

Identifying Maine Trees



A Picture Guide

Provided to you by:

Department of Agriculture, Conservation and Forestry

Maine Forest Service

Forest Policy & Management Division



Why are people so fascinated with trees?

- People have an instinctive curiosity about their surroundings. What is it I'm looking at?
- Forest landowners want to know what species of trees they have on their land so they can better manage that resource.
- Many people simply have an interest in the forest resource and want to know more.

Fundamental to all these interests is a good working knowledge of how to identify the different kinds of trees growing in the Maine woods.

This presentation is intended to be used with the *Forest Trees of Maine* book. This slide show identifies the unique characteristics that allow you to more easily identify some of the more common trees.

Note: Not all species are included in this presentation.



Forest Trees of Maine

'Centennial Edition'

lists:


- 65^{1,2,3} native tree species, and
- 11 exotic (non-native) species and varieties commonly found in Maine.

1. Some tree species found commonly more as a shrub and/or small trees
2. Hawthorn, Serviceberry, Nannyberry only list one species
3. Oaks are listed as groups

30 native species and 4 introduced species are in this presentation



Eastern hemlock



Of these natives, 14 species are softwoods,
or conifers; trees with needles.

These are often called
evergreens, although one species,
tamarack, loses all its needles
every fall.

A photograph of a dense forest of tall, thin coniferous trees. The trees are mostly vertical and have dark, textured bark. The ground is covered in brown pine needles and patches of melting snow. The sky is visible through the canopy, appearing bright blue. The overall scene is a natural, outdoor setting.

Common Maine Conifers

CONIFERS

Page numbers refer to where
the species can be found in
the *Forest Trees of Maine*
Centennial Edition book.

- [Pine](#) (page 25)
 - [Eastern White](#) (page 26)
 - [Red \(or Norway\)](#) (page 30)
- [Spruce](#) (page 37)
 - [Red](#) (page 40)
 - [White](#) (page 42)
 - [Norway](#) (page 44)
 - [Blue](#) (page 45)
- [Balsam Fir](#) (page 46)
- [Eastern hemlock](#) (page 48)
- [Tamarack or Larch](#) (page 50)
- [Northern White Cedar](#) (page 54)





Pine

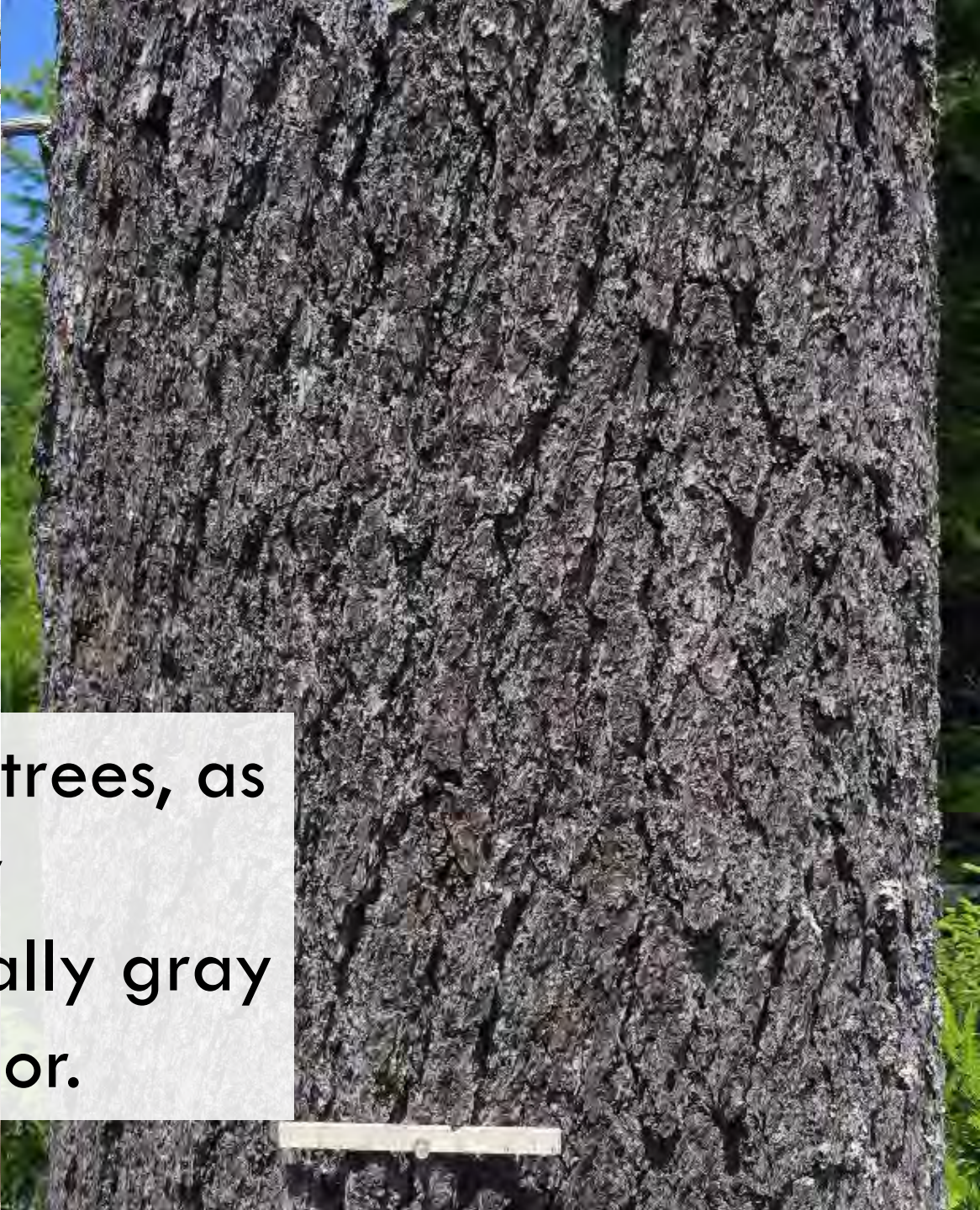
Eastern White Pine

Pinus strobus

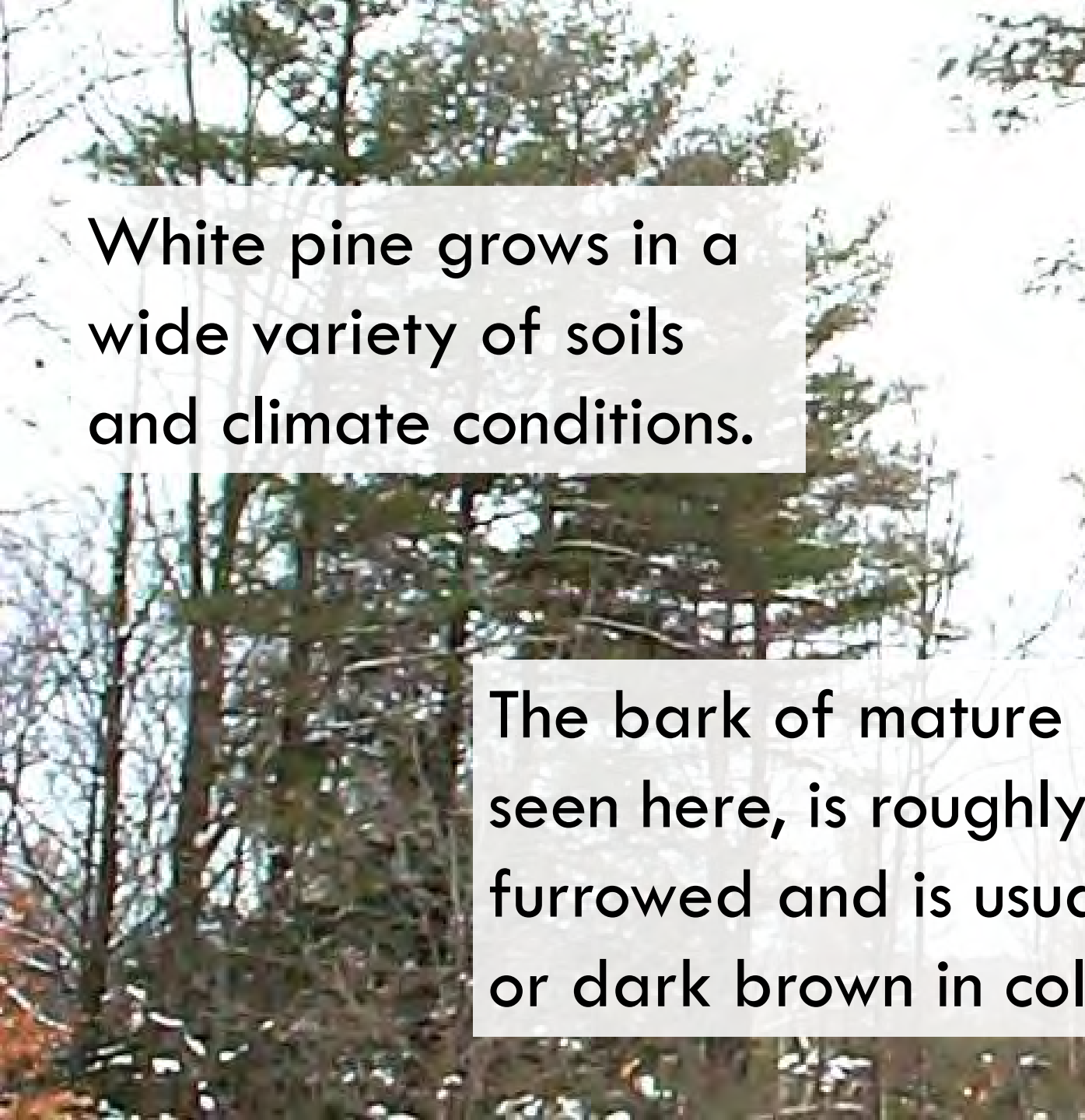
Eastern White Pine is the official Maine state tree. The Maine state flower is the white pine cone and tassel.

It was first used for masts for the British navy in the 1600's, and continues today to be one of our most valuable trees.



A close-up photograph of a white pine tree trunk, showing the characteristic rough, furrowed bark. The bark is dark gray to black, with deep, vertical grooves and a highly textured surface. A small, light-colored object, possibly a measuring tool or a piece of wood, is visible at the bottom of the trunk.

White pine grows in a wide variety of soils and climate conditions.

A photograph of a white pine forest. The trees are tall and thin, with a dense canopy of green needles. The ground is covered in brown pine needles and some green ferns. The sky is bright and clear.

