Tree Identification for Beginners

March 16, 2021

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Dutchess Land Conservancy

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Cary Institute of Ecosystem Studies

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Overview

1. Introduction to tree identification
2. Learn how to use a simple ID key
3. Identification of
    - Alternate branching deciduous trees
    - Evergreen trees
    - Opposite branching deciduous trees
4. Q&A

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Overview

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Why Bother?

Trees Matter

Wildlife habitat

Forest products

Outdoor recreation

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Why Bother?

Trees Work Hard

Generate and preserve soils

Produce oxygen and filter air

Filter and purify water

Erosion control

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Why Bother?

Trees Are In Trouble

Chestnut blight

Dutch elm disease

Butternut canker

Dogwood anthracnose

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Why Bother?

Trees Are In Trouble

Hemlock woolly adelgid

Asian long-horned beetle

Beech bark disease

Emerald ash borer

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Tree-SMART Trade

Fighting the importation of forest pests with policy, education, and action

#StopForestPests

Follow us @treeSMARTtrade

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Learn more at TreeSmartTrade.org

TreeSMART Trade

5 actions to reduce the accidental importation of insects and diseases from international trade:

Switch to pest-free packaging materials for international shipments to the US.

Minimize new pest outbreaks by expanding early and rapid response programs.

Augment international pest prevention programs with key trade partners.

Restrict the importation of live plants in the same genera as native woody plants in the US.

Tighten enforcement of penalties for non-compliant shipments.

TreeSmartTrade.org

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Why Bother?

Trees Are Cool!!

Shading and cooling

Endlessly interesting

Good neighbors

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Meet The Neighbors

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Meet The Neighbors

One at a time…

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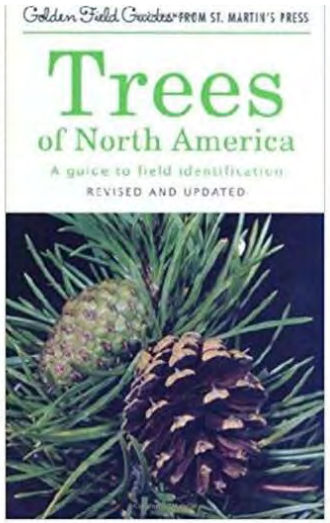
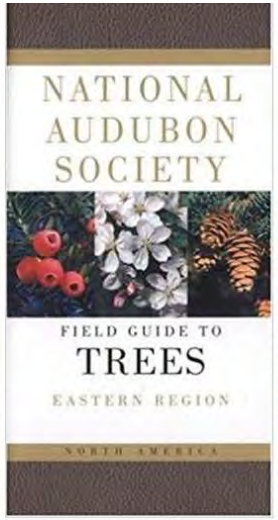
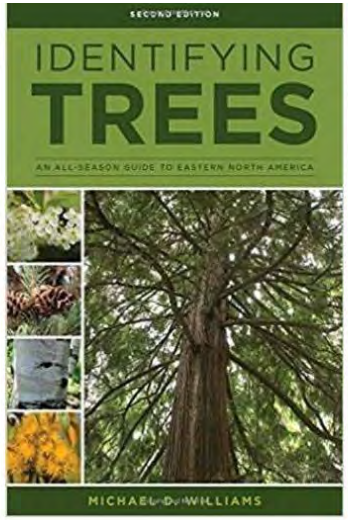
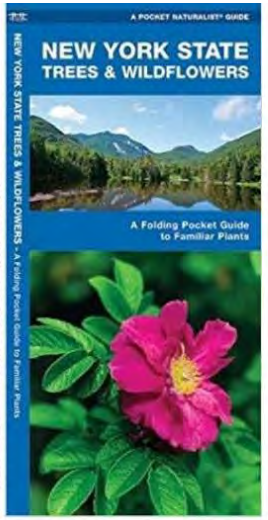
Field Guides

