

by May Theilgaard Watts
Tom Watts

for identifying
deciduous trees in Winter

WINTER TREE FINDER

25¢

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A MANUAL FOR IDENTIFYING
DECIDUOUS TREES IN WINTER



TO USE THIS BOOK

1. Select a typical twig of the tree you wish to identify. Avoid freaks. (If you cut the twig, do it straight across and sharply to prevent distortion of the pith and damage to the tree.)
2. Begin on page 6 and proceed step by step, considering each choice. (There is a scale for measuring on the cover.)
3. When you have made the final choice, arriving at the name of the tree, compare your twig with the illustration, and check other features shown.

Advice: examine pages 1 to 5 before starting on page 6.

Area covered by this book

This book is for deciduous trees in Winter. For evergreens, or when trees have leaves, use the MASTER TREE FINDER.

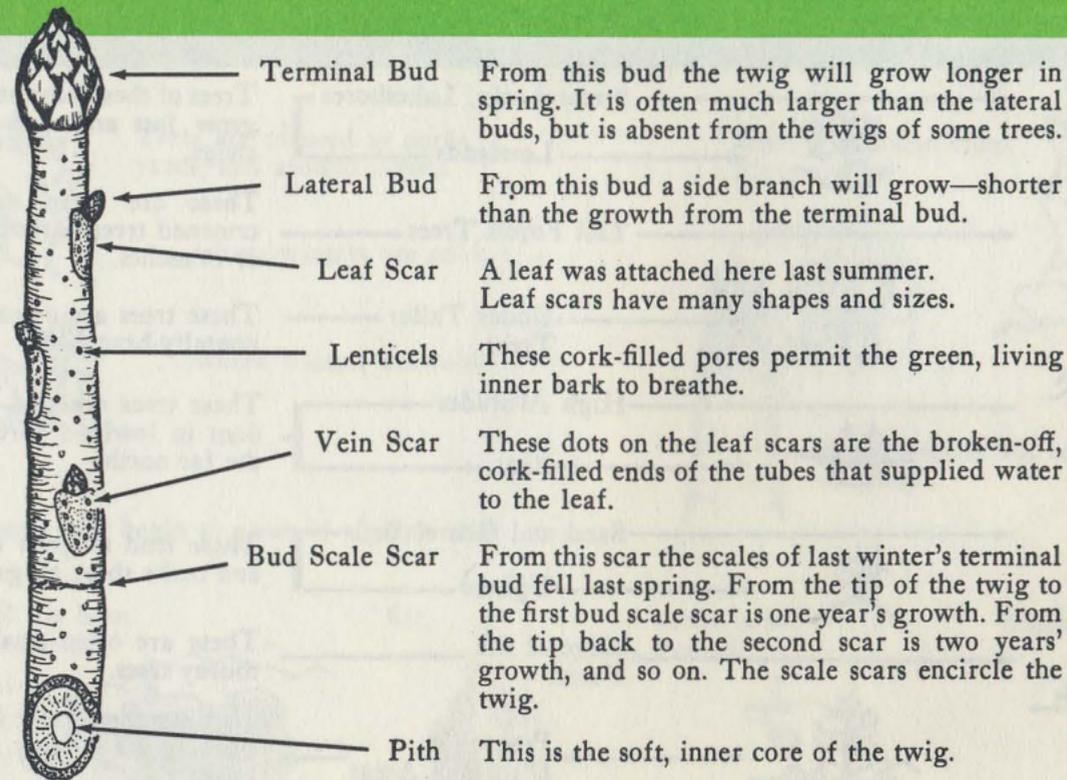


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THE PARTS OF A TWIG

(Twig illustrations in this book are about 2/3 life-size.)

1



The map next to each twig illustration shows the area where that tree grows naturally. The kinds of places within that area where the tree is likely to grow — the habitat — is shown by one of the following symbols:



← Streambanks, Lakeshores



← Lowlands

Trees of these habitats often grow fast and make long twigs.



← Tall Forest Trees

These are often narrow-crowned trees without lower branches.



← Under Taller Trees

These trees are often horizontally-branched.



← High Altitudes



← Bogs

These trees are also abundant in lowland forests of the far north.



← Sand and Gravel Soil



← Upland

These tend to grow slowly and make short twigs.



← Edge of the Forest

These are often small and thorny trees.



← Pioneer in Disturbed Areas

In time these may hide a parking lot — even a billboard.

The place where some trees grow depends on what people have done, as shown by the following symbols:



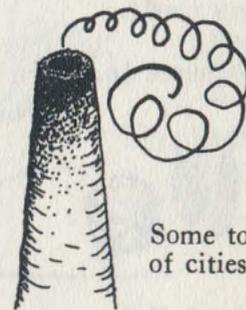
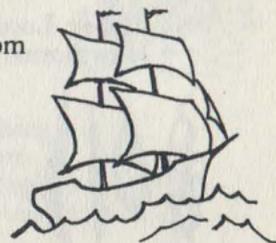
Trees are planted in parks, yards, and around houses

... where winters are cold,



... where winters are mild.

Some trees came from across the sea.



Some tolerate the conditions of cities

Pioneer trees begin to grow in a place after

soil has been disturbed,



fire,



cattle have grazed,



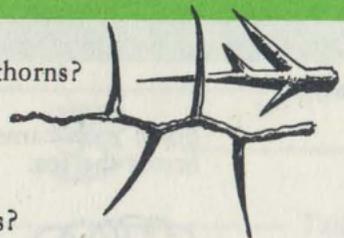
logging.



Sometimes a conspicuous feature or the location of a tree makes identification easier.

Smooth, conspicuous thorns?

Try: Honey Locust
Hawthorns



Baltimore Oriole's nest? Try Elm



Acorns?
Try Oaks



Pods?

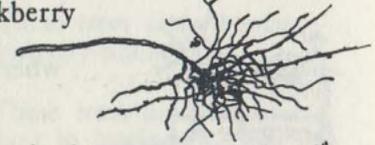
Try Legumes (p. 34)

Cones?
Try: Alder
Birch
Larch



Slender trees with
white or grey bark?
Try: Birch
Aspen

Tangled twigs (witches brooms)?
Try Hackberry



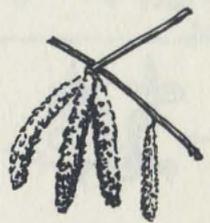
Empty nut husks
under the tree?

Try: Hickory
Buckeye
Horse Chestnut



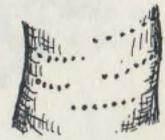
Dangling catkins?

Try: Alder
Birch
Ironwood



Yellow-bellied Sapsucker holes?

Try: Sugar Maple
Mountain-Ash
Linden



Highway planting?
Try Pin Oak



Patches of rubbed-off-
looking bark on trunk?
Try White Oak



In a fence row thicket?
Try: Hawthorn
Plum
Sumac
Cherry
Osage Orange



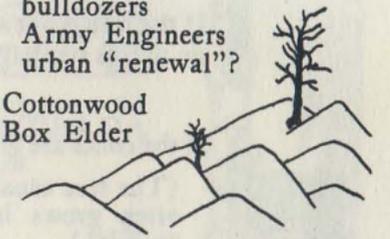
Does the tree reach out
over a:
fisherman
Muskrat
rowboat
canoe?
Try Willow



Boggy, unstable,
shaky ground?
Try: Tamarack
Poison Sumac



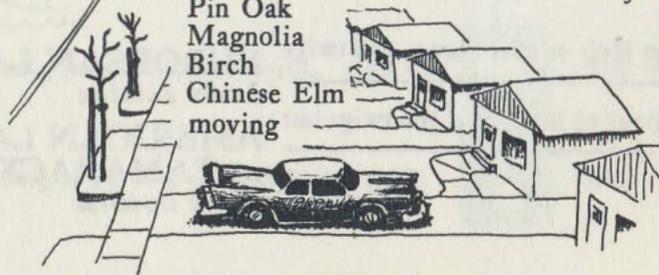
After: strip mining
bulldozers
Army Engineers
urban "renewal"?
Try: Cottonwood
Box Elder



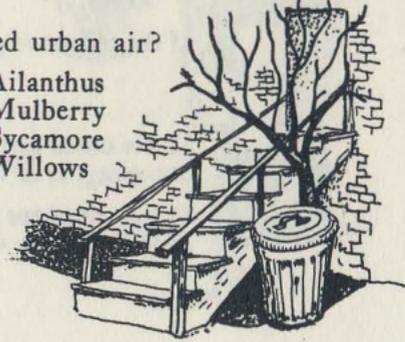
Smooth bark on trunk?
Try: Birch
Beech
Aspen



In a ticky-tacky tract?
Try: Thornless Honey Locust
Pin Oak
Magnolia
Birch
Chinese Elm
moving



Polluted urban air?
Try: Ailanthus
Mulberry
Sycamore
Willows



BEGIN HERE

If the tree is a conifer, and needle-bearing, but sheds its needles in the winter, go to this symbol



below

Conifers will have some or all of these:

- cones
- evergreen shape (central trunk all the way to the top, and small side branches)
- withered needles under the tree

If the tree is not a conifer, go to this symbol



next page

If the cones are globular, soon disintegrating, it is (The tree usually has a buttressed base, and often grows in water, where it puts up "knees".)