The bark of mature trees, as seen here, is roughly furrowed and is usually gray or dark brown in color.

Young white pine bark is usually quite smooth. The color is dark brown, sometimes with a greenish tinge.

Age on most conifers, including white pine, can be estimated by counting the branch whorls.

[Click here to return to Conifers index](#)



The distance between the whorls represents one year's growth.

White pine needles
are soft and flexible,
3-5" long.



The cones are
4-8" long and
cylindrical.



White pine needles
grow in clusters
of **5**.




Photographs not to scale.

[Click here to return
to Conifers index](#)

Red Pine (Norway Pine) *Pinus resinosa*

Red pine is most commonly found on dry or rocky sites. It is used for utility poles, flooring, and sometimes pulp. Red pine has been extensively planted in Maine.





The trunk is usually tall,
straight and slender.

Red pine bark is divided
into broad, flat plates
which readily flake off by
rubbing.

Red pine cones are
egg shaped and
about **2"** long.
The base is hollow.



Needles are **4-6"** long and brittle,
breaking cleanly when bent, and grow
in clusters of **2**.

Photographs not to scale.

[Click here to return
to Conifers index](#)

Balsam Fir

[Click here to return
to Conifers index](#)



Balsam Fir

Abies balsamea

Balsam fir is the most common softwood in Maine, and is extensively used in paper making and lumber.

Balsam fir is the only native fir in Maine, although many other varieties are widely planted, usually for Christmas trees. Over 90% of the Christmas trees grown in Maine are Balsam fir.

[Click here to return to Conifers index](#)

The bark of Balsam fir is distinctive. It is usually smooth, gray and covered with resin blisters.



[Click here to return to Conifers index](#)

The needles are flat, about 1" long, and often grow horizontally along the stem. They are blunt tipped and flat in cross section. Blunt Flat – Balsam Fir.

Winter buds are covered with a clear waxy resin.

Balsam fir cones are rarely seen since they disintegrate after maturing.

[Click here to return to Conifers index](#)



Photographs not to scale.



Eastern Hemlock

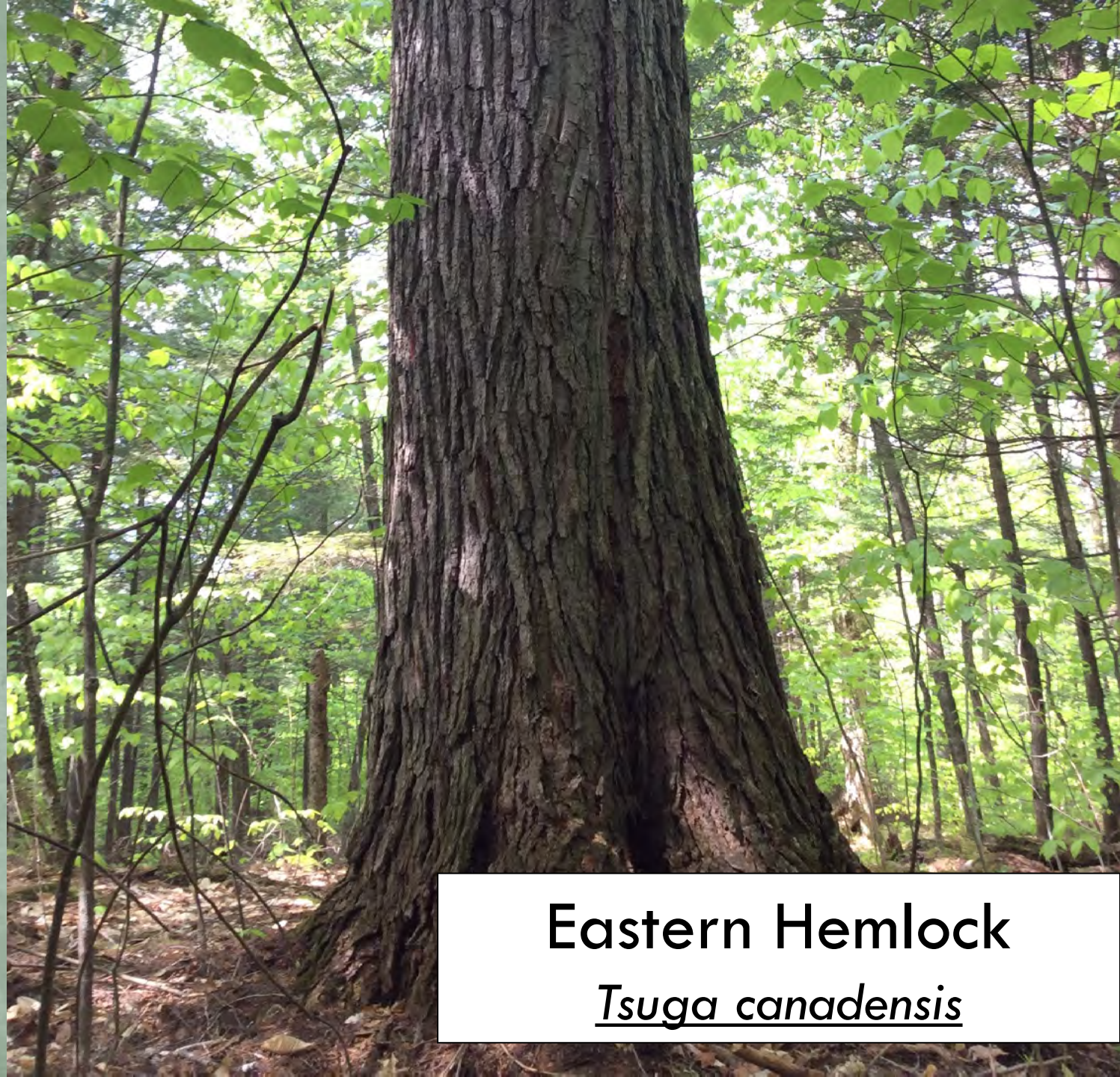
[Click here to return
to Conifers index](#)

Eastern hemlock is the only hemlock native to Maine. It prefers cool, north-facing slopes.


It provides heavy shade and cover, ideal for winter deer protection.

The bark is characterized by heavy, deep vertical furrows, even on small trees.

[Click here to return to Conifers index](#)



Eastern Hemlock
Tsuga canadensis

A close-up photograph of a hemlock branch with numerous small, flat, green needles. A wooden ruler is placed horizontally at the bottom of the frame for scale, showing markings from 1 to 6 inches. The needles are arranged in a regular, horizontal pattern along the stem. The background is a blurred green forest.

Similar to Balsam fir, hemlock needles are flat and arranged horizontally along the stem. They are usually shorter than fir needles, only 1/2 – 2/3" long and tapered.

The needles also grow progressively shorter toward the end of the twig.

Hemlock cones are about $\frac{3}{4}$ " long, oblong, and hang straight down from the ends of the twigs.

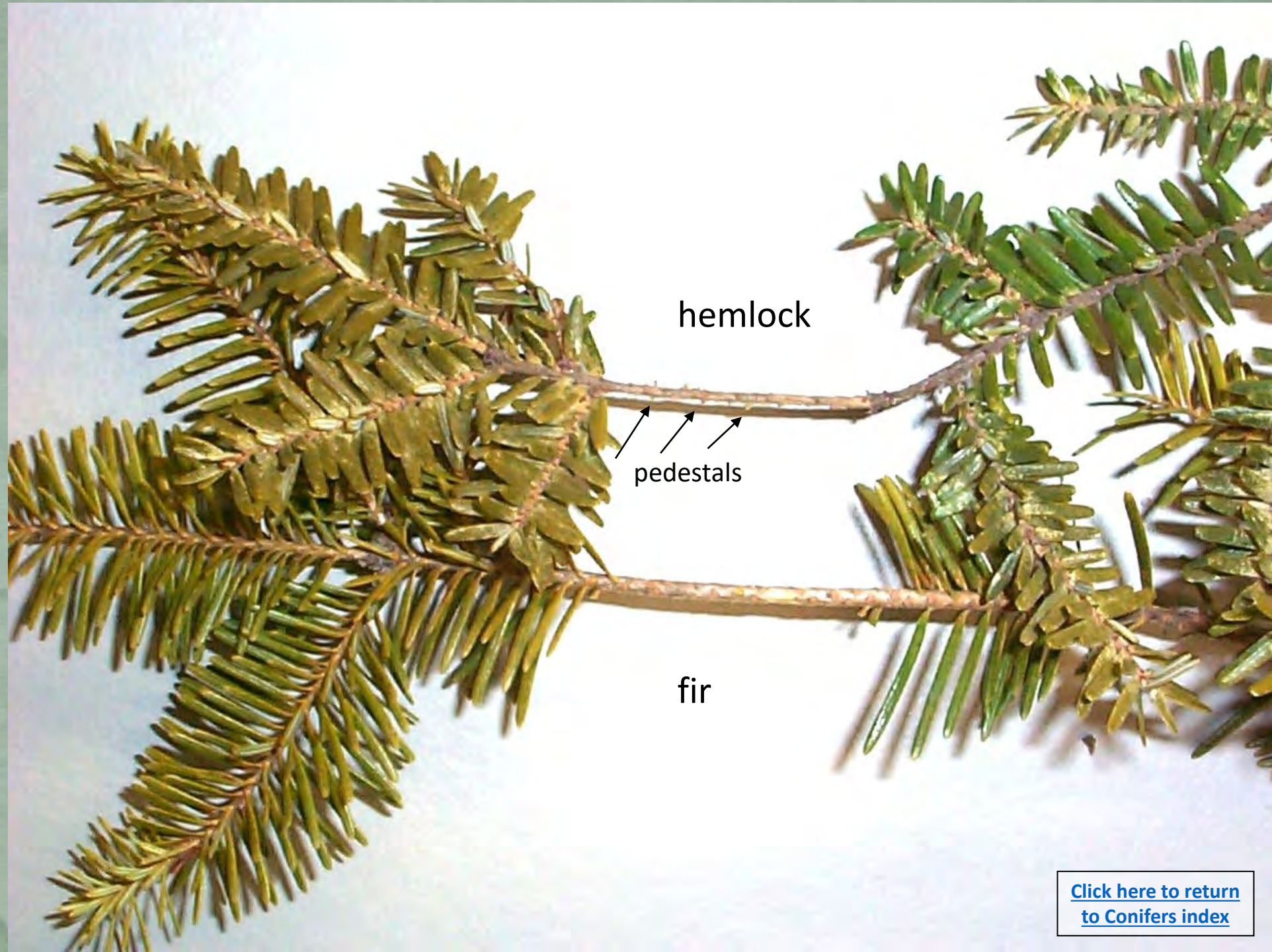


[Click here to return to Conifers index](#)

Photographs not to scale.

