

TREES NEEDLE-LIKE OR SCALE-LIKE LEAVES

EASTERN HEMLOCK *Tsuga canadensis*

Flat needles 8-15 mm. long, whitened beneath, round-tipped, attached singly to twigs. Cones 1.5-2.5 cm. long. Moist woods, cool wooded slopes. Common.

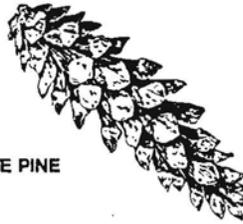


HEMLOCK

PINES: NEEDLES IN CLUSTERS OF 2-5

WHITE PINE *Pinus strobus*

Our only tree with 5 needles per cluster. Chiefly dry woods and old fields but tolerates wet ground. Abundant.



WHITE PINE



PINE

PITCH PINE *Pinus rigida*

Our only tree with 3 needles per cluster. Dry gravel, sandy, often barren soil. Common.



PITCH PINE

RED PINE *Pinus resinosa*

Needles 2 per cluster, 7-17 cm. long. Upper trunk not bright orange. Cones about five cm. long. Dry woods. Uncommon except near where planted.



RED PINE

SCOTCH PINE *Pinus sylvestris*

Needles 2 per cluster, 3-7 cm. long. Upper trunk and branches bright orange. Roadsides, fallow fields, dry open woods. Frequent escape from cultivation.



SCOTCH PINE

LARCHES: NEEDLES NUMEROUS ON A WARTY SPUR, ALL DROPPING IN AUTUMN

EUROPEAN LARCH *Larix decidua*

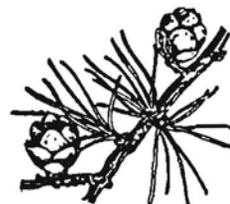
Cones with 30-50 scales. Needles 2.5-3 cm. long. Branchlets sometimes hanging down like tassels. Occasionally escapes cultivation.



EUROPEAN LARCH

AMERICAN LARCH *Larix laricina*

Cones with fewer than 25 scales. Needles 1-2.5 cm. long. Branchlets never tassel-like. Bogs and swamps. Uncommon.



AMERICAN LARCH

TREES

NEEDLE-LIKE OR SCALE-LIKE LEAVES

SPRUCES: NEEDLES ATTACHED SINGLY, USUALLY STIFF, 4-SIDED AND POINTED

NORWAY SPRUCE *Picea abies*

Large cones 10-15 cm. long. Needles dark green. Twigs hairless, or slightly hairy (use hand lens). Branchlets of mature trees sometimes hanging down like tassels. Much planted; occasionally escapes in woods.



NORWAY SPRUCE

BLACK SPRUCE *Picea mariana*

In our area a small tree. Cones 2-3 cm. long, dull grayish brown, remaining on the tree many years. Cone scales with slightly ragged edge. Needles usually bluish green, often somewhat whitened. Twigs hairy. Lengthwise ridges of twigs flattened (use hand lens). Branchlets never tassel-like. Bogs and swamps (and edges of these). Uncommon.



BLACK & RED
SPRUCE

RED SPRUCE *Picea rubens*

Cones 3-4 cm. long, clear or reddish brown, not persistent on the tree. Cone scales with smooth edge. Needles dark or yellowish green. Twigs hairy. Lengthwise ridges of twigs rounded as if inflated (use hand lens). Branchlets never tassel-like. In northern New England an upland tree. In our area presently known from a single swamp. Rare.

WHITE SPRUCE *Picea glauca*

Cylindrical cones 3-6 cm. long. Cone scales with smooth edge. Needles bluish-green, usually somewhat whitened. Twigs hairless (use hand lens). A few seedlings have spread from a planted stand around Pickman Pond in Bedford.



WHITE SPRUCE

TREES

NEEDLE-LIKE OR SCALE-LIKE LEAVES

CEDARS: SCALE-LIKE LEAVES

RED CEDAR *Juniperus virginiana*

Foliage sprays not flattened. Needle-like leaves occasionally present on young trees and vigorous shoots of older trees. Fruit berry-like. Pastures, fields, recent woodland. Common.