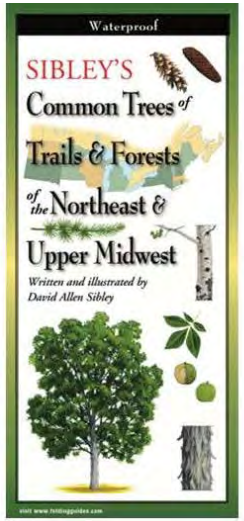
Beginner Tree Guides

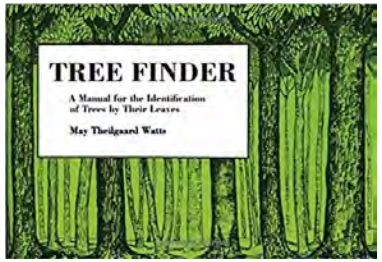


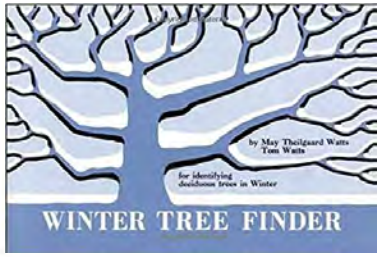




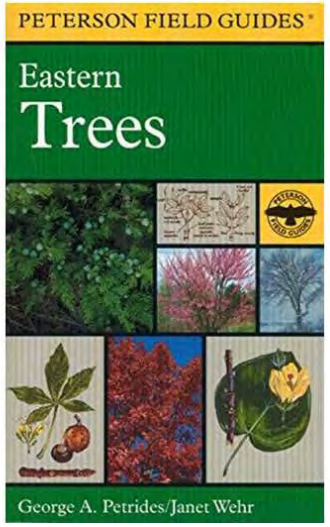


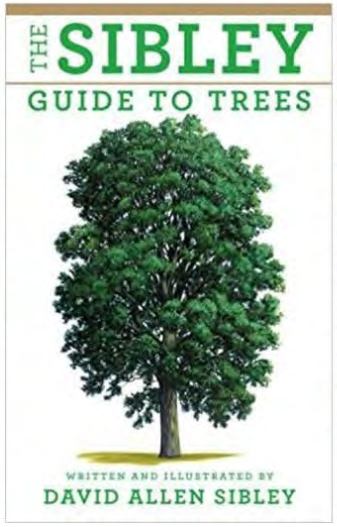






Advanced Tree Guides





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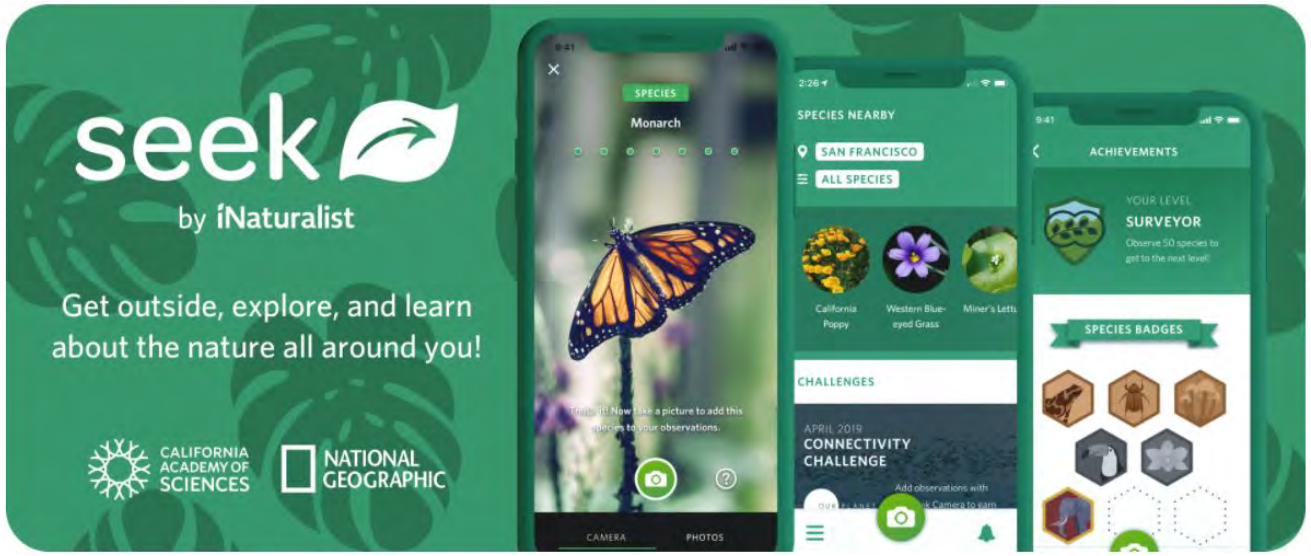
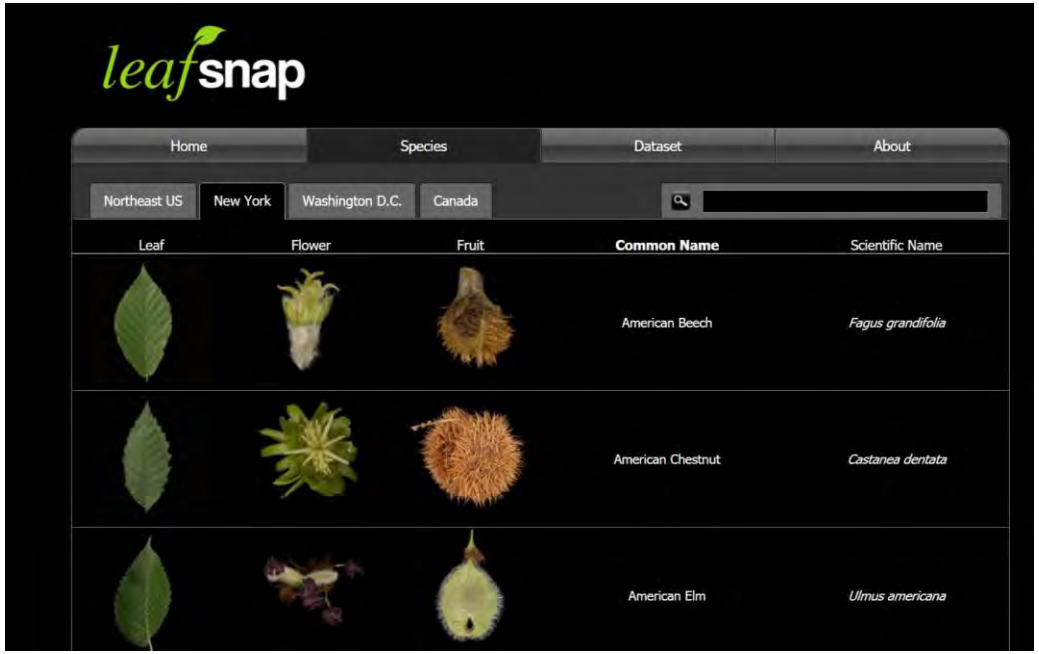
Field Guides