Hemlock and fir can sometimes be confused, especially on very young trees. One way to tell them apart is to strip off the needles on a small section of stem.

Needles on hemlock (top) grow on small, woody pedestals, which can be felt. Fir needles grow directly out of the stem, which feels smooth (bottom).



Spruce

[Click here to return
to Conifers index](#)

- Spruces are an important family of trees among Maine softwoods, both commercially and environmentally.



- Along with Balsam fir, they represent the most numerous group of trees growing in Maine, and are the main raw material resource for many of the lumber and paper mills in the state.

- Blue spruce and Norway spruce are not native, but are commonly planted for landscaping.



Red Spruce

Picea rubens

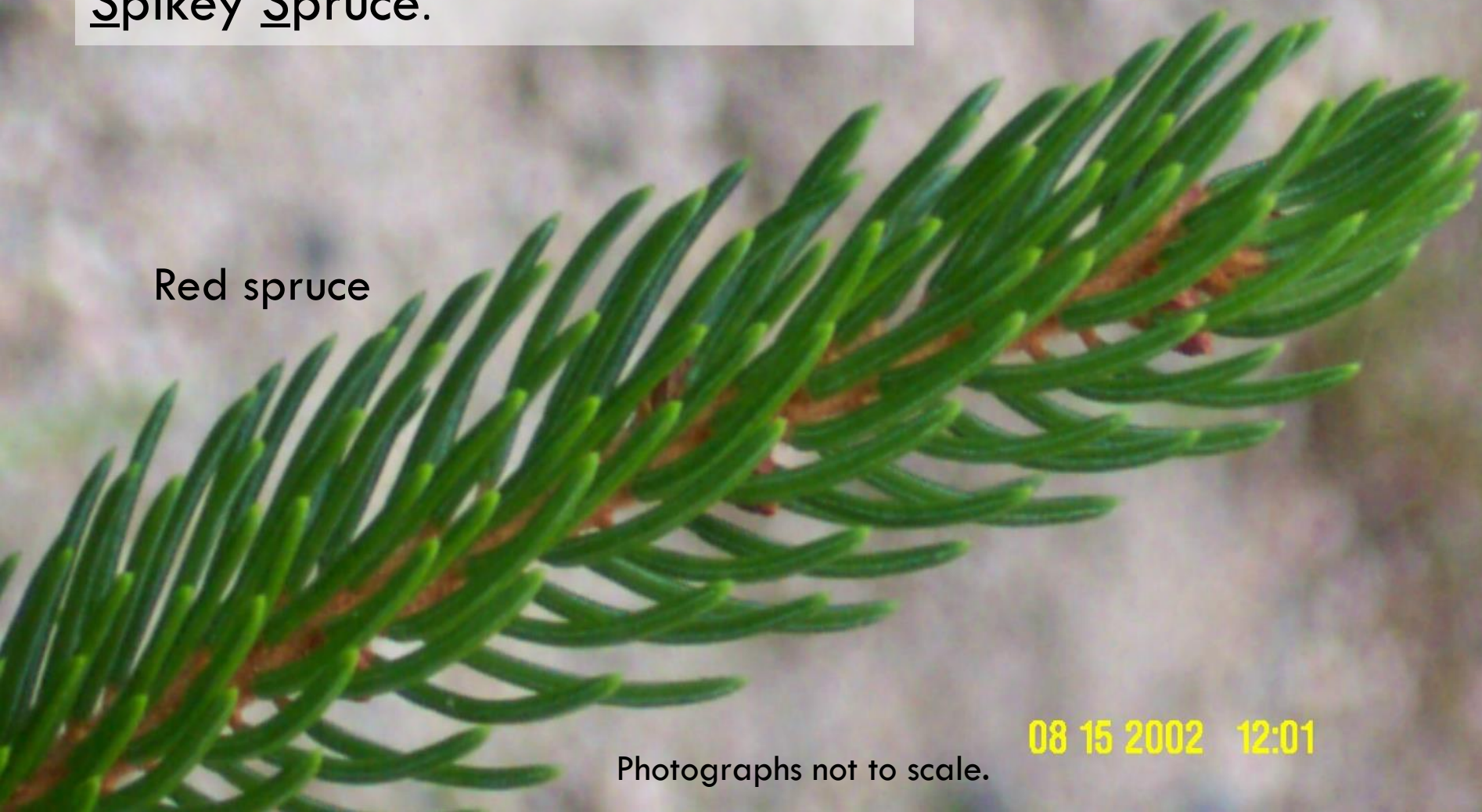
More shade tolerant than White spruce, Red spruce is the dominant spruce along coastal areas and in northern Maine. Its slow growth often provides very dense wood, highly prized by makers of fine musical instruments.

[Click here to return to Conifers index](#)



Unlike fir or hemlock needles, which are flat, spruce needles are 4-sided and with pointed tips. Spikey Spruce.

Red spruce



Native spruce cones are oblong to round, 1/2"-2" long.

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Photographs not to scale.

[Click here to return to Conifers index](#)

Also called “Cat” spruce because of the distinctive smell of its needles, White spruce is common throughout the state except in southern coastal areas. The bark is light gray with plate-like scales.



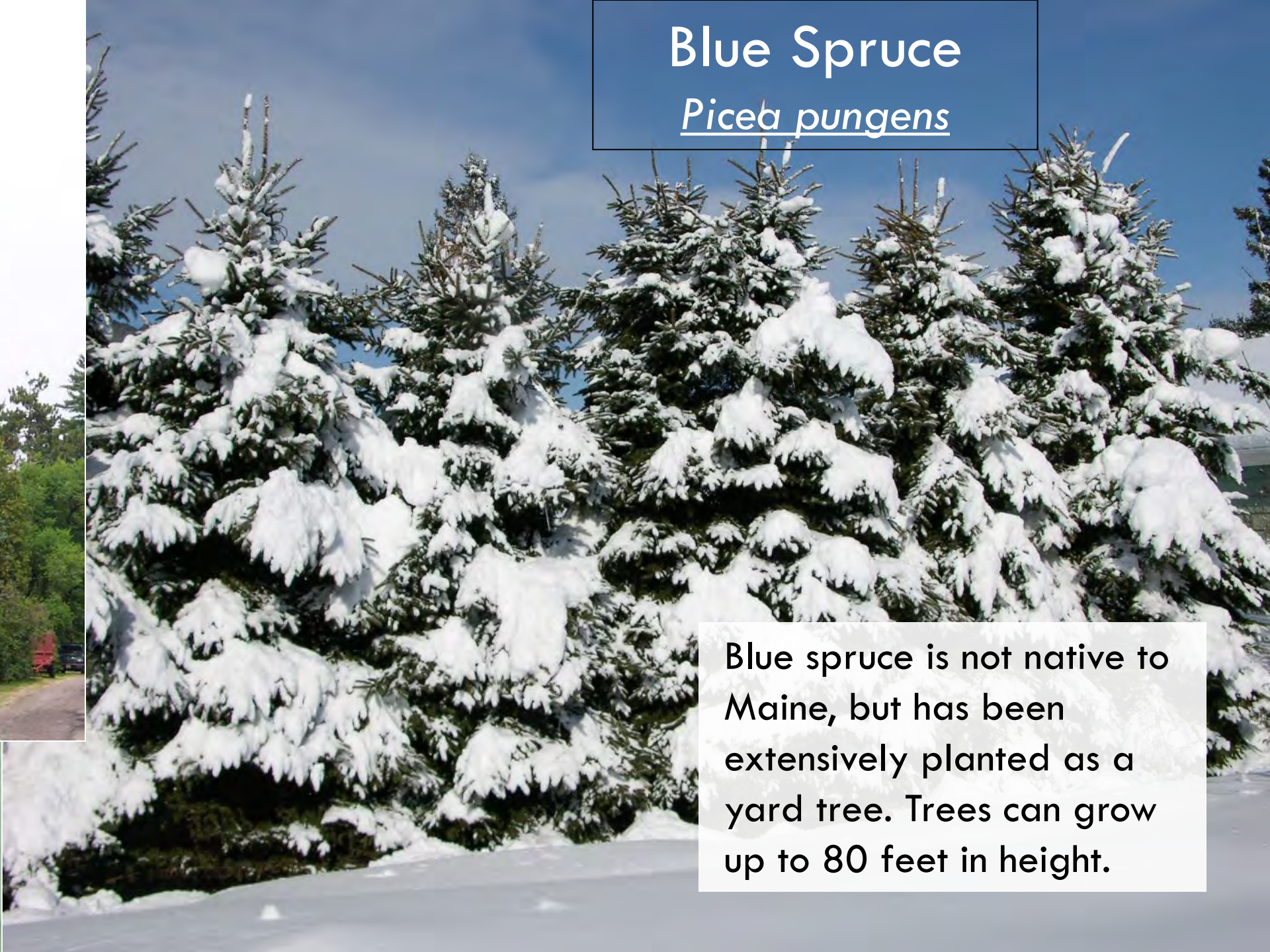
White Spruce

Picea glauca

It is commonly planted and is mostly used to make paper and lumber.



[Click here to return to Conifers index](#)



Blue Spruce

Picea pungens

Blue spruce is not native to Maine, but has been extensively planted as a yard tree. Trees can grow up to 80 feet in height.

[Click here to return to Conifers index](#)



Needle coloration varies from silvery-blue to blue green. Not all individuals show the blue color indicative of the species. Cones can grow up to 4" long with thin, notched scales.

[Click here to return to Conifers index](#)

Photographs not to scale.

Norway Spruce

Picea abies

Branches on larger trees tend to sweep upward. Lateral branches are long and pendulous.

Norway spruce is not native to Maine, but has been extensively planted both for timber and as an ornamental.

[Click here to return to Conifers index](#)



Cones are 4-7"
long and
cylindrical, with
stiff, notched scales.



[Click here to return
to Conifers index](#)

Photographs not
to scale.



Tamarack

[Click here to return
to Conifers index](#)

Tamarack


Larix laricina

Tamarack is the only Maine softwood that loses all its needles every fall. The wood is used for paper making, planking, timbers, pilings, and ship's "knees." At one time it was extensively used for boat building, as the wood is salt water resistant. It is most commonly found in cool, swampy areas.