ATLANTIC WHITE CEDAR *Chamaecyparis thyoides*

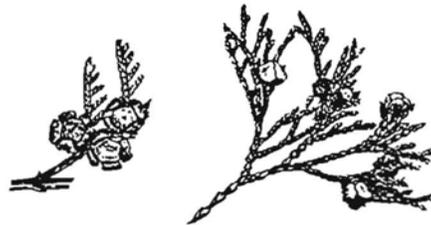
Foliage sprays mildly flattened. No needle-like leaves. Twigs (including foliage) less than 2 mm. wide. Cones small, globular. Wet woods, swamps, bogs. Uncommon.

ARBOR VITAE *Thuja occidentalis*

Flat, fan-like foliage sprays. No needle-like leaves. Twigs (including foliage) 2 mm. or more in width. Cones small, more or less bell-shaped. Much planted but escapes only rarely.



RED CEDAR



ATLANTIC WHITE CEDAR



ARBOR VITAE

TREES OPPOSITE COMPOUND LEAVES

HORSECHESTNUT *Aesculus hippocastanum*

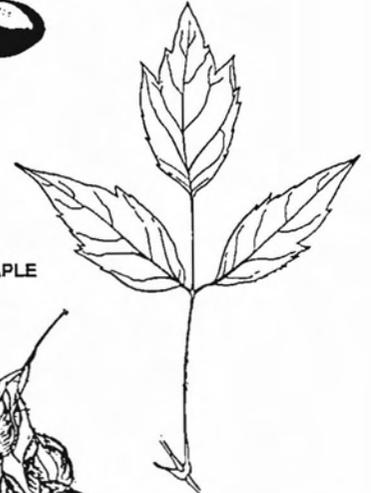
Our only tree with leaflets arranged like the spokes of a wheel. Nuts are somewhat poisonous raw. Frequently planted but escapes are rare.



HORSECHESTNUT

ASHLEAF MAPLE *Acer negundo*

Leaflets mostly 3 or 5, toothed or untoothed. End leaflet often somewhat lobed. Small tree with trunk soon dividing into several parts. Fruits are typical maple keys. Roadsides, waste land. Uncommon escape.



ASHLEAF MAPLE

WHITE ASH *Fraxinus americana*

Leaflets 5-9, whitish beneath, toothed or not, on distinct stalklets that are 3-15 mm. long. Twigs hairless. Fruit body (not wing) 2.5-3.5 mm. wide. Rich woods, roadsides. Common.



WHITE ASH

RED ASH *Fraxinus pennsylvanica*

Leaflets 5-9, usually slightly toothed or wavy-edged, on short stalklets 3-6 mm. long. Twigs velvety-hairy. Fruit body (not wing) narrow (1-2.5 mm. wide) and often long. Low woods, streambanks. Uncommon.



RED & GREEN ASH

GREEN ASH

A variety of *F. pennsylvanica* with hairless twigs. Leaflets green (not whitened) beneath. Fruit and habitat as in Red Ash. Uncommon.



ASH

BLACK ASH *Fraxinus nigra*

Leaflets 7-11, toothed, side ones stalkless, with small tufts of rusty hair where they are attached. Fruits squarish-tipped. Twigs hairless. Swamps, streambanks, shores. Uncommon.



BLACK ASH

TREES

ALTERNATE COMPOUND LEAVES

PART A: LEAVES MOSTLY WITH 11 OR MORE LEAFLETS

BLACK LOCUST *Robinia pseudo-acacia*

Usually thorny with paired thorns, less than 2.5 cm. long. Leaflets 7-21 with untoothed margins, 2.5-4.5 cm. long. Leaves 15-35 cm. long. Twigs smooth or slightly hairy. Fruit pods 5-15 cm. long. Flowers white. Roadsides, fencerows. Naturalized. Common.