There's an app for that!





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Seasonal Variation

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Distinctive Character

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Distinctive Character

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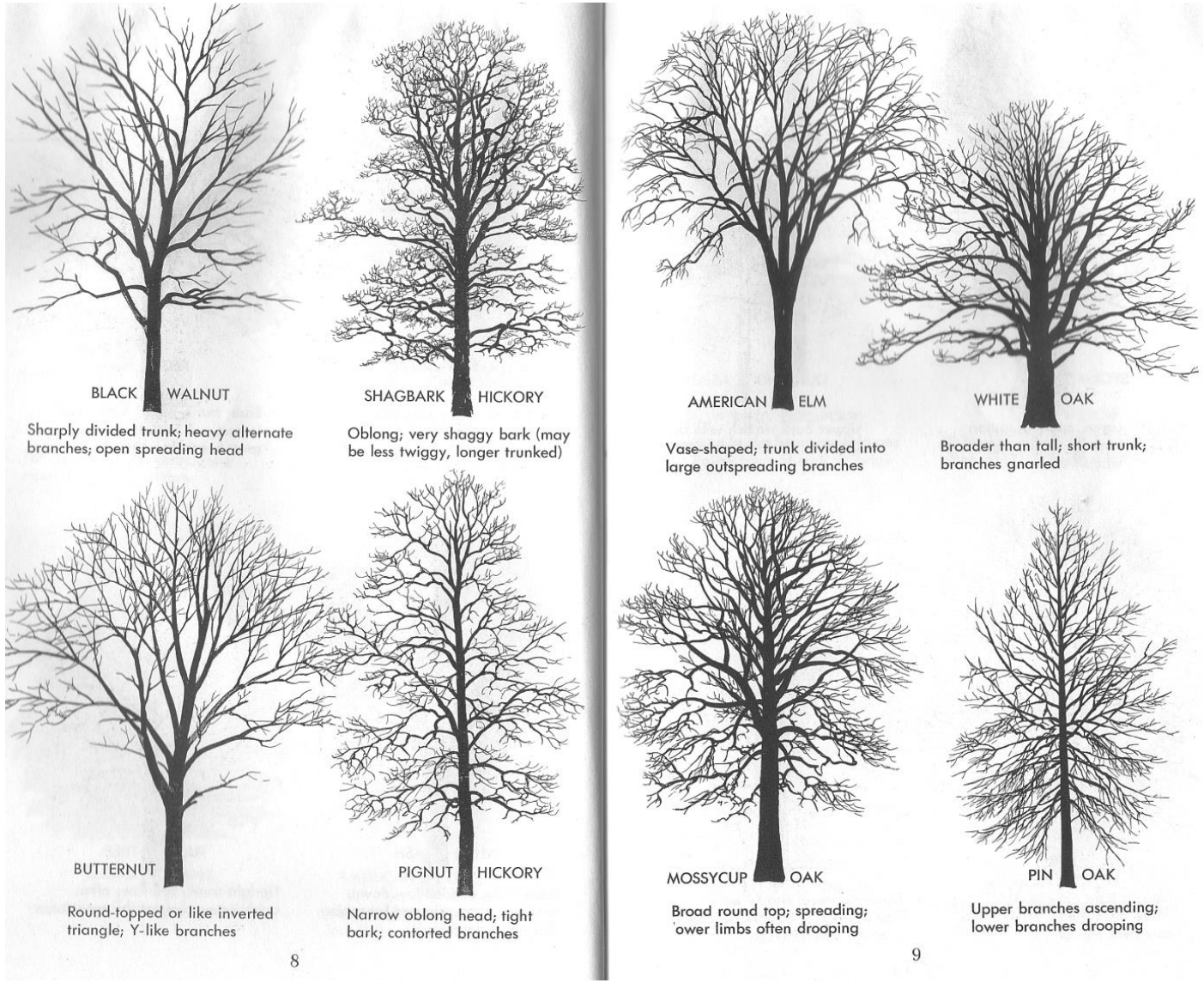
Distinctive Character



After Petrides, George A Field Guide to Trees and Shrubs. 2nd ed., Houghton Mifflin Co., Boston. 428pp. 1972.