[Click here to return to Conifers index](#)



Also known as larch, "juniper," hackmatack, or just "hack."

A close-up photograph of a tamarack tree trunk. The bark is highly textured, appearing as a mosaic of small, overlapping scales. The scales are primarily greyish-brown, with many showing a distinct reddish-brown hue, especially at the edges. The texture is rough and peeling. In the background, out of focus, are the dark brown branches and green, needle-like foliage of other trees in the forest.

Tamarack bark
separates into small
reddish-brown scales.

[Click here to return
to Conifers index](#)

In winter, the twigs are bare, with woody spurs from last year's needles and buds for next season's growth.



[Click here to return to Conifers index](#)



In the summer, the needles grow in clusters. They are soft to the touch. In the fall they turn a bright yellow just before dropping.

Cedar

A close-up photograph of cedar foliage, showing several branches with dense, scale-like leaves. The leaves are a vibrant green color, and the branches are a reddish-brown hue. The background is a soft, out-of-focus green, suggesting a natural outdoor setting.

[Click here to return to Conifers index](#)

Northern White Cedar

Thuja occidentalis

Cedar is most abundant in northern and eastern sections of Maine, preferring alkaline soils. It can usually be found in swamps, along streams, and in old pastures with moist soils.

Cedar is used for products requiring weather resistance, such as shingles, shakes and fencing.

[Click here to return to Conifers index](#)





The scale-like leaves (needles) are small, only 1/8" long and blue-green in color.

[Click here to return to Conifers index](#)



The bark is reddish brown, separating into long stringy strips.

$\frac{1}{8}$

Photographs not to scale.



Identifying Maine Trees

Of the 65 species of native Maine trees, the remaining 51 are classified as **broadleaves**.

Broadleaves are also referred to as **deciduous**, or **hardwood** trees.





Common Maine Broadleaves

BROADLEAVES

- [Maple](#) (page 70)
 - [Red](#) (page 72)
 - [Sugar](#) (page 74)
 - [Silver](#) (page 76)
 - [Norway](#) (page 82)
 - [Boxelder](#) (page 84)
 - [Striped](#) (page 78)
- [Birch](#) (page 86)
 - [White](#) (page 88)
 - [Gray](#) (page 90)
 - [Yellow](#) (page 92)
- [Oak](#) (page 106)
 - [Northern Red](#) (page 108)
 - [White](#) (page 116)
- [Ash](#) (page 127)
 - [White](#) (page 128)
 - [Green](#) (page 130)
- [American Basswood](#) (page 134)
- [American Beech](#) (page 104)
- [Aspen/Poplar](#) (page 61)
 - [Trembling/Quaking](#) (page 62)
 - [Bigtooth](#) (page 64)
- [Black Cherry](#) (page 142)
- [Hornbeam](#) (page 98)
 - [Eastern Hophornbeam](#) (page 98)
 - [American](#) (page 100)



Maple



[Click here to return to Broadleaves index](#)



Red Maple

Acer rubrum

Red maple is also called White, Soft, or Swamp maple.

A very prolific tree, 90% of the maples found in Maine are Red maple.

The bark on larger trees is rough, dark-gray and ridged. On young trees it is smooth and light gray.

The wood is used for paper making, pallets, furniture, and turnery parts. Red maple sap may also be used to produce maple syrup.



[Click here to return to Broadleaves index](#)

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Red maple leaves are **5-lobed**, as are most native maples (except Boxelder). The two lower lobes are not conspicuous. Margins are irregularly double-toothed.



[Click here to return to Broadleaves index](#)

Photographs not to scale.

Buds are opposite, as on all maples. Buds, flowers and twigs are quite red, which is where the name “Red maple” comes from. Bud scales are large.



Sugar Maple

Acer saccharum

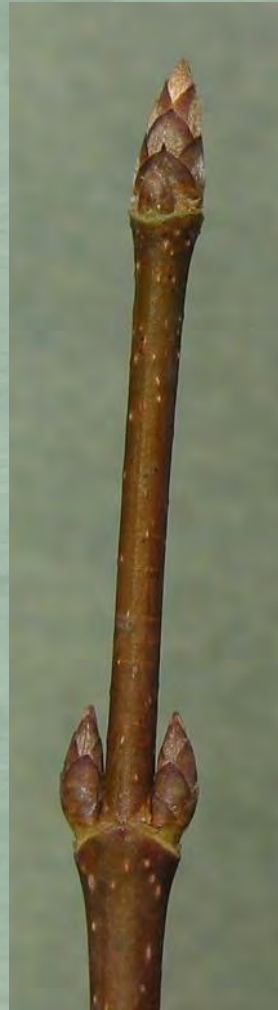
Also called Rock maple, or Hard maple. It is principally known for making maple syrup and for fine furniture and flooring.

[Click here to return to Broadleaves index](#)



Sugar maple buds (left) can easily be distinguished from Red maple (right). Sugar maple buds and twigs are brown, not red, and bud scales are small, numerous and pointed.

Sugar maple

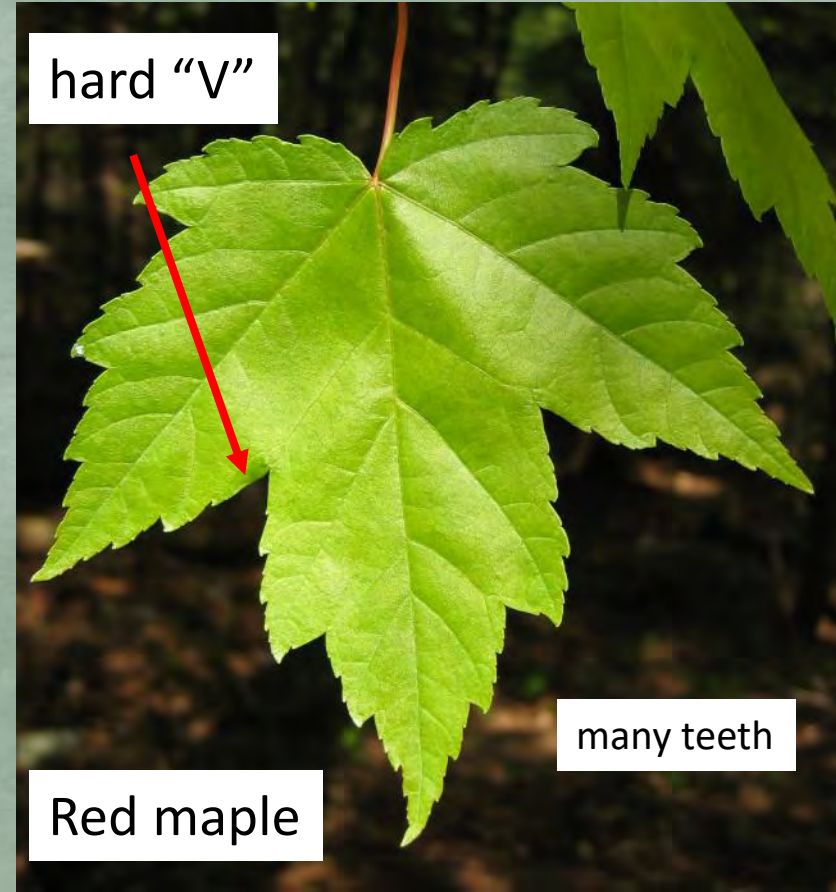
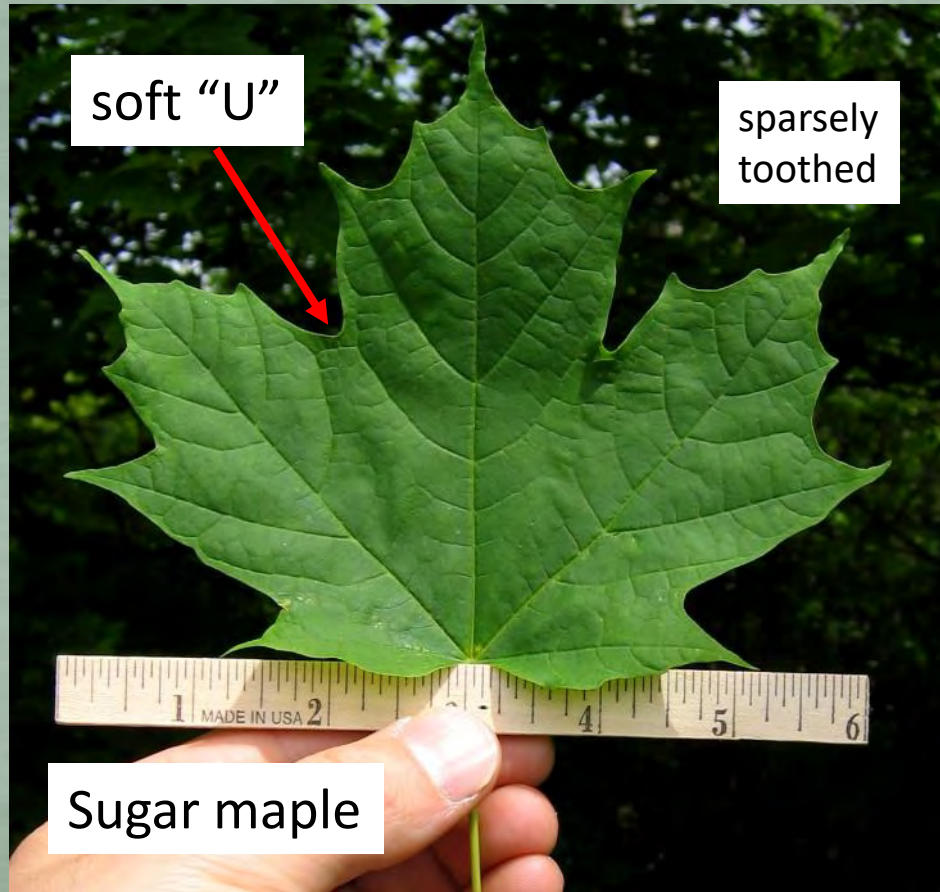


Red maple



Sugar maple leaves differ from Red maple leaves by:

1. The junction of the major lobes
soft “U” = Sugar maple
hard “V” = Red maple
2. Sparsely toothed = Sugar maple.
Many teeth = Red maple.
3. The Sugar maple leaf’s lower lobes are more conspicuous.



[Click here to return
to Broadleaves index](#)

Silver Maple
Acer saccharinum

The leaves are opposite,
deeply 5-lobed, and have
irregular and sharply toothed





The bark on young trees is smooth and gray. On older trees (shown here) it is reddish-gray, furrowed and separated into large thin scales, loose at the bottom.