If the cones are persistent, and not globular, go to

If the cones are an inch or more long; the twigs drooping, it is



If the cones are about 1/2 inch long, the twigs not drooping, it is



BALD CYPRESS
Taxodium distichum



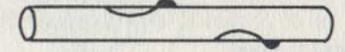
below

EUROPEAN LARCH
Larix decidua

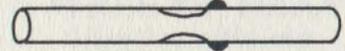
AMERICAN LARCH or TAMARACK
Larix laricina



If the leaf scars are alternate, that is, if one leaf scar occurs on one side of the twig, with the next one being further along the twig on the other side, like this: go to



If there are two or more leaf scars opposite each other on the twig, like this: go to



If the leaf scars are whorled, that is, if there are more than two leaf scars around the twig at the same level, like this: it is



If the leaf scars are not whorled, but come in pairs, each one on the opposite side from another, go to

If the entire twig is over 1/2 inch thick, go to

If the entire twig is not over 1/2 inch thick, go to



below



below



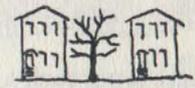
page 44



next page



page 9



HARDY CATALPA
Catalpa speciosa



x 1/4





If a cross-section of the twig shows mostly pith, go to
If a cross-section of the twig shows a smaller proportion of pith, go to



next page



If there is a line, like a fold of bark (stipule scar), completely encircling the twig at each bud; and if the terminal bud is much larger than the side buds, it is **MAGNOLIA**. Go to



page 42



If there is not such a line, and if the buds are all of about the same size, go to



If the leaf scar is somewhat heart-shaped, or shield-shaped, below the bud, go to

If the leaf scar is C-shaped, almost encircling the bud, and if the new growth on the twigs is covered with matted, woolly hair, it is

STAGHORN SUMAC
Rhus typhina

If there is a terminal bud larger than the side buds, and mottled bark in a tree in a bog, wash your hands in strong soap if you have handled the twig, because it is

POISON SUMAC
Toxicodendron vernix

If there is no terminal bud, relax, Go to



next page



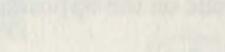
below



below



below



If the leaf scars are marked with 3 to 5 vein scars; and two buds, depressed, looking like craters on the Moon, push out above the leaf scar; and if the pith is thick and salmon-colored, it is

KENTUCKY COFFEE TREE

Gymnocladus dioicus

If the leaf scars are marked with many vein scars, like dots, it is

TREE OF HEAVEN

Ailanthus altissima

(In early winter look for the heavy clusters of winged seeds. This tree usually grows in the soot and grime of cities. The bark is smooth, with pale stripes.)

If the twig is stout and tough, difficult to break, with light-colored lenticels and tan or brown pith; and if the leaf scars are large, pale, and somewhat heart-shaped or shield-shaped; and the end bud is larger than the side buds, go to

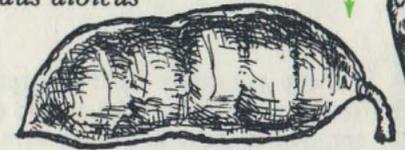


page 36

If the twig does not have this combination of characteristics, go to

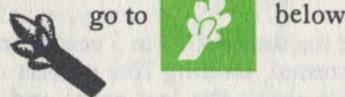


next page



10

If several buds of different sizes are clustered irregularly at the tip of the twig, like this



go to below

If the buds are not clustered, go to



below

If there are many light-colored, raised lenticels that become horizontal on the older parts of the tree, and if there are three vein scars on the leaf scar, it is

PIN CHERRY
Prunus pensylvanica

(Pin-like flowering spurs appear in second year. Inner bark is bright green, with bitter taste.)

If there are several scattered vein scars on a slightly-raised leaf scar, and the pith is 5-sided or star-shaped, it is an OAK. Go to



page 51

(Perhaps there are acorns on the ground.)

If there are catkins at the tips of some twigs, (stiff and short in winter, elongating in spring, and finally dangling and yellow with pollen), go to

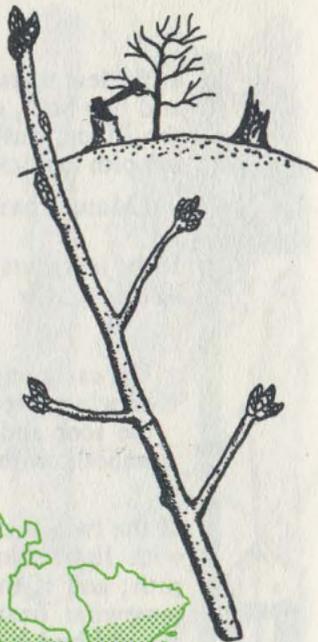


page 39

If there are no catkins, go to



next page



If there are protuberances on the twig (either thorns, thorn-like twigs, or rounded, stubby spurs) go to



below

If there are no such protuberances, go to



below

If there are thorns, or thorn-like twigs, go to



below

If there are rounded, stubby spurs, and no thorns, it is

GINKGO
Ginkgo biloba

If there are smooth, sharp thorns, go to



page 20

If the thorns are rough, twig-like, go to



page 16

If there is a line (a stipule scar) completely encircling the twig at each leaf scar, go to



next page

If there are no such lines, go to



next page



11



If each leaf scar completely encircles a bud; and the buds are brown, conical, with only one scale, it is

SYCAMORE
Platanus occidentalis

(The smooth white inner bark has flecks and patches of older bark adhering to it. The big branches look whitewashed. Look for seed balls still hanging from their long stems.)

If the leaf scar does not encircle the bud, go to



below

If the end bud is shaped like a duck bill, it is

(The main trunk usually rises straight from base to tree-top.)

TULIP TREE
Liriodendron Tulipifera

If the end bud is not flattened like a duck bill, but is large, egg-shaped, arrowhead-shaped, or oblong, it is **MAGNOLIA**. Go to



page 42

If the end of the twig is blunt, slanted, and budless (with neither terminal bud nor lateral bud; or if there are pods on the tree, it belongs to the Legume family. Go to



page 34

If the tip of the twig does not appear blunt or budless (though there may be no true terminal bud, a lateral bud is almost in that position), go to



next page



If each bud is enclosed in a single cap-like scale, it is a willow. Go to



page 32

(Usually a tree of bottomlands, with slender twigs.)

If the bud is not enclosed in a single cap-like scale, go to



below

If the bud has no scales at all, but is covered with dense, dark hairs, it is

PAWPAW
Asimina triloba

If the bud has scales, go to



below

If the bud is enclosed in 2 scales (hairy inner scales sometimes show at the tip), go to



page 28

If the bud is enclosed in more than 2 scales, go to



below

If the buds are at least 4 times as long as thick, go to



next page

If buds are not so proportioned, go to



next page



If the end bud is larger than the side buds, go to  below

If the end buds are not noticeably larger than the side buds, go to  next page

If the end buds are long, 1/2 inch to 3/4 inch, tapering very gradually, on a stout twig, go to  page 30

If the buds are less than 1/2 inch long, go to  page 16

If the buds are almost an inch long, grow at a wide angle from the twig, and show 8 or more scales, it is a BEECH. Go to  below

If the buds lie close against the twig, and are about 1/2 inch long, showing 5 to 6 scales, it is **SERVICEBERRY** *Amelanchier arborea* 

(Usually a small tree, often shrub-like, with bark gray with darker long streaks.)

If the bark is a light satiny gray, and it is a native tree of rich forests, it is **AMERICAN BEECH** *Fagus grandifolia*

If the bark is a darker, pewter-gray, and it is a planted tree, on a lawn, it is **EUROPEAN BEECH** *Fagus sylvatica*

illustration on next page 



AMERICAN BEECH



If the buds are 2-ranked, that is, each bud is on the opposite side—180 degrees away—from the next bud along the twig (often making the twig zig-zag), go to  page 24

If the buds are not 2-ranked, and the twigs do not zig-zag, go to  below

If the leaf scars are raised and the dark, smooth bark shows many light-colored, raised lenticels, go to  next page

If the bark is not dark and shiny with light lenticels, go to  below

If the leaf scars are narrow, crescent-shaped or U-shaped, and the bundle scars are very hard to see, go to  page 19

If the leaf scars are heart-shaped, or shield-shaped, with 3 bundle scars and with stipule scars; and if the lowest scales on the lateral buds are centered above the leaf scar, go to  page 22

EUROPEAN BEECH



If the buds are green or reddish, on green, aromatic, root beer-tasting twigs; side branches turning up at their tips; one bundle scar only, it is

SASSAFRAS
Sassafras albidum



If the buds and twigs are not green, and have more than one bundle scar—often hard to count because leaf scars are small, go to



below

If lenticels are light-colored and raised, conspicuous against dark shiny bark, go to



below

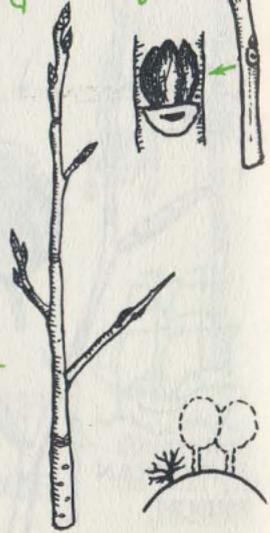
If lenticels and bark are not as above, go to



page 18

If there are thorn-like twigs, dark, reddish-black bark, peeling on the trunks; and low branches, it is