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Distinctive Character

After Wojtech, Michael
BARK: A Field Guide to Trees of the Northeast
University Press of New England, 2011

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Distinctive Character

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Distinctive Character

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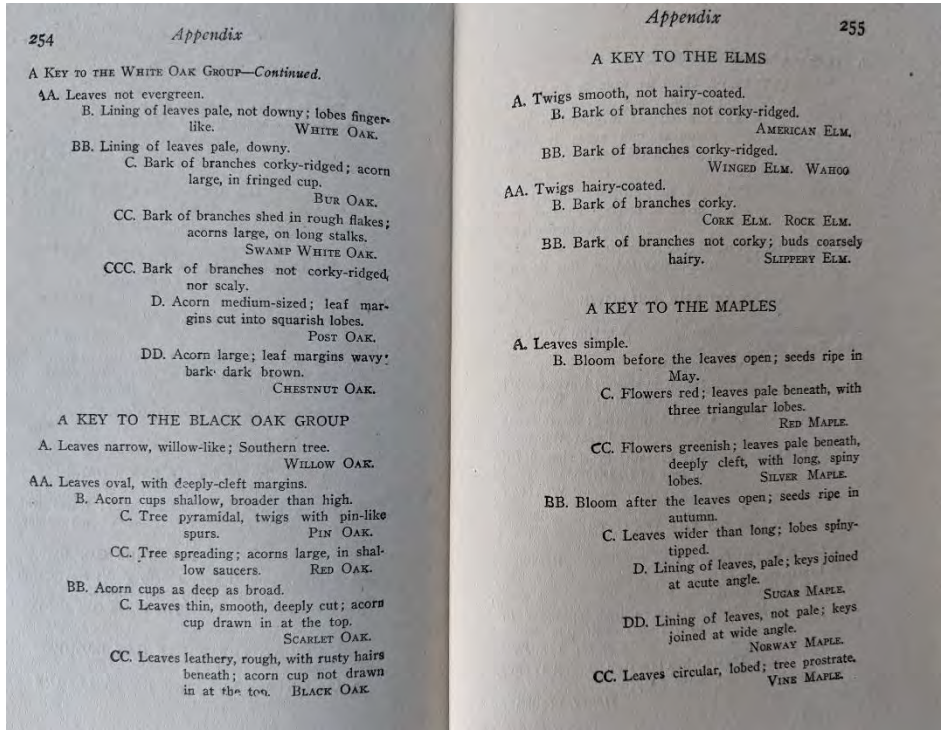
Using A Key



254 *Appendix*

A KEY TO THE WHITE OAK GROUP—*Continued.*

AA. Leaves not evergreen.
B. Lining of leaves pale, not downy; lobes finger-like. WHITE OAK.
BB. Lining of leaves pale, downy.
C. Bark of branches corky-ridged; acorn large, in fringed cup. BUR OAK.
CC. Bark of branches shed in rough flakes; acorns large, on long stalks. SWAMP WHITE OAK.
CCC. Bark of branches not corky-ridged, nor scaly.
D. Acorn medium-sized; leaf margins cut into squarish lobes. POST OAK.
DD. Acorn large; leaf margins wavy; bark dark brown. CHESTNUT OAK.

A KEY TO THE BLACK OAK GROUP

A. Leaves narrow, willow-like; Southern tree. WILLOW OAK.
AA. Leaves oval, with deeply-cleft margins.
B. Acorn cups shallow, broader than high.
C. Tree pyramidal, twigs with pin-like spurs. PIN OAK.
CC. Tree spreading; acorns large, in shallow saucers. RED OAK.
BB. Acorn cups as deep as broad.
C. Leaves thin, smooth, deeply cut; acorn cup drawn in at the top. SCARLET OAK.
CC. Leaves leathery, rough, with rusty hairs beneath; acorn cup not drawn in at the top. BLACK OAK