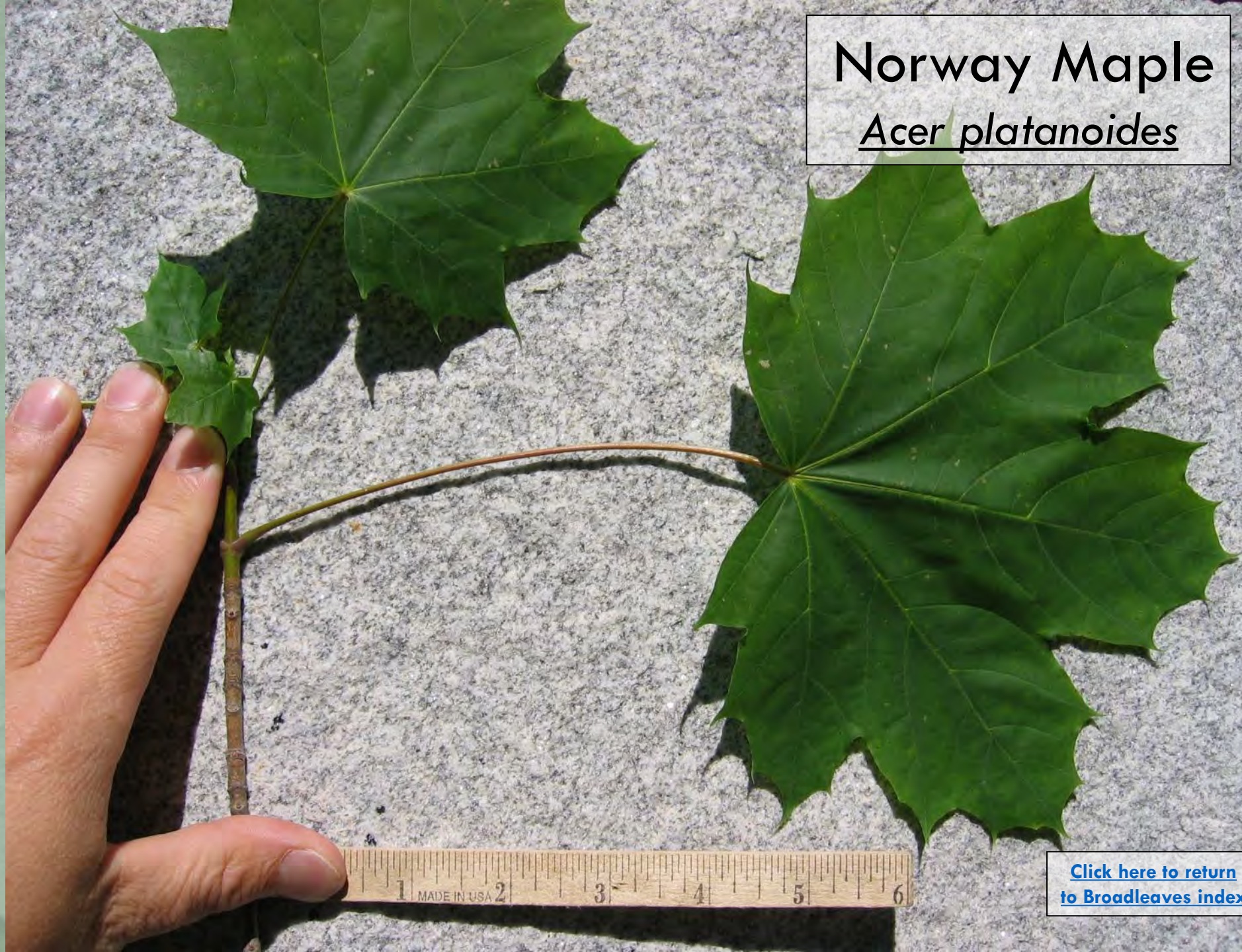
Twigs are chestnut brown and shiny, with opposite buds.



Fruit is paired, winged and ripens in the spring. Often one of the pair does not fully develop.

Norway Maple

Acer platanoides



[Click here to return to Broadleaves index](#)

Norway maple is not native to Maine. It has been widely planted across Maine as a street and shade tree. Because it aggressively tries to take over forest stands, it is considered a serious potential threat to native trees and shrubs. It is no longer sold in the state.

Leaves are opposite, and a very dark green. Early in summer the stem will exude a white, milky sap when broken, unlike any native maple. This is a distinct difference from the Sugar maple.



On older trees the bark is gray-brown, almost black, and broken into long, interlacing vertical furrows.



Bark on young trees is smooth and gray.



Fruit are paired and diverge at a wide angle.

Boxelder

Acer negundo

Boxelder, or Ashleaf maple, or Ashleaf maple is not native to Maine, but has been planted as an ornamental throughout the state. Unlike other maples, the leaves are compound like ash leaves, and opposite. Leaflets vary widely in shape, with both lobed and unlobed leaflets on the same leaf.



[Click here to return to Broadleaves index](#)

[Click here to return to Broadleaves index](#)



Bark on young stems is smooth and light gray, becoming roughened and shallow-fissured on older trees, again similar to ash (as shown here).

Twigs are smooth and stout, green or maroon, and covered with a white, chalky bloom.



Fruit matures in the autumn, and is very abundant.

[Click here to return to Broadleaves index](#)

Also known as “moosewood,” because moose like to chew on the bark. Other wildlife will also feed on the bark and buds.

It prefers deep shade and rich soils.

Striped maple has very little commercial value.

Leaves are large (5-6”) and 3-lobed, resembling a goose’s foot.

Buds are opposite. Twigs are smooth, reddish or greenish, buds valve like, stalked and without hairs.



Striped Maple

Acer pensylvanicum



Birch



[Click here to return to Broadleaves index](#)

White Birch

Betula Papyrifera

Also known as paper, or canoe birch.

White birch is one of several “pioneer” species, first to revegetate open areas after fires, clearcuts, etc. It does not tolerate shade.

It is primarily used in the turnery industry.



[Click here to return to Broadleaves index](#)

Gray Birch

Betula populifolia

Gray birch is a small, short lived tree, rarely exceeding 8" in diameter. It is found throughout the state, usually growing in clumps in open areas. It has little commercial value.

[Click here to return to Broadleaves index](#)



Gray birch leaves are 2–3" long, triangular with a sharp point and flat base.



Gray birch



White birch

A Gray birch leaf is compared to a White birch leaf.

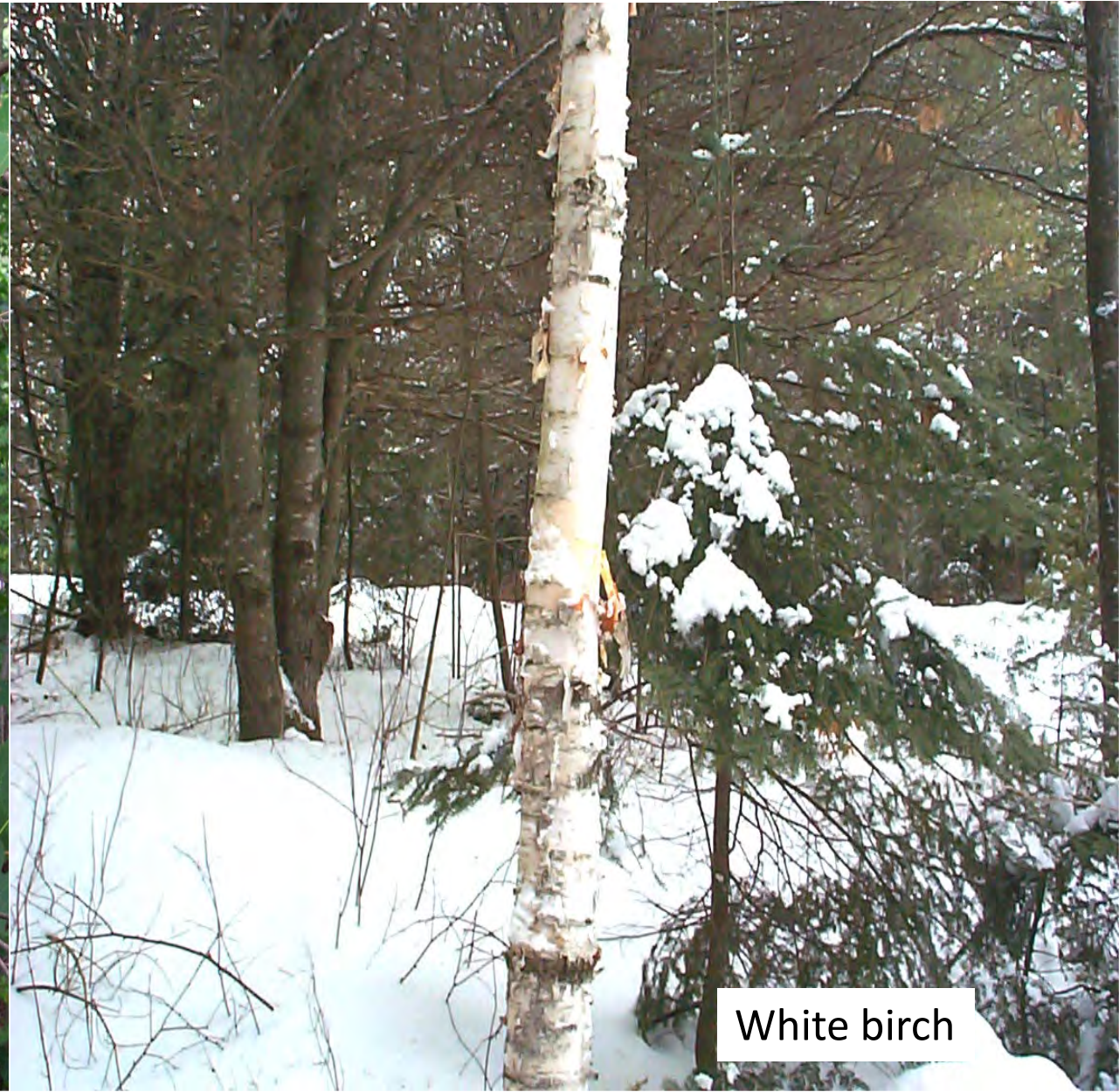
[Click here to return to Broadleaves index](#)

[Click here to return to Broadleaves index](#)

Another difference between Gray and White birch is that the bark of White birch readily peels, whereas, the Gray birch bark is tight.



