate, simple, finely serrate and lanceolate.

*Fruit:* Capsules containing cottony seeds.

*Buds:* Small, pressed against the stem with one scale.

*Bark:* Grey, rough and deeply furrowed.

Weeping willow is known for its drooping branches hanging from upright branches.



## European Mountain Ash *Sorbus acuparia*

*Leaves:* Alternate, compound leaves. Leaflets are lanceolate and sharply serrated.

*Fruit:* Spherical pome that is bright red.

*Buds:* Conically shaped with a curved tip. Green to dark purple and covered with long, white hairs.

*Bark:* Smooth and grey. .



## American Linden/ Basswood

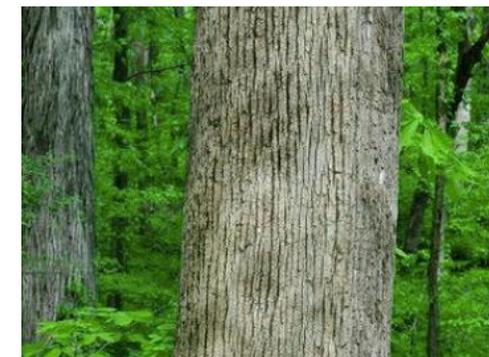
### *Tilia Americana*

*Leaves:* Alternate, simple, double-toothed leaves that are heart shaped with unequal bases.

*Fruit:* Spherical, thick shelled, nut. About pea sized.

*Buds:* Oval with 2 scales. Smooth and bright green or red.

*Bark:* Thick with many narrow flat-topped ridges running parallel. Gives a rectangular or blocky appearance.



## Littleleaf Linden

### *Tilia cordata*

*Leaves:* Alternate, simple, heart shaped, serrate, leaves.

*Fruit:* Spherical, thin shelled, small, nut that is usually attached to a leafy bract.

*Buds:* Lopsided oval shape. Smooth with 2 bud scales and olive green to brown color.

*Bark:* Dark grey with shallow plates. Smooth when young.



## American Elm

### *Ulms americana*

*Leaves:* Alternate, simple, leaves that are ovately shaped. Doubly serrate and pubescent top surface

*Fruit:* Samara, smooth on both sides and hairy at the margin.

*Buds:* Reddish brown with darker scale edges.

*Bark:* Dark grey, divided into irregular flat-topped ridges.

The bark is made of alternating white and dark brown layers that are referred to as oreo or ham and cheese, They are visible when a piece is broken off.



## Slippery Elm

### *Ulmus rubra*

*Leaves:* Alternate, simple, doubly serrate leaves that are roughly pubescent.

*Fruit:* Samara with smooth wings and a hairy seed cavity.

*Buds:* Brown with reddish hairs.

*Bark:* Light grey brown with flat ridges with intervening furrows.

The cross section of bark is solid brown and not layered with light and dark bands like American Elm.



## Siberian Elm *Ulmus pumila*

**Leaves:** Alternate, simple, small, leaves. Singly serrate with a dark green surface and pale green underside

**Fruit:** Single seeded samara, smooth.

**Buds:** Small, oval shaped, dark brown and slightly hairy.

**Bark:** Light grey-brown with irregular, stained furrows.



**Japanese Zelkova**  
***Zelkova serrata***

*Leaves:* Alternate, simple, serrate but with rounded teeth.

*Fruit:* Small, triangular, green, drupe.

*Buds:* Reddish brown and cone shaped.

*Bark:* Smooth aging into exfoliating patches. Reddish brown.



# Coniferous Species

## Eastern Redcedar *Juniperus virginiana*

*Leaves:* Two different types of foliage, needlelike on young trees and shoots and scale-like on older.

*Fruit:* Small, purple or dark blue berries coated in a white film.

*Buds:* Naked, usually covered by leaves. Pictured are the female strobili

*Bark:* Reddish brown with thin peeling strips.



## Colorado Blue Spruce *Picea pungens*

*Leaves:* Attached singularly, sharply tipped and bluish green

*Fruit:* Cones are long with shaggy, loose fitting scales.

*Buds:* Brownish yellow with some scales curving outward like a rosette.

*Bark:* Loosely attached scales that are flakey.



## Norway Spruce

### *Picea abies*

*Leaves:* Needles attached singularly, sharply tipped and dark green

*Fruit:* Long cylindrical cones with loose fitting, round, scales.

*Buds:* Orange brown and oval with the outer scales spreading.

*Bark:* Grey brown flakey scales

Twigs connected to branches are very droopy compared to other spruce.



## Eastern White Pine *Pinus strobus*

*Leaves:* Needles attached in bundles of 5, long and flexible.

*Fruit:* Cones are very long and slender, reddish brown.

*Buds:* Oblong and slender with a sharp point.

*Bark:* Broad, dark grey scales.



## Arborvitae

### *Thuja occidentalis*

*Leaves:* Tiny, simple, scale-like, leaves that are packed closely together.

*Fruit:* Cone, small and borne upright

*Buds:* Small and green, difficult to distinguish from foliage.

*Bark:* Scaling outer bark and fibrous inside.



# References

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# Additional Helpful Resources

Arbor Day Foundation, 2020. "How to Plant Your Trees." Electronic access via [www.arborday.org/trees/planting](http://www.arborday.org/trees/planting).

Davey Tree Expert Company, 2020. "Tree Care Calendar." Electronic access via [www.davey.com/arborist-advice/articles/tree-care-calendar/](http://www.davey.com/arborist-advice/articles/tree-care-calendar/).

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