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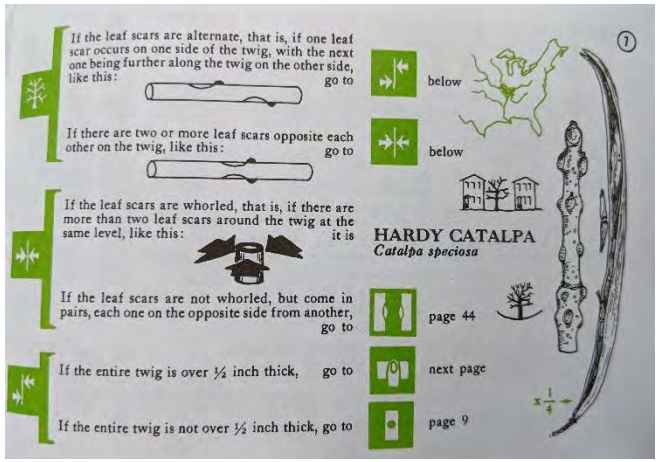
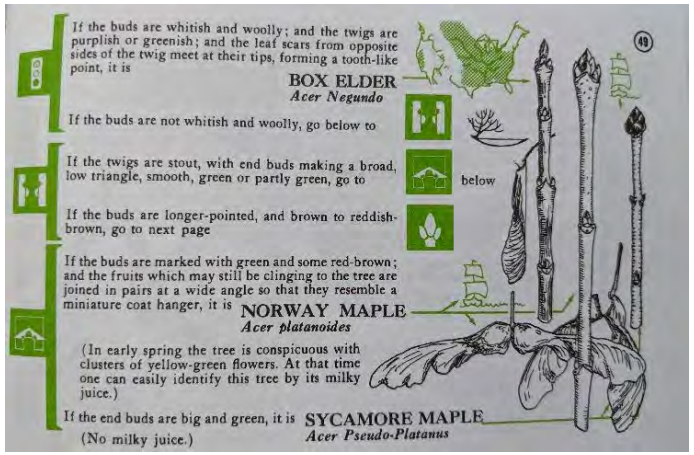
A KEY TO THE ELMS

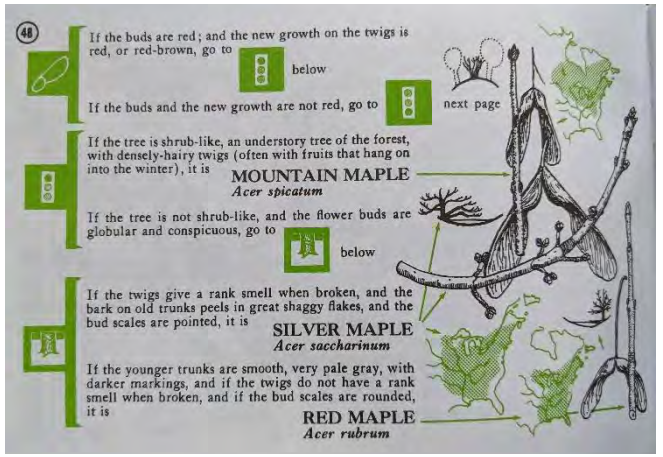
A. Twigs smooth, not hairy-coated.
B. Bark of branches not corky-ridged. AMERICAN ELM.
BB. Bark of branches corky-ridged. WINGED ELM. WAHOO
AA. Twigs hairy-coated.
B. Bark of branches corky. CORK ELM. ROCK ELM.
BB. Bark of branches not corky; buds coarsely hairy. SLIPPERY ELM.

A KEY TO THE MAPLES

A. Leaves simple.
B. Bloom before the leaves open; seeds ripe in May.
C. Flowers red; leaves pale beneath, with three triangular lobes. RED MAPLE.
CC. Flowers greenish; leaves pale beneath, deeply cleft, with long, spiny lobes. SILVER MAPLE.
BB. Bloom after the leaves open; seeds ripe in autumn.
C. Leaves wider than long; lobes spiny-tipped.
D. Lining of leaves, pale; keys joined at acute angle. SUGAR MAPLE.
DD. Lining of leaves, not pale; keys joined at wide angle. NORWAY MAPLE.
CC. Leaves circular, lobed; tree prostrate. VINE MAPLE.







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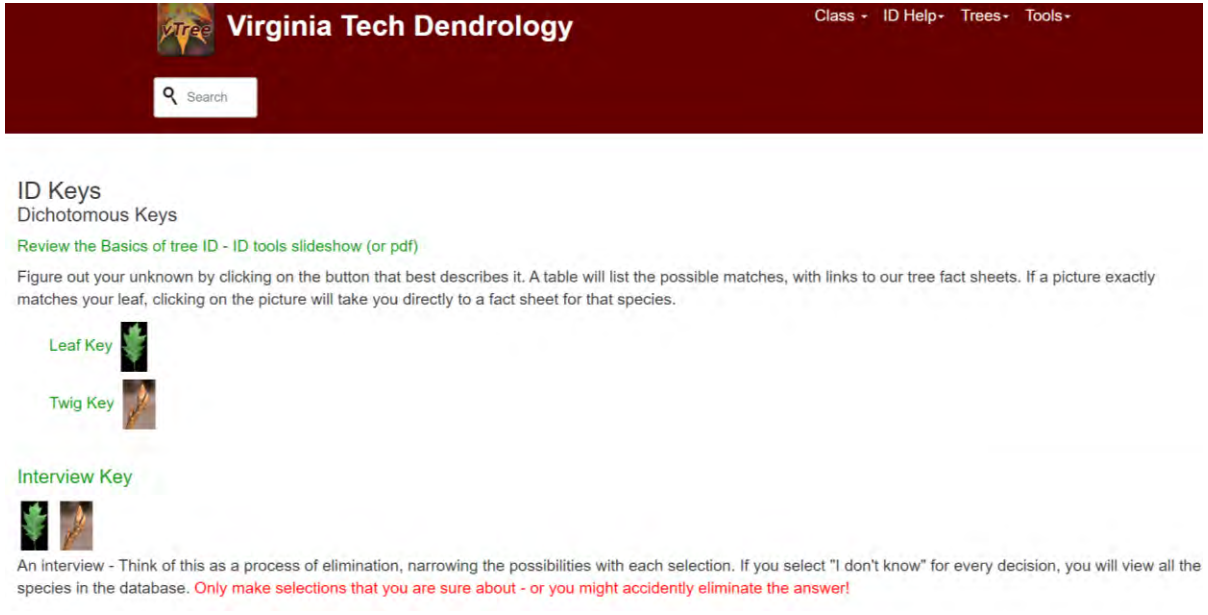
Using A Key