AMERICAN PLUM
Prunus americana



If there are no thorn-like twigs, and if the bark and the buds taste bitter, go to **CHERRY**



next page

If the buds have gray-margined scales, and the lenticels do not elongate horizontally, a small tree, it is

CHOKE CHERRY
Prunus virginiana



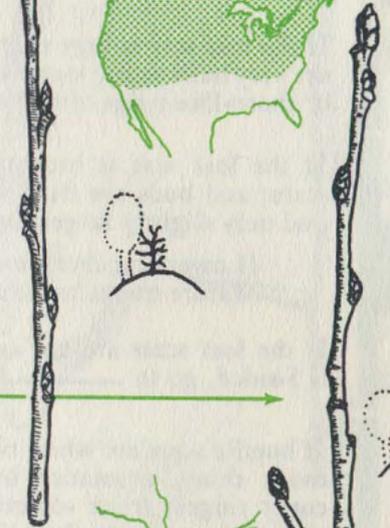
If the bud scales are not gray-margined, and the lenticels *do* elongate horizontally, go to



below

If the bark is dark, peeling in roundish flakes on older trunks, a big tree, it is

BLACK CHERRY
Prunus serotina



If the bark is lustrous orange-red, with the lenticels orange and conspicuous and powdery on the surface, and if a few buds are clustered at the tip of the twig, it is

PIN CHERRY
Prunus pensylvanica

(illustration on p. 10)



If the leaf scar is broadly crescent-shaped or triangular, showing 3 bundle scars, or 3 groups of bundle scars, go to 



below



If the leaf scar is very narrow, and bundle scars are very hard to see; many-scarred fruiting spurs, or thorn-like twigs often present, go to 



next page

If the leaf scar is brown with lighter bundle scars; and buds are dark with downy tips; end bud only slightly larger than side buds, it is

SOUR GUM or TUPELO

Nyssa sylvatica

(Lower branches are usually declined. Mature trunks have "alligator bark.")

If the leaf scars are not as above; and the pith is 5-sided, go to 



below

If bundle scars are white rings with dark center; twigs shiny, aromatic; branchlets developing corky ridges; trunk sometimes exuding an aromatic gum; woody, ball-like fruits hanging through the winter, it is

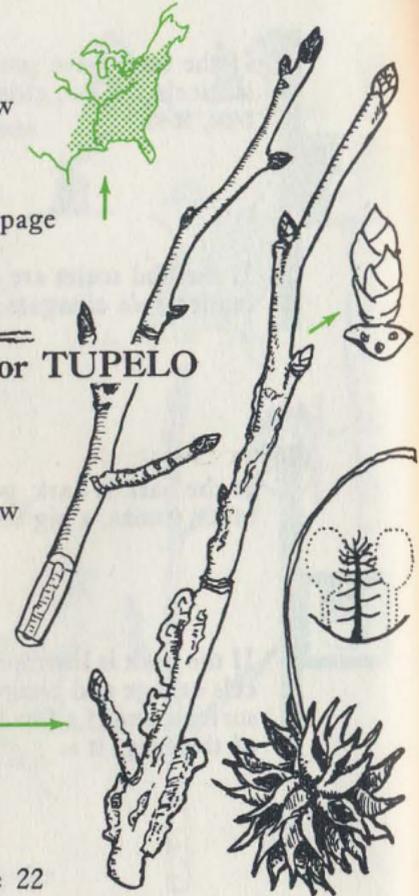
SWEET GUM
Liquidambar styraciflua



If the lowest scale on a side bud is centered directly above the leaf scar; and minute stipule scar may be seen at each side of the leaf scar, go to 



page 22



If the buds are smooth, hairless, go to  page 21



If the buds and/or twigs are hairy, or have hairy tips, go to  below



If the buds are blunt, and the tree large and broad, it is

COMMON APPLE

Malus sylvestris



If some twigs have thorns (like stunted twigs); or if the buds have reddish outer scales, with a little of the woolly gray inner scales showing at the tip, it is a CRABAPPLE. Go to  below

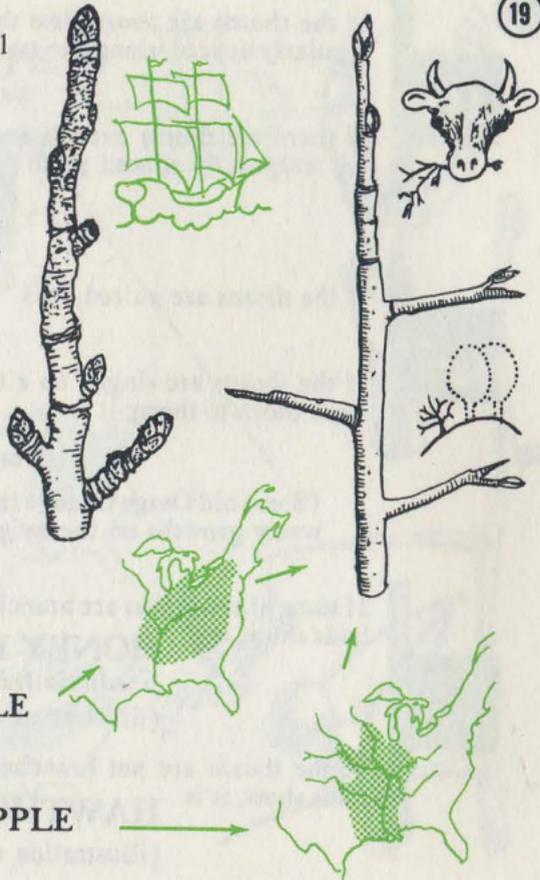


If the twigs are smooth, it is

WILD CRABAPPLE
Malus coronaria

If the twigs are woolly, it is

PRAIRIE CRABAPPLE
Malus ioensis





If the thorns are short (less than 3/4 inch), and regularly spaced along the twig, go to →



below

If there are thorns over 3/4 inch long, and they are irregularly spaced go to



below



If the thorns are paired, it is **BLACK LOCUST**
Robinia Pseudo-Acacia

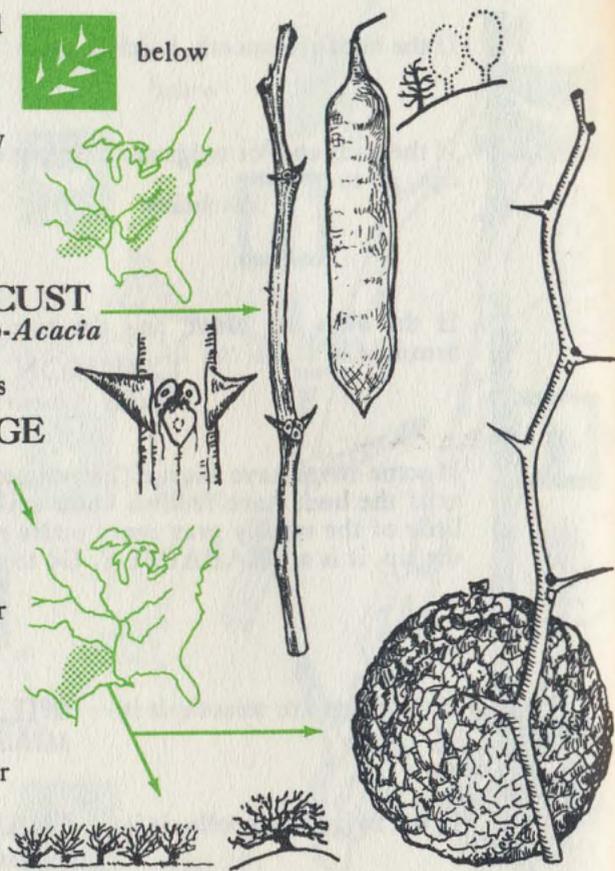
If the thorns are single, on a twig that zig-zags from thorn to thorn, it is **OSAGE ORANGE**
Maclura pomifera

(Some old Osage Orange trees also have warty growths on the twigs.)



If some of the thorns are branched, and no winter buds show, it is **HONEY LOCUST**
Gleditsia triacanthos
(illustration on p. 34)

If the thorns are not branched, and the winter buds show, it is **HAWTHORN**
(illustration on next page)



If the buds are smooth, pointed; and side buds are pointed away from the twig, it is **COMMON PEAR**
Pyrus communis

If the buds are globular, and red, it is **HAWTHORN**

Usually this tree bears sharp smooth thorns. Hawthorns are far too numerous to cover here. You will probably be seeing one of these more common forms:



DOWNY HAWTHORN
Crataegus mollis



THICKET HAWTHORN
Crataegus pruinosa



COCKSPUR HAWTHORN
Crataegus crus-galli



WASHINGTON HAWTHORN
Crataegus Phaenopyrum



DOTTED HAWTHORN
Crataegus punctata



If the buds and twigs have a dense, white, cottony covering, easily rubbed off; and the tree has smooth, whitish bark with black markings, it is →



(There is a narrow form with ascending branches called Bolleana Poplar.)