Gray birch



White birch

[Click here to return to Broadleaves index](#)

Yellow Birch

Betula alleghaniensis

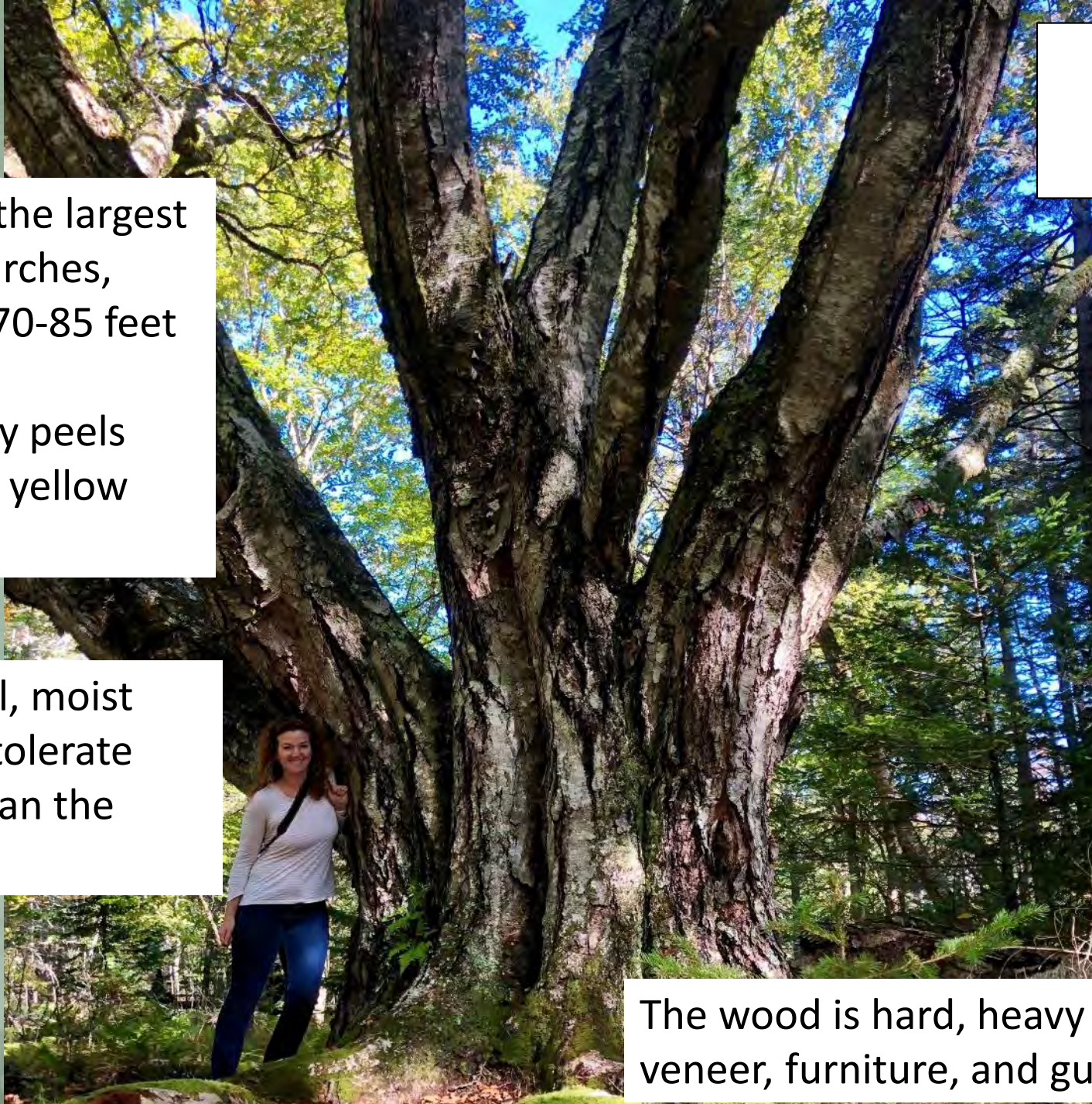


Yellow birch is the largest of our native birches, growing up to 70-85 feet in height.

The bark readily peels and is a golden yellow color.

It grows in cool, moist sites, and will tolerate more shade than the other birches.

The wood is hard, heavy and strong. It is used for veneer, furniture, and gunstocks.





Flowers are in catkins, in winter there are 3-4 preformed catkins on the shoots.



Yellow birch leaves are similar to White birch, but are longer. The twigs have a distinctive wintergreen odor/flavor when crushed.

Oak

A close-up photograph of three green oak acorns on a branch. The acorns are unripe and have a smooth, light green surface. They are attached to a brown, textured cupule. The leaves are dark green with prominent veins and characteristic lobed edges. The background is a soft-focus green, suggesting a natural outdoor setting.

[Click here to return to Broadleaves index](#)

Oaks in Maine are classified into two main groups:

The Black oak group (sometimes called the Red oak group) is characterized by:

- Sharply tipped leaf lobes
- Acorns mature in two years
- The inside of the acorn's shell is hairy.

The White oak group is characterized by:

- Rounded leaf lobes
- Acorns mature in one year
- The inside of the acorn's shell lacks hairs.

Northern Red Oak

Quercus rubra

This is the most common oak found in Maine. It is predominately found in the southern half of the state.

The wood is strong, hard and heavy. It is used for veneer, furniture, lobster traps, and pilings.

Red oak grows best on rich upland soils.

The bark is dark brown or gray, with shallow vertical ridges. The inner bark is red



[Click here to return to Broadleaves index](#)

The buds, like all oaks, cluster at the end of the twig. They also have sharp points.



[Click here to return to Broadleaves index](#)

Red oak is a member of the Black oak group, whose leaf lobes are sharp and pointed.



[Click here to return
to Broadleaves index](#)

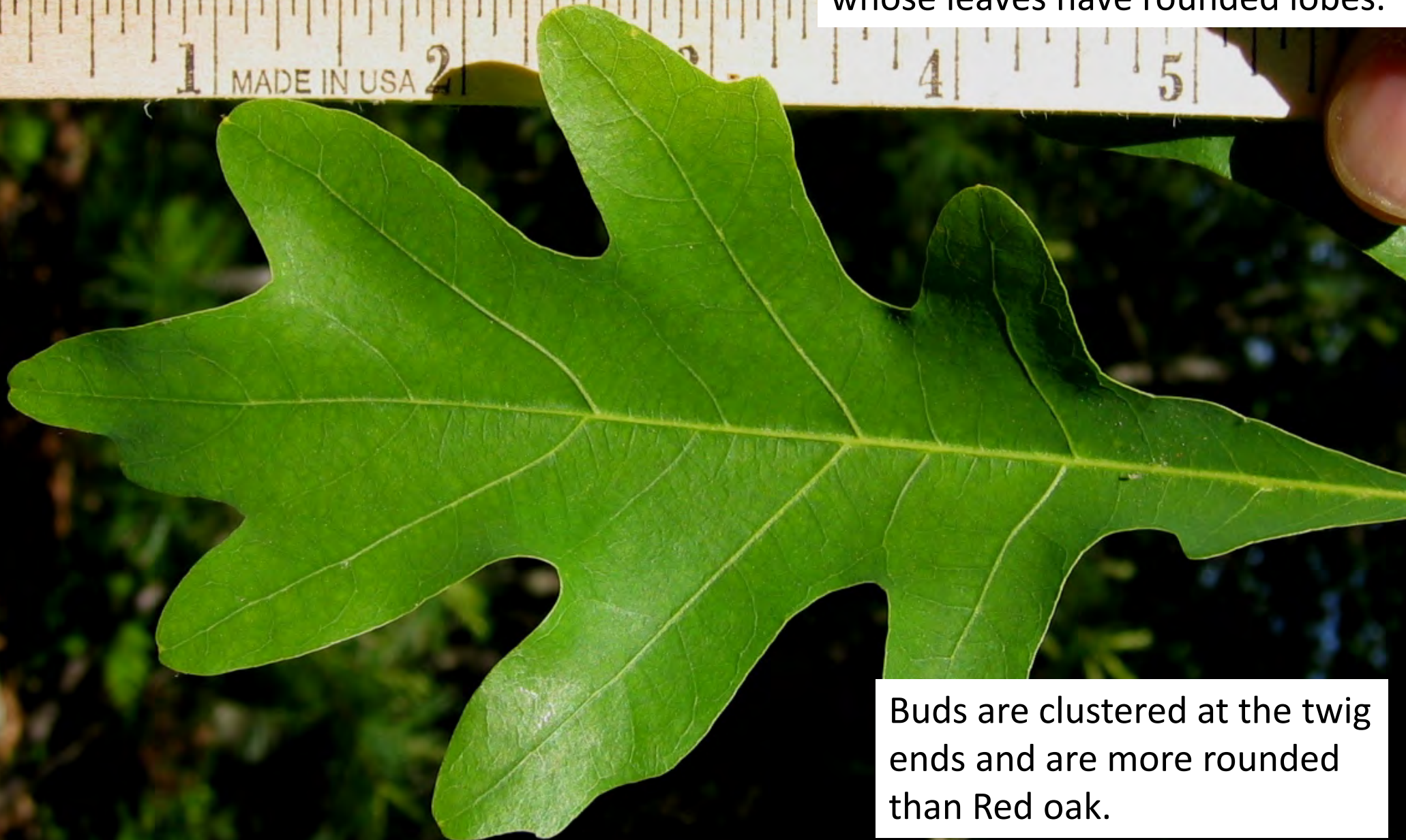
White Oak

Quercus alba



White oak grows in southern and central Maine. It can grow on sandy, gravel ridges, but like Red oak, grows best on rich soils. It is used for ship building, cooperage, interior finish and veneer.

White oak is a member of the White oak group, whose leaves have rounded lobes.



Buds are clustered at the twig ends and are more rounded than Red oak.



[Click here to return to Broadleaves index](#)

Ash



White Ash

Fraxinus americana



White ash is one of Maine's most valuable timber trees and is found commonly throughout the state, usually on rich, fertile soils.