Online Options



www.arborday.org/trees/whatTree/ **https://dendro.cnre.vt.edu/dendrology/idit.htm**

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Using A Key

KEY BASED ON WINTER CHARACTERISTICS

		Page
1.	Leaves evergreen. (2)	
1a.	Leaves deciduous. (11)	
2.	Leaves with broad and flat blades. (3)	
2a.	Leaves linear, needle-like, scale-like, or awl-like. (5)	
3.	Leaves with spiny-toothed margins .....AMERICAN HOLLY *(Ilex opaca)*	269
3a.	Leaves with entire margins. (4)	
4.	Leaves 5 or more inches long; large terminal flower buds usually present ....GREAT LAUREL *(Rhododendron maximum)*	314
4a.	Leaves 4 inches or less in length .....MOUNTAIN LAUREL *(Kalmia latifolia)*	317
5.	Leaves needle-like. (6)	
5a.	Leaves other than needle-like. (7)	
6.	Leaves in bundles of 2 to 5 .....PINES *(Pinus)*	49
6a.	Leaves scattered, stiff, more or less 4-sided .....SPRUCES *(Picea)*	69

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Tree Identification for Beginners: Deciduous, Alternate

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Tree Identification for Beginners: Deciduous, Alternate

Northern Red Oak (*Quercus rubra*)

- Large tree, can grow to over 100’ tall.
- Acorns provide food for wildlife.
- Common and widespread, grows mainly in uplands.

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Tree Identification for Beginners: Deciduous, Alternate

Northern Red Oak (*Quercus rubra*)

- Twigs short and stout with clusters of buds at the tips.
- Acorns 1”, have shallow, tightly scaled cups.

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Tree Identification for Beginners: Deciduous, Alternate

Northern Red Oak (*Quercus rubra*)

- Young bark greenish grey with narrow, vertical cracks.
- Older tree has smooth, flat, lighter ridges intersecting with rough furrows. (Looks like ski tracks.) ★

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Tree Identification for Beginners: Deciduous, Alternate

Eastern White Oak (*Quercus alba*)

- Large tree, can grow to over 100’ tall.
- Acorns provide food for wildlife.
- Common and widespread, grows in rich, moist soils.

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Tree Identification for Beginners: Deciduous, Alternate

Eastern White Oak (*Quercus alba*)

- Twigs greenish to gray, with small, blunt buds growing in clusters at the twig tips.
- Acorns ¾’”, cup is shallow and stalk is short. Often more slender in shape than red oak acorns.

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Tree Identification for Beginners: Deciduous, Alternate

Eastern White Oak (*Quercus alba*)

- Young bark light gray with thin, flaky vertical strips.
- ★Older bark is light gray with irregular blocks.

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Tree Identification for Beginners: Deciduous, Alternate

Shagbark Hickory (*Carya ovata*)

- Grows 70 – 90’ tall and can grow to over 100’ tall.
- Nuts provide food for wildlife.
- Common on relatively dry, upland slopes.

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Tree Identification for Beginners: Deciduous, Alternate

Shagbark Hickory (*Carya ovata*)

- Twigs stout, usually hairless.
- Buds are large and dark, ½’” long or greater.
- Nuts are 1¾” with a ★ thick green husk.

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Tree Identification for Beginners: Deciduous, Alternate

Shagbark Hickory (*Carya ovata*)

- Young bark light gray with vertical lines that develop into cracks.
- Older bark has layers of stiff vertical strips ★ that peel away from the trunk.

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Tree Identification for Beginners: Deciduous, Alternate

American Beech (*Fagus grandifolia*)

- Grows to 50 – 70’ tall and can grow to over 100’ tall.
- Common in well-drained uplands.
- Beechnuts can be an important food source for wildlife.