WHITE POPLAR
Populus alba



If the tree has no such dense white covering, and it is either spire-shaped or small, go to →



below



If the tree is spire-shaped, with many ascending small branches, it is

LOMBARDY POPLAR
Populus nigra variety italica



If the trees are small (with light gray bark, darker at the base), often forming colonies, go to →



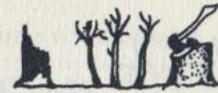
next page



If the buds are shiny, pressed against the twig, it is



TREMBLING ASPEN
Populus tremuloides



If the buds are dusty-gray and divergent, it is

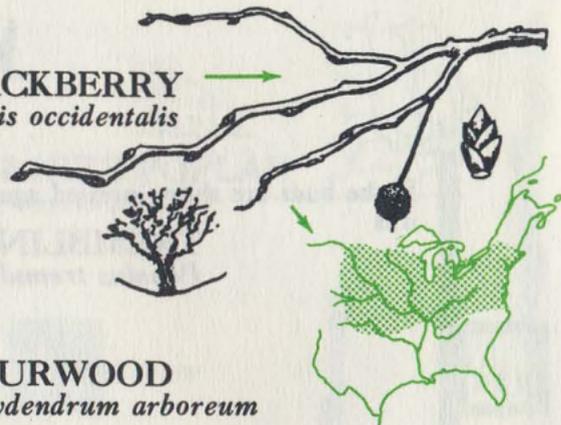
BIG-TOOTHED ASPEN
Populus grandidentata



If the tree has warty bark, becoming warty-ridged on the trunk, with very slender, zig-zag twigs, it is _____



HACKBERRY
Celtis occidentalis



(Dark, cherry-like fruit sometimes hangs on into the winter. The tree is often marked by clustered twigs called witches brooms.)

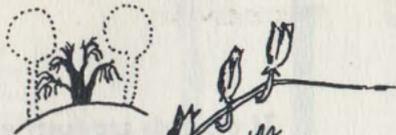
If the bark is not warty, go to _____ below



If the buds are very small, partially sunken in the bark of the twigs; and the leaf scar has a single bundle scar, it is _____



SOURWOOD
Oxydendrum arboreum



(Often shrublike, but tall in the mountains. Look for loose clusters of dry seed capsules.)

If there is more than one bundle scar on each leaf scar, and the buds are not hidden in the bark, go to _____



below

If the buds are roughly centered over the leaf scar like this:



go to _____ next page



If the buds are *not* centered over the leaf scar, but are to one side, it is an **ELM**. Go to _____



page 26

If the side buds are about the same width as the twig, the twigs light brown, go to _____



below

(A full-sized tree with milky juice in spring.)

If the side buds are wider than the twig; the leaf scars small, narrow, with unequal stipule scars, go to _____



below

(A small tree without milky juice in spring.)

If the twigs are downy, and if the buds are longer than wide with with brown-margined bud scales, and spread away from the twig, it is _____



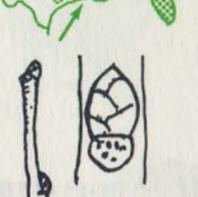
RED MULBERRY
Morus rubra



If the twigs are not downy; and if the buds are pressed against the twig, almost as wide as long, often with additional small buds on either side, it is _____



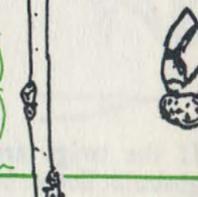
WHITE MULBERRY
Morus alba



If there are about 6 scales on each bud; and if the bark peels vertically in 1/2 inch strips, it is _____



IRONWOOD
(illustration on p. 39)



If the trunk is like grey stone sculptured into muscles and sinews, with about 12 scales on each bud, it is _____

BLUE BEECH
AMERICAN HORNBEAM
Carpinus caroliniana



If the older twigs are corky-winged, or have corky growths, it is

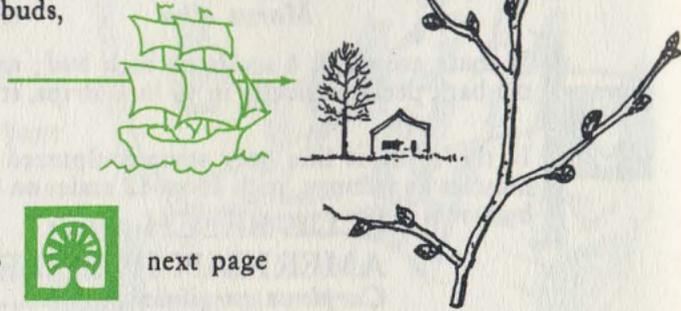
CORK ELM
Ulmus Thomsii



If the twigs are not corky, go to  below

If the twigs are very slender, holding many globular flower buds in addition to the other buds, it is

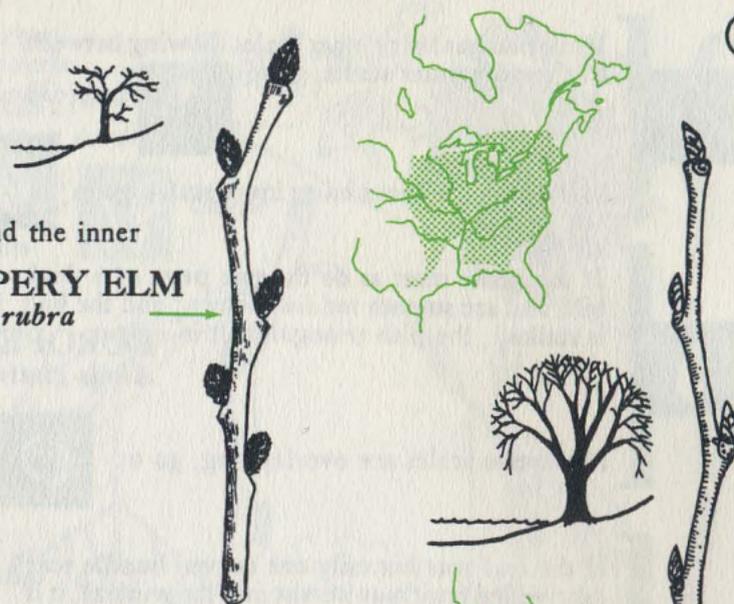
SIBERIAN ELM
CHINESE ELM
Ulmus pumila



If the twigs are not markedly slender, go to  next page

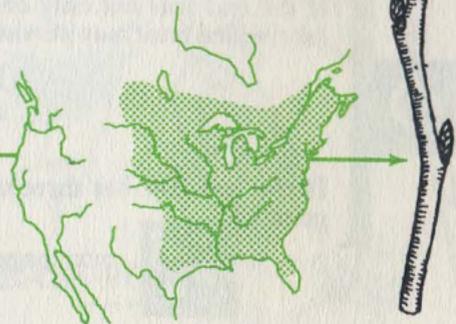
If the buds are downy and dark, and the inner bark slimy, it is

SLIPPERY ELM
Ulmus rubra



If the buds are brown, not downy, it is

AMERICAN ELM
Ulmus americana



If the bud has hairy inner scales showing between two smooth outer scales, go to  page 30

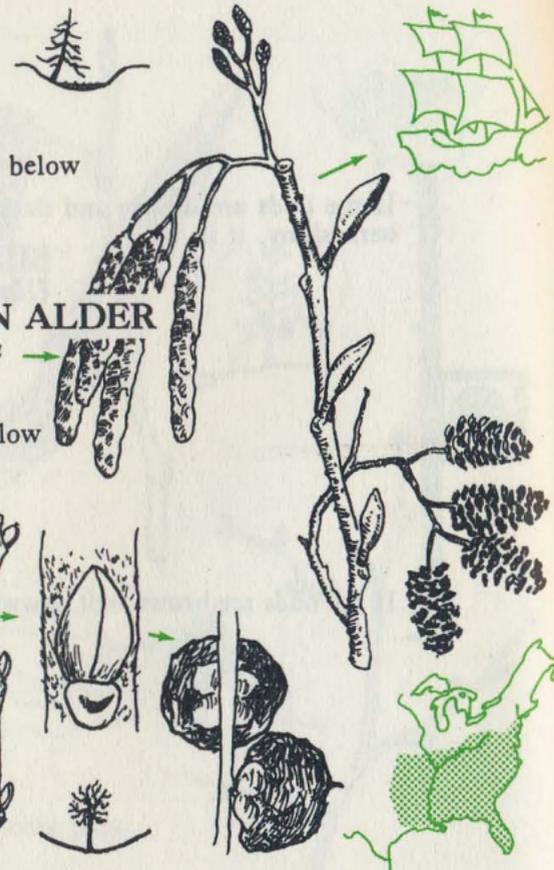
If the bud is without hairy inner scales, go to  below

If the scales meet as do the two parts of a duck bill, and are smooth reddish-brown; and the bud is stalked; the pith triangular, it is **EUROPEAN ALDER**
Alnus glutinosa 

If the two scales are overlapping, go to  below

If the leaf scar has only one curved bundle scar (shrivelled fruit may persist into the winter), it is **PERSIMMON**
Diospyros virginiana 

If the leaf scar has three or more bundle scars, go to  next page



If the buds are chestnut-brown on a chestnut-brown twig; pith five-sided; lenticels numerous, raised, white, it is **CHESTNUT**
Castanea dentata 

If the buds are red, or red and green; twig zig-zag, it is a **BASSWOOD**. Go to  below
(There may be round, tan fruits suspended from a leaf-like wing.)



If the bud scales are slightly hairy along the margins, it is **WHITE BASSWOOD**
Tilia heterophylla 

If the bud scales are without hairs, it is **LINDEN**
AMERICAN BASSWOOD
Tilia americana 

* Only root sprouts survive the Chestnut blight.