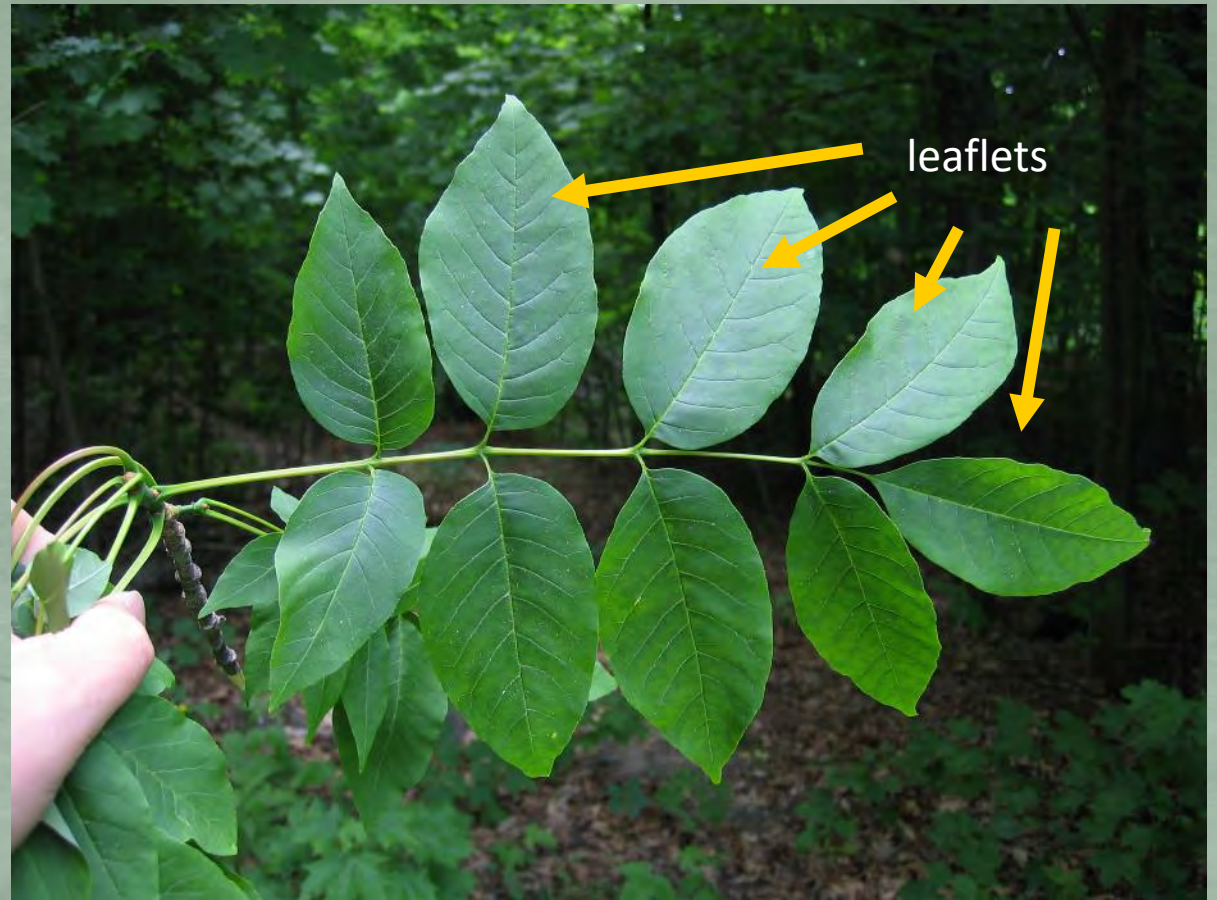
The bark is rough, separated into deep vertical furrows, even on young trees. The inner layer of the bark is brick red.

[Click here to return to Broadleaves index](#)

Twigs are stout.
The buds are
opposite, like
maple.



Ash leaves are compound, which means they have
“leaflets” growing from one central stem. White
ash has **5–9** leaflets.



This is all one leaf!

Photographs not to scale.

[Click here to return
to Broadleaves index](#)

Green Ash

Fraxinus pennsylvanica

Green (or Red) ash occurs over much of the state, although not as abundantly as White ash. It is sometimes mistaken for Black ash.

Bark on older trees is dark gray or brown and firm, with vertical interlacing grooves (as shown here).

[Click here to return to Broadleaves index](#)



Leaves are **10-12"** long with **7-9** leaflets per leaf.



Unlike White ash, the underside of the leaflets have fine hairs.



[Click here to return to Broadleaves index](#)

Photographs not to scale.

Twigs are greenish-gray and are often covered with numerous hairs.



The stem is also often covered in fine hairs.



[Click here to return to Broadleaves index](#)

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Basswood



[Click here to return to Broadleaves index](#)

American Basswood

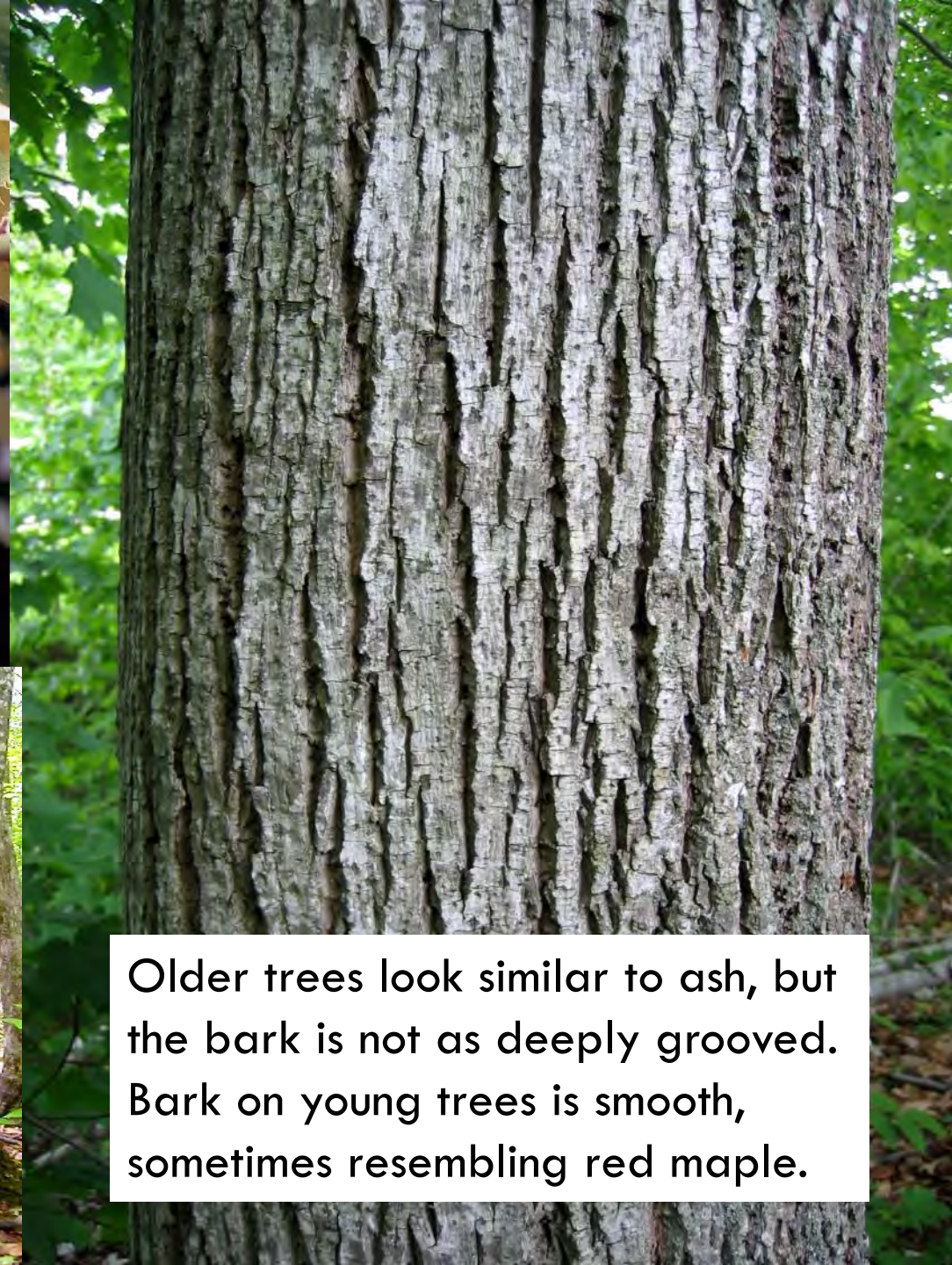
Tilia americana

Also called Linden, or American linden, Basswood is found in small pockets scattered throughout the state.

The wood is soft with a uniform white color, making it a sought-after wood for decoy and bird carvers.

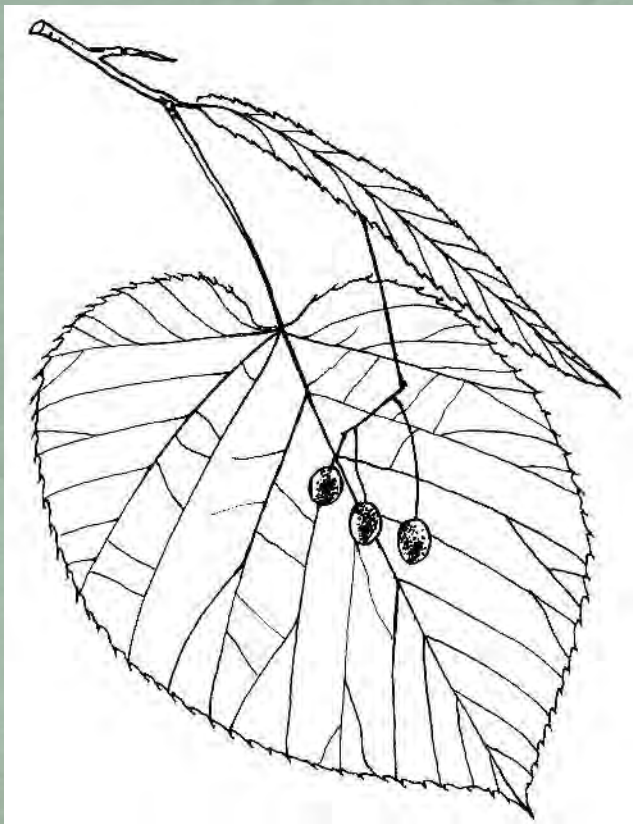
Bees make excellent honey from the nectar.