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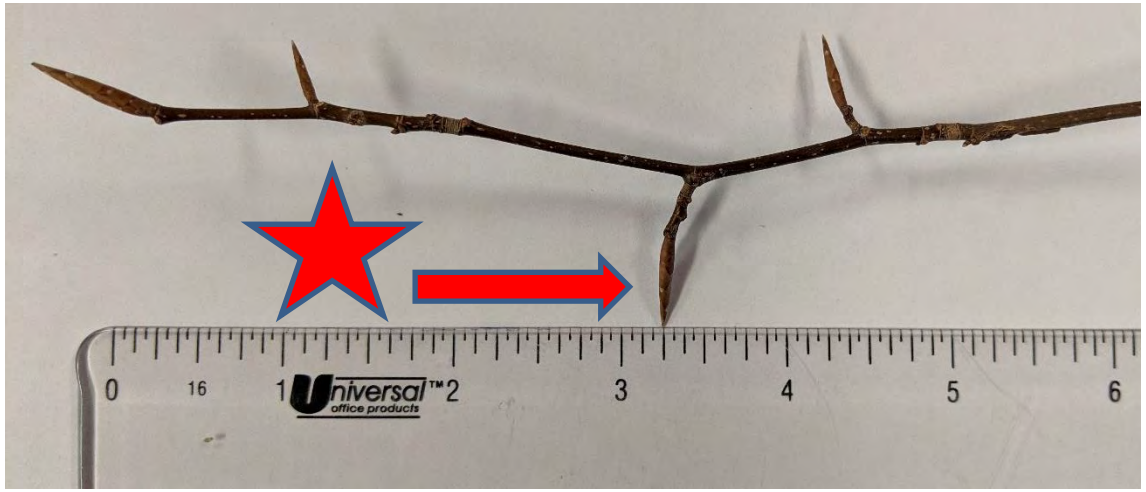
Tree Identification for Beginners: Deciduous, Alternate

American Beech (*Fagus grandifolia*)

- Twigs slender and have a zigzag shape with pointed buds.
- Often retains leaves through winter.
- Fruit ¾” and contains 1-3 small nuts.



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Tree Identification for Beginners: Deciduous, Alternate

American Beech (*Fagus grandifolia*)

- Bark smooth and light gray in young and old trees.
- Commonly afflicted with beech bark disease, which causes blisters, cankers and cracks to form on bark.

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Tree Identification for Beginners: Deciduous, Alternate

Black Cherry (*Prunus serotina*)

- Grows to about 60’ tall.
- Common and widespread in woods and hedgerows.
- Fruit is an important food source for birds.
- Often infected with black knot disease.

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Tree Identification for Beginners: Deciduous, Alternate

Black Cherry (*Prunus serotina*)

- Twigs slender and dark, with small dark buds.
- Fruit is small, less than ¼” and grow in dangling clusters.

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Tree Identification for Beginners: Deciduous, Alternate

Black Cherry (*Prunus serotina*)

- Young bark is smooth, reddish-brown with gray, horizontal lenticels.
- Older bark breaks into scales that curl outward and look like burned potato chips.

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Tree Identification for Beginners: Deciduous, Alternate

Birch Bark Cheat Sheet

Paper birch	Gray birch	Black birch	Yellow birch

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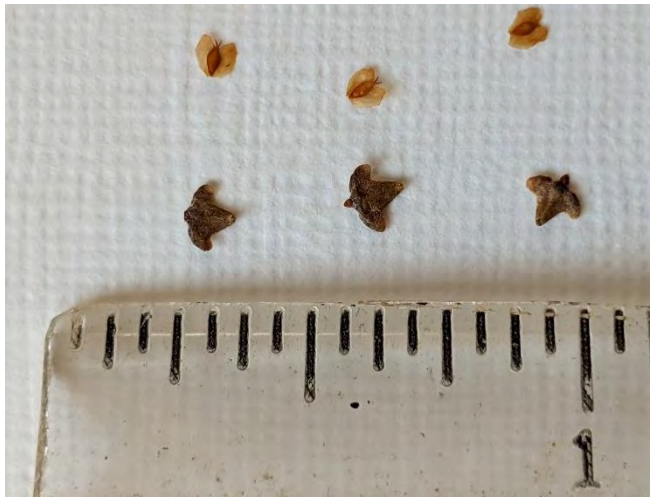
Tree Identification for Beginners: Deciduous, Alternate

Birch Seeds



DUTCHESS LAND CONSERVANCY

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Tree Identification for Beginners: Deciduous, Alternate

Paper Birch (White Birch) (*Betula papyrifera*)

- Slender tree, grows to about 70’ tall.
- Common in open woods or at wood edges.

Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

Paper Birch (White Birch) (*Betula papyrifera*)

- Twigs are stout for a birch, with buds relatively large.
- Seeds borne in cone-like structures that develop from female catkins.