If the end bud is hairy and has its tip turned slightly to one side; and the bark is marked with conspicuous light-colored lenticels; and the leaf scars are narrow, raised, it is a **MOUNTAIN ASH**. Go to

If the end bud is symmetrical; leaf scar crescent-shaped, with 3 bundle scars (or 3 groups of bundle scars); and the small branches are light-colored, smooth; the pith 5-sided; and a small stipule scar may be seen on each side of the leaf scar; and the lowest scale on a side bud is centered and directly above the leaf scar, go to

If the buds and twigs are woolly, it is **EUROPEAN MOUNTAIN-ASH**
Sorbus aucuparia

If the twigs are smooth, and the outer bud scales are sticky; but the inner scales, protruding at the tip, are hairy, and the tree is rather shrublike, it is **AMERICAN MOUNTAIN-ASH**
Sorbus americana

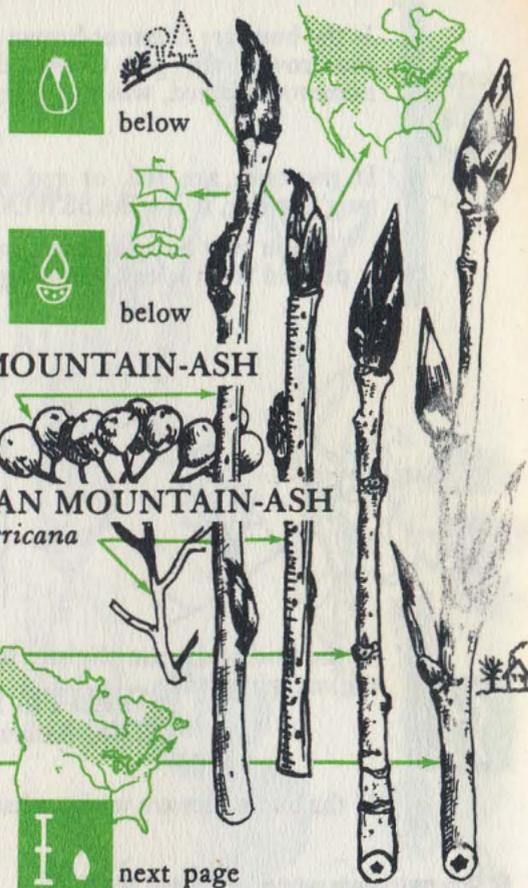
If the end buds are very long (often an inch or more), excessively resinous, fragrant; twigs reddish brown, it is either:

BALSAM POPLAR
Populus balsamifera

or: **BALM OF GILEAD**
Populus gileadensis

(the cultivated horticultural tree grown only from cuttings or sprouts—maturing no seeds)

If the end buds are only about half an inch long, go to



below



below



below



next page

If the buds taper to both ends; twigs yellow to yellow-brown, go to



below

If the buds are broadly egg-shaped; twigs brownish-gray, it is **SWAMP COTTONWOOD**
Populus heterophylla

If the buds are sticky, it is

EASTERN COTTONWOOD
Populus deltoides

If the buds are slightly hairy, it is

PLAINS COTTONWOOD
Populus deltoides occidentalis



below

below

below

below

below

If the twigs are long, pendulous, slender, and the twigs and branchlets are yellow to orange, it is



WEeping WILLOW
Salix babylonica



If the twigs and branchlets are not pendulous, go to



below

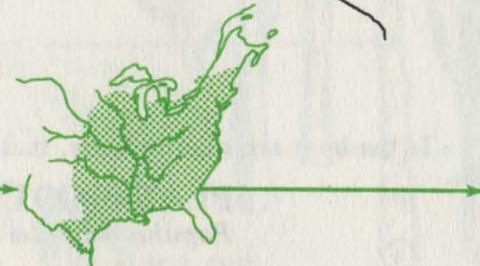
If the twigs are yellowish, bark gray to brown, twigs not brittle at their bases, go to



next page

If the twigs are brown to almost black; trunks brown to almost black; and twigs have brittle bases which cause them to break off easily, it is

BLACK WILLOW
Salix nigra



If the twigs are greenish to yellow, with fine silky hairs, it is



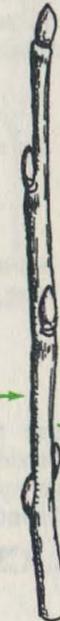
WHITE WILLOW
Salix alba



(One of the varieties of White Willow, selected for especially golden color, is known as Golden Willow.)

If twigs are yellow to yellow-brown, with large buds; leaf-scars U-shaped, it is

PEACH-LEAVED WILLOW
Salix amygdaloides



If the twigs are a lustrous red-brown, and if they zig-zag from leaf scar to leaf scar; and the tree has light-colored, horizontal lenticels on smooth bark, it is

HONEY LOCUST
Gleditsia triacanthos



(Mature trees usually have a spreading, dished top, and bear long, branched thorns, and flat, curved or twisted pods 6 to 8 inches long. A thornless, podless horticultural variety is commonly planted along streets and in parks.)



If the twigs are not as above, go to



below

If the twigs are not as above; or if there are pods 4 inches or less long, go to



next page

If the twigs are thick, with thick, salmon-colored pith; two side buds, one above the other, can be seen above each leaf scar, appearing sunken and crater-shaped, it is

KENTUCKY COFFEE-TREE

(illustration on p. 9)



If the tree has an extremely broad and flat top; or if there are pods with the lower tip extremely long-tapered, it is

MIMOSA SILK TREE
Albizia julibrissin



If the top is not extremely broad and flat, go to



below

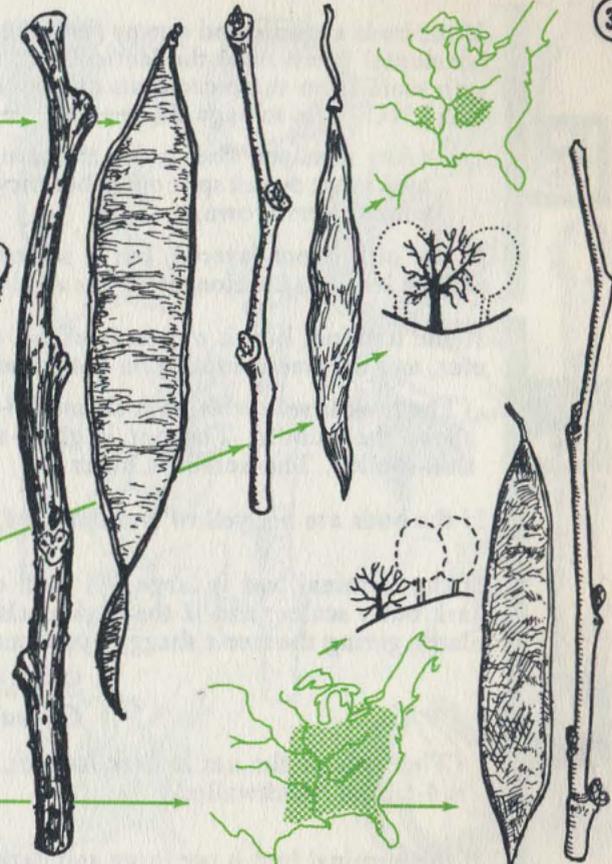
If each winter bud is almost completely encircled by a leaf scar, it is

YELLOWWOOD
Cladrastis kentuckea



If the winter bud is not encircled; and if there are globular flower buds appearing in many places along the bark — even sometimes on the trunk — it is

REDBUD
Cercis canadensis



If the buds are pale and downy; and the pith is in thin, horizontal layers; and the lenticels are round; and the vein scars form three crescents on the leaf scar, it is a **WALNUT**. Go to page 38



(Any nuts you find under the tree will have husks that do not split open, but they will stain your fingers brown.)

If the pith is not layered, but is somewhat five-sided, and the lenticels are elongated, it is a **HICKORY**. Go to



If the terminal bud is mustard-yellow, flattened, granular, and the tree is usually on bottomland, it is

BITTERNUT HICKORY
Carya cordiformis

(The husk is yellowish, thin-skinned, 4-ribbed above the middle. The nut is globe-shaped, thin-shelled. The kernel is bitter.)

If the buds are not yellow and flattened, go to



If the terminal bud is large (1/2 inch or more), with dark outer scales; and if the bark peels in great thick plates, giving the tree a shaggy appearance, it is

SHAGBARK HICKORY
Carya ovata

(The husk of the nut is dark brown; the nut is 4-ribbed, thickwalled.)

If the terminal bud is not large and dark, go to



next page



If the twigs and buds are somewhat hairy, go to



If the twigs and buds are smooth; side buds almost at right angles to the twig, it is

PIGNUT HICKORY
Carya glabra

(The end bud has loose, brown, outer scales. The fruit is pear-shaped.)

If the terminal bud has scales that meet without overlapping; the twig is reddish-brown; the bark has flattened, interlacing ridges; a bottomland tree, it is

PECAN
Carya illinoensis

(Husk is thin-skinned, 4-winged, often remains on the tree through winter; nut is thin-shelled, kernel sweet.)

If the terminal bud is almost globular, an upland tree, it is

MOCKERNUT HICKORY
Carya tomentosa

(Husk reddish-brown, thick; nut long, thick-walled.)