[Click here to return to Broadleaves index](#)

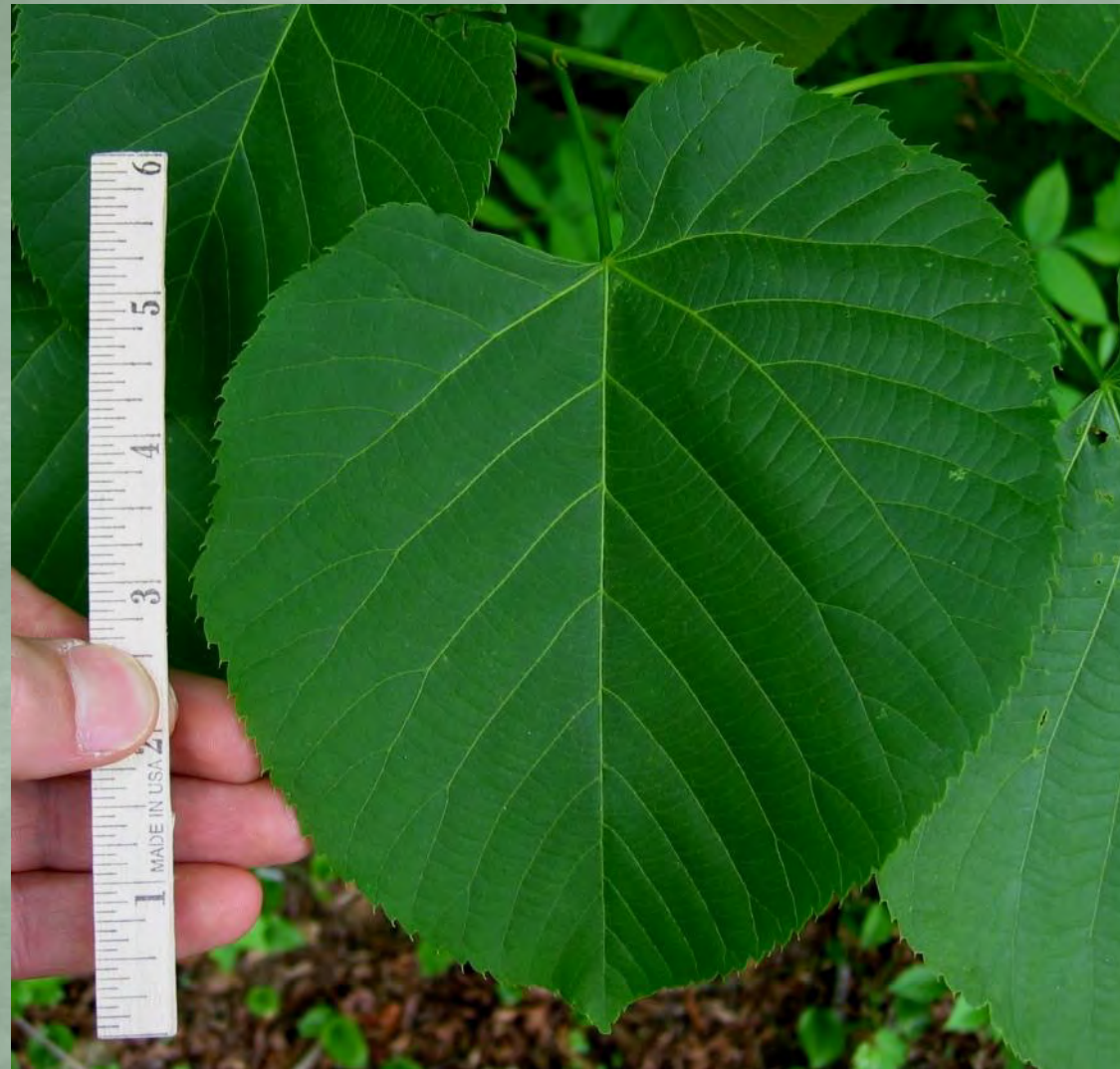


Older trees look similar to ash, but the bark is not as deeply grooved. Bark on young trees is smooth, sometimes resembling red maple.

Basswood buds are alternate, with large shiny cone-shaped terminal buds.



The leaves are simple, large (5-6") and heart-shaped, usually with an uneven base.



[Click here to return to Broadleaves index](#)

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Beech



[Click here to return to Broadleaves index](#)

[Click here to return to Broadleaves index](#)

American Beech

Fagus grandifolia

Beech leaves can stay attached on the tree all winter.

The wood is used for clothespins, dowels, flooring, furniture, and firewood.

Beech is very common throughout Maine. Beech trees like deep shade.



Beech bark is normally gray and smooth (left), but many of the native beech trees have been affected by beech bark disease, leaving them pockmarked with small cankers (right).



[Click here to return to Broadleaves index](#)

Beech leaves are **3-5"** long, pointed, with coarse teeth and straight margins between the teeth.



Buds are long, spear-shaped, and usually at right angles to the twig.



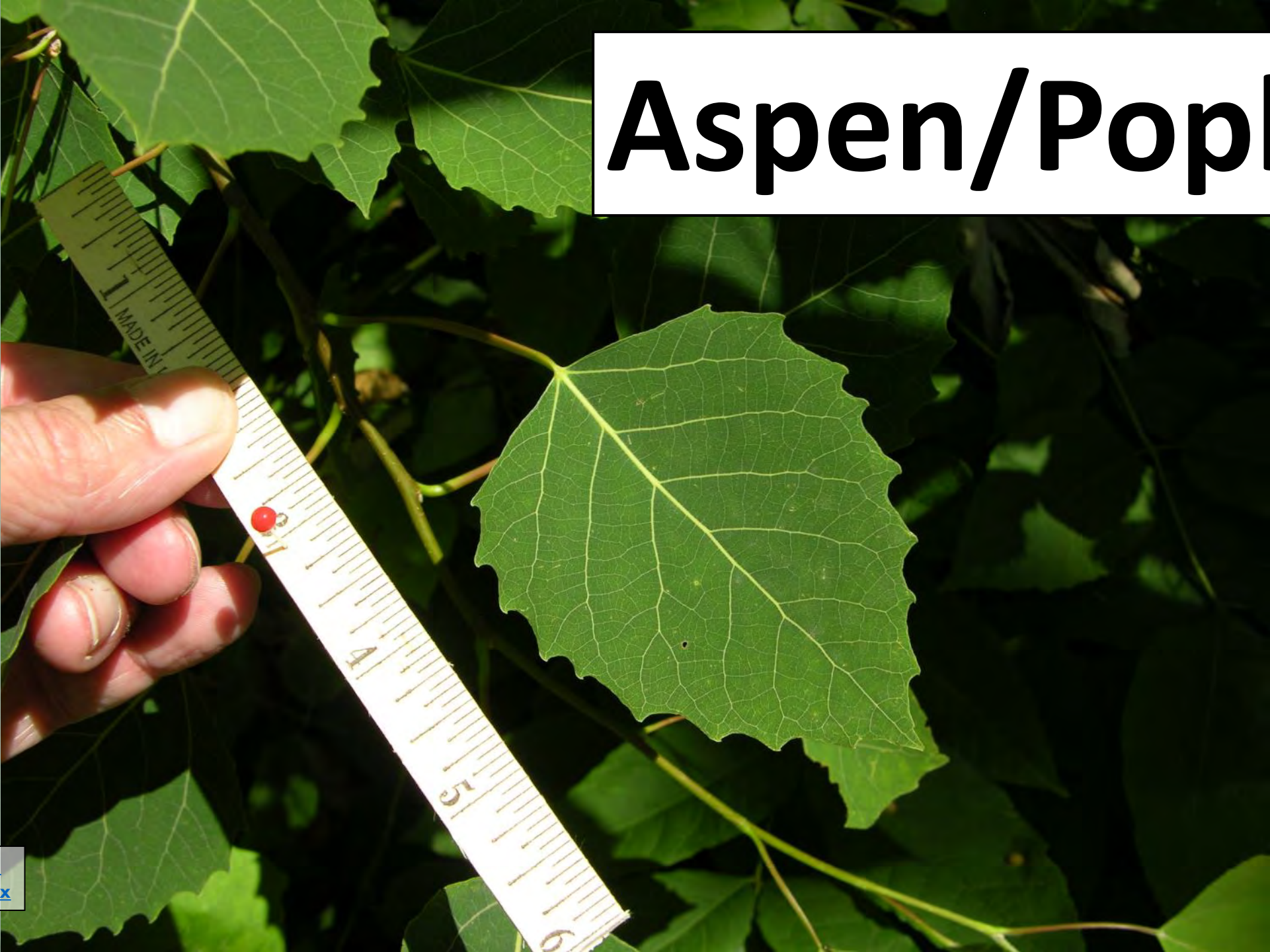
Fruit is a but with 2 nuts, highly valuable to wildlife.



[Click here to return to Broadleaves index](#)

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Aspen/Poplar



[Click here to return to Broadleaves index](#)

Trembling Aspen

Populus tremuloides

Also called “Quaking aspen” because the leaves tremble, or quake, in the slightest breeze.

The bark is smooth, gray-green.

It grows best on sandy, moist soils.

Aspens, and their relatives the poplars, are often called “popple.”



Like Paper birch, it is a pioneer species, preferring lots of sunlight.

[Click here to return to Broadleaves index](#)



The Trembling aspen leaf is almost circular, with fine teeth and a flattened stem, which causes the “trembling” effect.

Buds are dark brown, have a varnished appearance and may be sticky.



Bigtooth Aspen

Populus grandidentata

The bark is similar in appearance to the Trembling aspen. The margins of the Bigtooth leaves have large, coarse teeth, unlike the fine teeth of the Trembling aspen.



[Click here to return to Broadleaves index](#)

[Click here to return
to Broadleaves index](#)

Cherry



Only one of the cherries, the **Black Cherry**, grows to commercial size in Maine, and will be used to represent the family here.



Other members of the cherry family in Maine include:

- **Pin Cherry** (*Prunus pensylvanica*). Pin cherry is common throughout the state, but has little value except as a protection and cover for the soil on recent clearings or burned areas.
- **Common Chokecherry** (*Prunus virginiana*). Usually a shrub or small tree, chokecherry occurs throughout the state, especially along fence rows in farming communities.

[Click here to return to Broadleaves index](#)

Black Cherry

Prunus serotina

Black cherry is common throughout the state. It can be a valuable timber tree, but it is usually poorly formed in Maine, the northern edge of its range.

The bark on older trees is black, broken into small, irregular plates (as shown here).



[Click here to return to Broadleaves index](#)

Black cherry leaves are oblong, widest at the center, finely toothed, dark green, shiny, thick, somewhat leathery and **2-5"** long.



Rusty hairs along the mid-vein on the back of the leaf are a good identifier.



Photographs not to scale.

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207-287-2791

www.maineforestservice.gov

Email: forestinfo@maine.gov