Paul Wray, Iowa State University, Bugwood.org

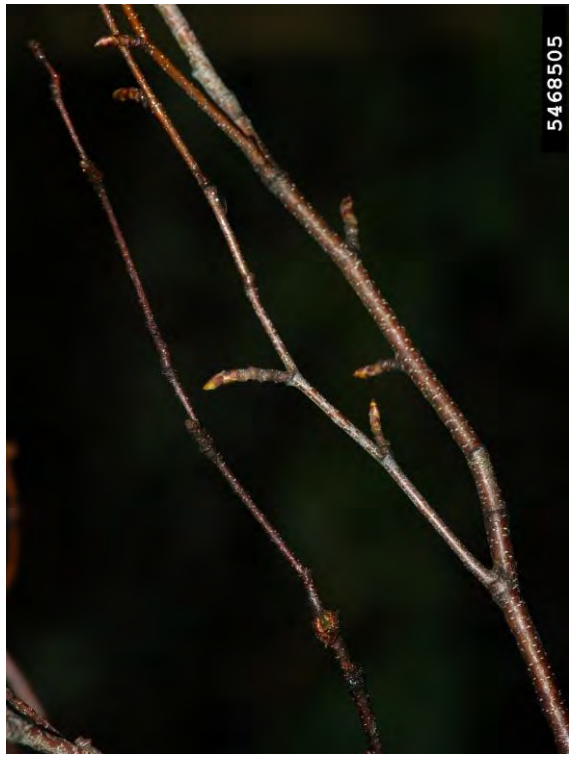
Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

Paper Birch (White Birch) (*Betula papyrifera*)

- Young bark reddish brown with pale horizontal lenticels.
- Older bark white and peeling, with thin, dark, horizontal lenticels.
- ★ Outer layers of bark separate from trunk in curly strips.



Becca MacDonald, Sault College, Bugwood.org

DUTCHESS LAND CONSERVANCY

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

Gray Birch (*Betula populifolia*)

- Small, slender tree; often grows with multiple trunks.
- Common pioneer species on disturbed soils.

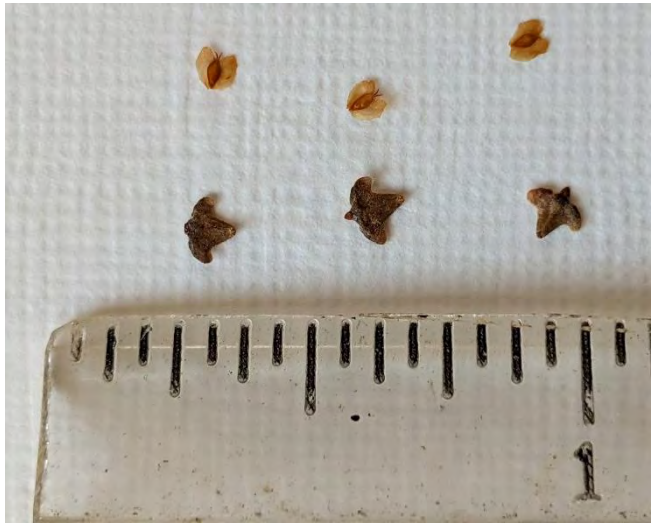
Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

Gray Birch (*Betula populifolia*)

- Twigs slender and rough, with small buds.
- Male flower usually solitary at twig tips.
- Seeds tiny and winged, in cones that persist on the twig into the winter.



Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

Gray Birch (*Betula populifolia*)

- ★ Trunks marked by dark chevron at base of branches.
- Young bark reddish-brown with pale lenticels.
- Older bark grayish white, non-peeling.

Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

Black Birch (Sweet Birch) (*Betula lenta*)

- Grows to about 60’ tall.
- Common in northern hardwood forests.
- Sap has a wintergreen smell and can be used to make birch beer.

Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

Black Birch (Sweet Birch) (*Betula lenta*)

- Twigs dark gray-brown and glossy, buds hairless and pointed.
- Seeds borne in cone-like structures that develop from female catkins.

Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

Black Birch (Sweet Birch) (*Betula lenta*)

- Young bark reddish-brown, with light colored horizontal lenticels.
- Older bark dark gray, broken into irregularly shaped plates that curl away from the trunk.

Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

American Sycamore (*Platanus occidentalis*)

- Large tree, can grow to over 100’ tall.
- Common in wet soils such as streambanks and bottomlands.

Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

American Sycamore (*Platanus occidentalis*)

- Twigs are relatively slender, with a zigzag shape. Buds short and stout.
- Fruit contained in ball-shaped structure, which can persist on the tree into the winter.

Paul Wray, Iowa State University, Bugwood.org

Rebekah D. Wallace, University of Georgia, Bugwood.org

Dutchess Land Conservancy

Cary Institute of Ecosystem Studies

Tree Identification for Beginners: Deciduous, Alternate

American Sycamore (*Platanus occidentalis*)

- Young bark green and brown, flakes off to reveal paler green or whitish bark beneath.
- Older bark becomes less scaly, is gray with narrow furrows broken into blocks.
- Topmost branches smooth and whitish.

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