If the end bud is cream-colored and 1 to 2 times as long as it is wide; and the leaf scars have a velvety strip across the top; and the pith is dark brown, with layers as thick as the spaces between the layers; and if the bark has light-colored, flattened ridges making a network against the darker brown, it is

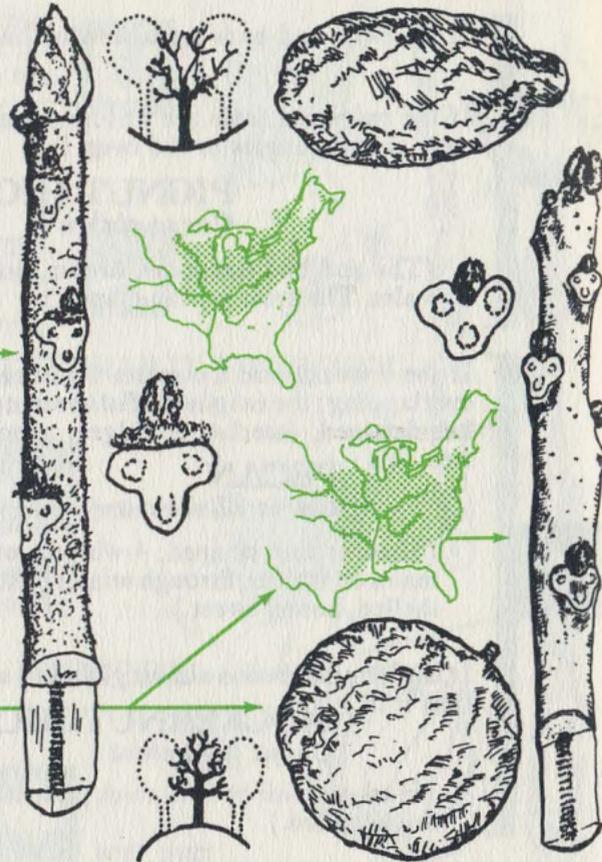
BUTTERNUT
WHITE WALNUT
Juglans cinerea

(The fruit is oblong.)

If the end bud is gray, short; and the side buds are set in a notch in the upper edge of the leaf scar; and if the pith is light brown, with layers much smaller than the spaces between the layers; and if the bark is dark and furrowed, it is

BLACK WALNUT
Juglans nigra

(The fruit is globular.)



If the bark is thin, and glove-smooth, or peeling, or if it is ragged, it is a BIRCH. Go to →



below

If the bark is not thin, go to



below

If the trunks are white with some black markings, go to



next page

If the trunks are yellowish to red-brown, go to



page 41

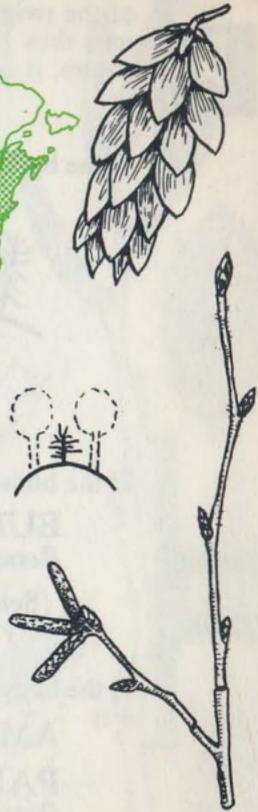
If the trunk has long, square-ended strips of bark peeling upward; and the twigs are slender, it is

IRONWOOD
Ostrya virginiana

If there are cones (stiff ones not breaking apart between your fingers or in the wind) as well as catkins; and the buds are smooth and stalked; and the pith triangular, it is

EUROPEAN ALDER
Alnus glutinosa

(illustration on p. 28)



If the catkins are usually borne singly at the tips of the twigs; and the bark cannot be easily split into thin layers and is marked with black triangles, it is

GRAY BIRCH
Betula populifolia

If the bark peels into thin layers, go to



below



If the buds are shiny with resin, it is

EUROPEAN WHITE BIRCH
Betula alba

(Some European White Birches have very slender, drooping twigs.)

If the buds are not shiny with resin (not sticky), it is

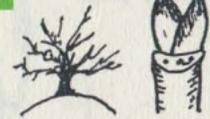
AMERICAN WHITE BIRCH
PAPER-WHITE BIRCH
Betula papyrifera



If the bark is peeling, and silvery-yellow to copper-red, go to



below



If the bark is dark brown, not peeling, and the tree resembles a cherry tree (the twigs and buds are good to chew for a strong wintergreen taste; the cones are upright and thick and persist into the winter) it is

CHERRY BIRCH
Betula lenta

If the tree trunk is excessively ragged; and the twigs are hairy, it is

RED BIRCH
RIVER BIRCH
Betula nigra

(The cones have matured and fallen apart during the summer.)

If the bark is silvery to pale yellow, somewhat ragged, and the twigs have a slight wintergreen flavor, it is

YELLOW BIRCH
Betula alleghaniensis





If the end bud is hairy or woolly, go to



next page

If the end bud is smooth, go to



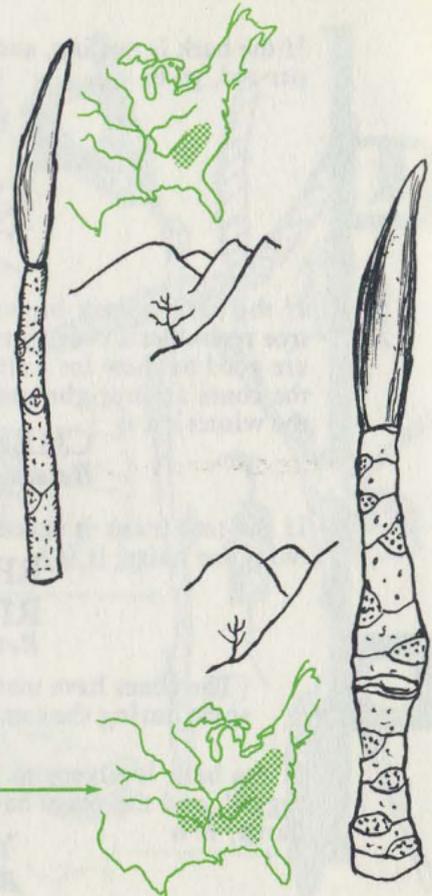
below

If the end bud is 1 1/2 to 2 inches long; the bark thin, dark brown, it is

MOUNTAIN MAGNOLIA
Magnolia Fraseri

If the end bud is 1 inch long, with its tip pointed and curved; the bark thick, gray; the tree often branching at base, it is

UMBRELLA MAGNOLIA
Magnolia tripetala



If the hairy covering is silky, go to



below



If the hairy covering is woolly, matted; the buds are 1 3/4 to 2 inches long; the new growth light yellow-green, it is

LARGE-LEAVED MAGNOLIA
Magnolia macrophylla

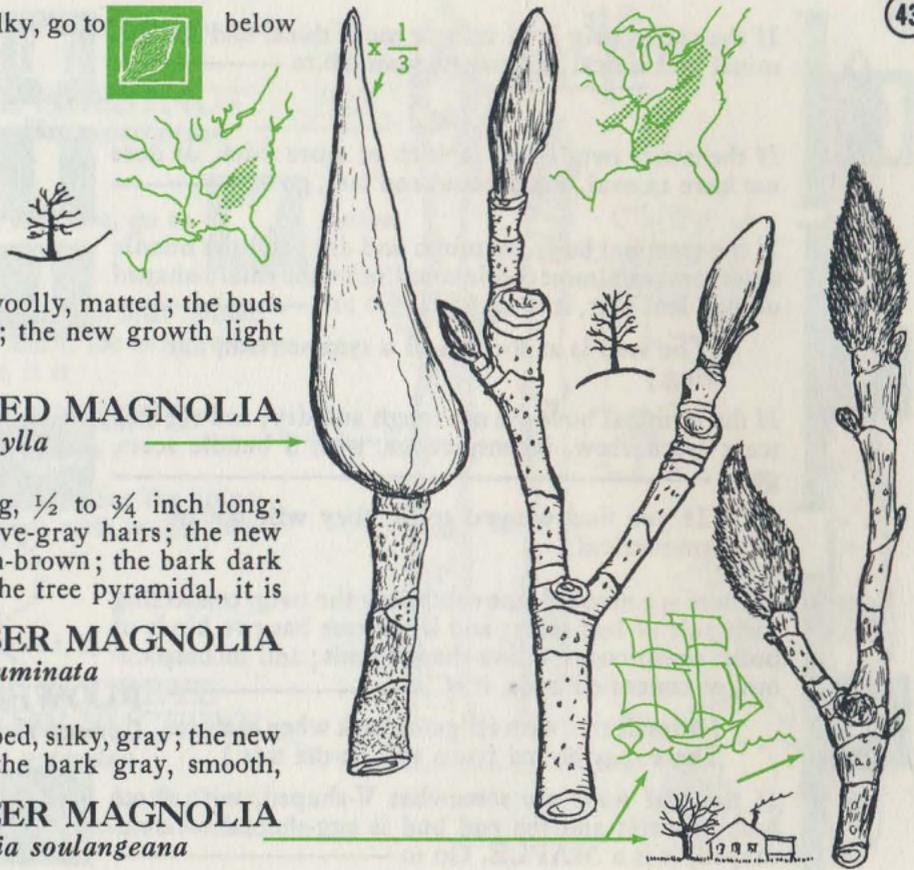


If the end bud is oblong, 1/2 to 3/4 inch long; densely covered with olive-gray hairs; the new growth a shining reddish-brown; the bark dark gray-brown, furrowed; the tree pyramidal, it is

CUCUMBER MAGNOLIA
Magnolia acuminata

If the end bud is egg-shaped, silky, gray; the new growth reddish-brown, the bark gray, smooth, it is

SAUCER MAGNOLIA
Magnolia soulangeana



If the entire twig is 1/4 inch or more thick, and the terminal bud is oval and conspicuous, go to



next page

If the entire twig is not 1/4 inch or more thick, or does not have an oval, conspicuous end-bud, go to



below

If the terminal buds are rough and dry; and the bundle scars form an almost continuous line on the shield-shaped or oval leaf scar, it is an ASH. Go to



page 46

(The seed is at the end of a symmetrical, flat wing.)

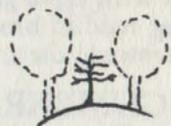
If the terminal buds are not rough and dry; and the leaf scars are narrow, inconspicuous, with 3 bundle scars, go to



below

(If you find winged seeds, they will not be symmetrical.)

If there is a notched line encircling the twig, connecting each pair of leaf scars; and if the tree has two kinds of buds: conspicuous, onion-shaped buds; and inconspicuous, or concealed buds, it is



FLOWERING DOGWOOD

(A small tree with alligator bark when mature. There may be red fruits still on the tree.) *Cornus florida*

If the leaf scars are somewhat V-shaped, with three bundle scars; and the end bud is egg-shaped or cone-shaped, it is a MAPLE. Go to



page 48



If the terminal bud is sticky, dark, smooth, and 3/4 inch or more long, it is

HORSE CHESTNUT
Aesculus Hippocastanum



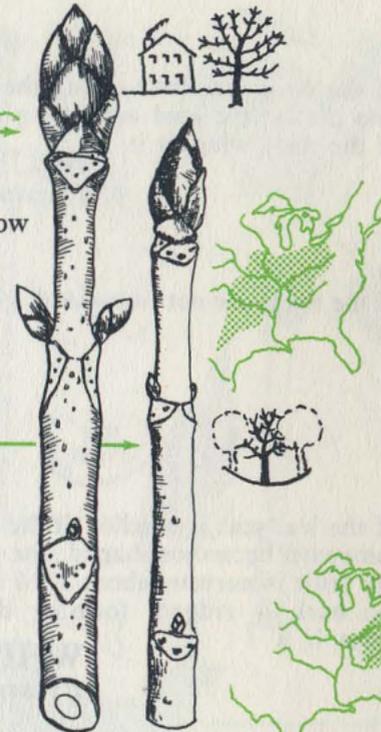
If the terminal bud is not as above, go to



below

If the bud scales are keeled, like a boat bottom, and have fine-hairy edges; and if the twigs, when bruised, have a fetid odor, it is

OHIO BUCKEYE
Aesculus glabra



(In fall look on the ground for the spiny husks holding single seeds with large, pale scars.)

If the bud scales are not keeled, it is

SWEET BUCKEYE
YELLOW BUCKEYE
Aesculus octandra

(In fall look on the ground for leathery husks which usually hold 2 smooth seeds.)



If the twigs are four-sided; the bark breaking into plates; the seed occupying half the length of the wide wing, it is

BLUE ASH
Fraxinus quadrangulata

If the twigs are not four-sided, go to  below

If the leaf scar is notched at the top so that it is somewhat horseshoe shaped; the wing portion of the fruit is narrow, about 3/16 inch wide; and the bark is ridged, forming diamond-shaped areas, it is

WHITE ASH
Fraxinus americana

If the leaf scar is semi-circular or oval, go to  next page



If the buds and new twigs are rusty-hairy; and the inner face of the outer bark is reddish, it is

RED ASH
Fraxinus pennsylvanica

If the buds and new twigs are not rusty-hairy, go to  below

If the buds are very dark (nearly black); and the trunk bark is smooth, soft-scaly, easily rubbed off, it is

BLACK ASH
Fraxinus nigra

(Seed wings are broad, blunt, and notched.)

If the buds are red-brown, and the trunk bark is ridged, and firmer, it is a variety of Red Ash called

GREEN ASH
Fraxinus pennsylvanica subintegerrima

(Seed wings are narrow, tapered, not notched.)



If the buds are red; and the new growth on the twigs is red, or red-brown, go to



below

If the buds and the new growth are not red, go to



next page

If the tree is shrub-like, an understory tree of the forest, with densely-hairy twigs (often with fruits that hang on into the winter), it is

MOUNTAIN MAPLE
Acer spicatum

If the tree is not shrub-like, and the flower buds are globular and conspicuous, go to



below

If the twigs give a rank smell when broken, and the bark on old trunks peels in great shaggy flakes, and the bud scales are pointed, it is

SILVER MAPLE
Acer saccharinum

If the younger trunks are smooth, very pale gray, with darker markings, and if the twigs do not have a rank smell when broken, and if the bud scales are rounded, it is

RED MAPLE
Acer rubrum



If the buds are whitish and woolly; and the twigs are purplish or greenish; and the leaf scars from opposite sides of the twig meet at their tips, forming a tooth-like point, it is

BOX ELDER
Acer Negundo

If the buds are not whitish and woolly, go below to

If the twigs are stout, with end buds making a broad, low triangle, smooth, green or partly green, go to

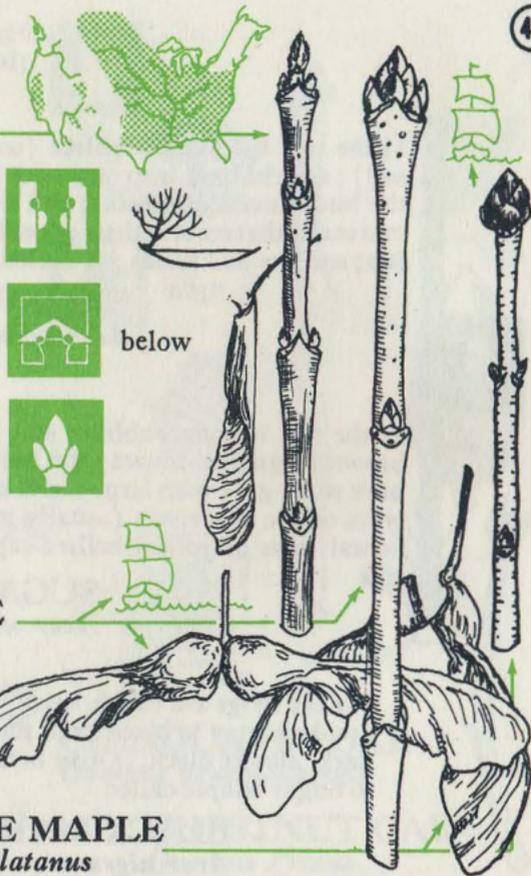
If the buds are longer-pointed, and brown to reddish-brown, go to next page

If the buds are marked with green and some red-brown; and the fruits which may still be clinging to the tree are joined in pairs at a wide angle so that they resemble a miniature coat hanger, it is

NORWAY MAPLE
Acer platanoides

(In early spring the tree is conspicuous with clusters of yellow-green flowers. At that time one can easily identify this tree by its milky juice.)

If the end buds are big and green, it is **SYCAMORE MAPLE**
Acer Pseudo-Platanus



If the tree is small, shrublike (usually on sandy soil); and the bark is striped with light lines; and the buds have short stalks; and the end bud has two scales that meet at their edges but do not overlap; and the bud scales are keeled, it is

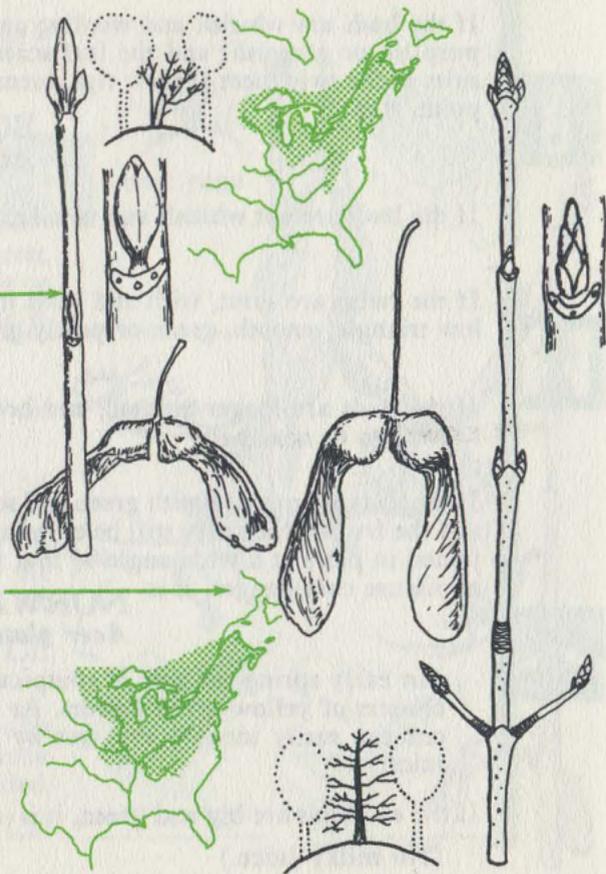
STRIPED MAPLE
Acer pensylvanicum

If the tree is not shrublike; and if the buds are brown to grayish-brown; the twigs slender; the bark stone-gray with large scales peeling off sideways on the old trunks (usually marked by horizontal rows of yellow-bellied-sapsucker holes), it is

SUGAR MAPLE
Acer saccharum

(If the twigs are rough-hairy; and the buds are dark gray to black; and the bark is very dark, almost black, it may be a tree similar to Sugar Maple called

BLACK MAPLE
Acer nigrum



If the bark is light gray on younger parts, flaky or ridged and darker gray on older parts; and if the buds are only about 1/8 to 1/4 inch long, go to

(Leaves you may find will *not* be bristle-tipped. The acorn ripens in one year. The inside of the acorn cup is smooth.)

If the bark is dark, smooth and shiny on the younger parts, becoming ridged on the older parts; and if the buds are conical or ovate, 1/8 to 1/2 inch long, go to

(The leaves will usually be bristle-tipped. The acorns, which are bitter, take two years to ripen. So you may find both young ones on the branches, and ripe ones on the ground. The acorn cup is silky or woolly inside, and has thin scales.)



If the buds are rounded, go to



next page

If the buds are pointed, go to



below



If the buds are chestnut-brown with hairless scales, and the bark flaky; the crown narrow, and dense; and the tree has a buttressed base (often grows on limestone ridges), it is

If the buds are dark red with hairy scales; and the bark is deeply fissured, not flaky; and the inner bark is red; and the tree has an open, spreading crown, it is



below

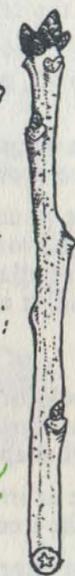


page 54



CHINQUAPIN OAK
Quercus Muehlenbergii

CHESTNUT OAK
Quercus Prinus



If you can easily rub off a handful of bark scales from the trunk, go below →

If the trunk bark is furrowed, but has few scales to rub off, go to next page →

If the twigs are smooth, and the tree has a broad, rugged crown, go below →

If the young twigs are covered with a coarse, orange-brown down; and the tree is often scrubby, irregular, and usually on dry, sandy or rocky upland, it is →

POST OAK
Quercus stellata

(Look for durable, leathery leaves, lobed to form a sort of cross-shape. Acorn cup is bowl-shaped, and half encloses the nut.)

If the acorns are long, and paired on long stalks; and the tree is planted in a park or parkway, it is →

ENGLISH OAK
Quercus Robur

If the acorns are not stalked, and the tree is a native, it is →

WHITE OAK
Quercus alba

(Look for right-angled branching. The pale tan leaves cling far into winter. The acorns will be hard to find, because they are sweet squirrel food. White Oaks are often unmistakably marked by a belt of worn-looking bark on the trunk [caused by fungus].)



If the twigs are thick and somewhat hairy, developing corky ridges with age; and the buds are hairy, it is →

BUR OAK

Quercus macrocarpa

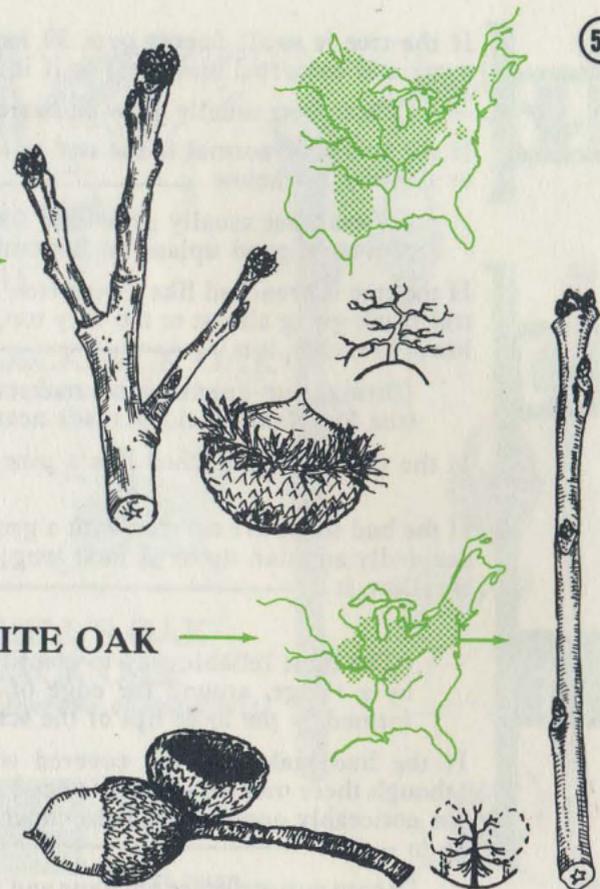
(The end buds often show thread-like stipules longer than the scales. Look for acorns almost covered by the fringed acorn cups. This is the most gnarled and rugged-looking of the oaks.)

If the twigs are smooth, and the lower branches hang down, and the tree grows in rather moist soil, and there are often curling scales of bark on the branches, it is →

SWAMP-WHITE OAK

Quercus bicolor

(Look for acorns with stems 1 to 4 inches long.)



If the tree is small (never over 30 feet), with a crooked trunk and contorted branches; or if it is shrubby, go to →

(These trees usually grow on barren, dry ridges.)

If the tree is of normal shape and size, and not contorted or shrubby, go below →

(These trees usually grow in a forest or in open groves on good upland or bottomland soil.)

If the tree is branched like a pine tree, with a straight central trunk going almost to the very top, and with drooping lower branches, it is →

(Straight-up-growth habit makes this a common tree for planting along roads near power lines.)

If the tree is not branched like a pine tree, go to →

If the bud scales are covered with a grayish wool; the buds decidedly angular, up to 1/2 inch long; and the inner bark is yellow, it is →

BLACK OAK
Quercus velutina

(The most reliable way to identify Black Oak is by a fringe, around the edge of the acorn cup, formed by the loose tips of the scales.)

If the bud scales are not covered with a grayish wool (though there may be some hairiness); and if the buds are not noticeably angular; and the inner bark is not yellow, go to →

(Acorn cup scales are not loose and form no fringe.)



next page

next page



If the buds are all less than 1/8 inch long, it is

SCRUB OAK
BEAR OAK →
Quercus ilicifolia

(This tree is shrubby, with abundant small acorns less than 1/2 inch long.)

If the buds are more than 1/8 inch long, it is
(The acorns are about 3/4 inch long, light brown, and striated.)

If the lower part of the tree is conspicuously cluttered with dead branches and twigs, it is
(The acorn cup is top-shaped.)

If the tree is not conspicuously cluttered, the tree is either Scarlet Oak, Shingle Oak, Water Oak, Red Oak, Spanish Oak, or Willow Oak. To find out which, it is necessary to look at an acorn (or a dry leaf). Go to →



next page



If the acorn cup is top-shaped, like this:



go to  below

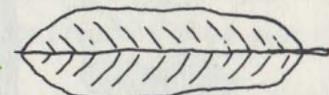
If the acorn cup is more saucer-shaped, like this:



go to  next page

If the acorns are on short stalk; and the tree has gray-brown, shallowly furrowed bark, and green-brown twigs, brown leaves persisting until spring, it is

x $\frac{1}{3}$



SHINGLE OAK
Quercus imbricaria



If there are concentric rings around the tip of the acorn; and if the tree has blackish, deeply furrowed bark and red-brown twigs, it is

(Look for red inner bark.) **SCARLET OAK**

Quercus coccinea

x $\frac{1}{6}$



If the acorns are nearly black, with a bright orange kernel, it is

WATER OAK
Quercus nigra

(Leathery leaves of several forms cling on this tree far into the winter.)

x $\frac{1}{6}$



If the acorns and kernels are not as above, go to



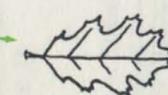
below

If the acorns are 1/2 to 1 inch long; and the scales on the acorn cup are without hair; and there are long smooth surfaces on the ridge of the bark, it is

RED OAK
Quercus rubra

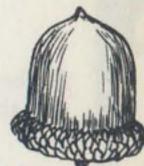
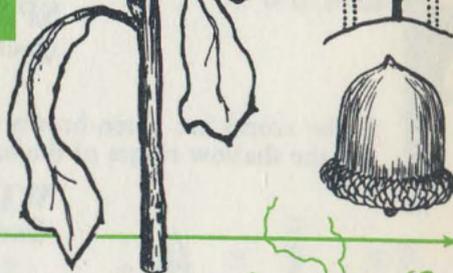
(This is the most often-planted American Oak in Europe.)

x $\frac{1}{16}$



next page

If the acorns are 1/2 inch or less long, and the scales on the acorn cup are hairy, go to





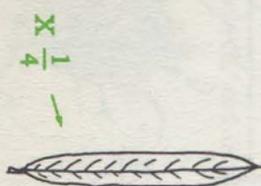
If the acorns are orange-brown; and the bark has narrow, often scaly ridges, separated by deep fissures, it is

SPANISH OAK
Quercus falcata



If the acorns are green-brown to yellow-brown, and the shallow ridges of the bark are not scaly, it is

WILLOW OAK
Quercus Phellos



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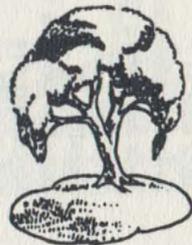
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