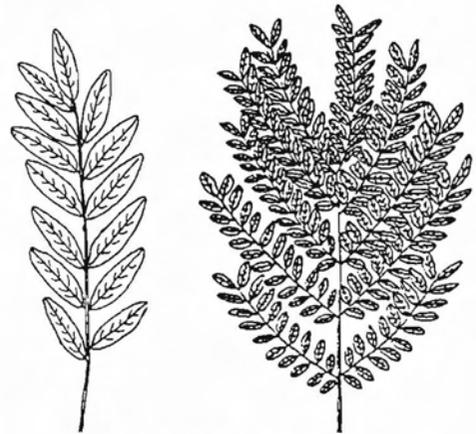
BLACK & CLAMMY LOCUST

CLAMMY LOCUST *Robinia viscosa*

Small tree or large shrub. Similar to Black Locust but thorns (if any) are not significant; leaflets 13-25; twigs and fruit pods sticky-glandular; flowers rose-tinged. An occasional escape along roadsides.

HONEY LOCUST *Gleditsia triacanthos*

Often armed with vicious, branched thorns that are frequently much longer than 3 cm. Leaves may be twice-compound with 15-30 leaflets per division. Leaflets are finely toothed, .8-3.5 cm. long. Leaves 15-30 cm. long. Fruit pods large and twisted, 20-45 cm. long. Frequently planted in cities. An occasional roadside escape.



HONEY LOCUST

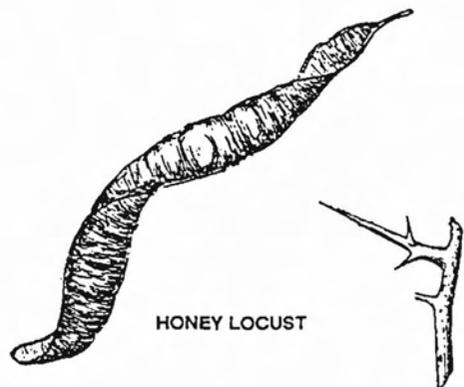
EUROPEAN MOUNTAIN-ASH

Pyrus (Sorbus) aucuparia

Small tree with loose clusters of unpalatable, berry-like fruit. Leaflets 11-17, toothed, 2-6 cm. long. Leaves mostly 9-15 cm. long. Frequently planted and occasionally escapes to roadsides, thickets, and wood borders.



EUROPEAN
MOUNTAIN-ASH



HONEY LOCUST

TREES ALTERNATE COMPOUND LEAVES

PART A: LEAVES MOSTLY WITH 11 OR MORE LEAFLETS

(CONT.)

BUTTERNUT *Juglans cinerea*

Leaflets 7-19, toothed, 6-12 cm. long, attached to stalk that is densely sticky-hairy. Leaves 30-60 cm. long. Leaf scars with hairy fringe on upper margin. Fruits oblong, sticky-hairy. Kernel is sweet, edible, and very oily. Rich soil. Uncommon.



BUTTERNUT



WALNUT
& BUTTERNUT

BLACK WALNUT *Juglans nigra*

Leaflets 11-23, toothed, 6-12 cm. long, attached to stalk that is downy (not sticky). Leaves 30-60 cm. long. Leaf scars lacking hairy fringe on upper margin. Fruits spherical, not sticky-hairy. Kernel is sweet, edible. Hedgerows, thickets, roadsides. Occasionally escapes cultivation.



WALNUT

TREE-OF-HEAVEN *Ailanthus altissima*

Leaflets 11-41, untoothed except for one or two pairs of teeth near leaflet base, 7-18 cm. long. Leaves 30-60 cm. long. Waste places, roadsides. Very common weed tree in cities, but presently uncommon in our area.



TREE-OF-HEAVEN



STAGHORN SUMAC *Rhus typhina*

Leaflets 11-31, toothed, 5-12 cm. long. Leaves 30-60 cm. long. Twigs and leaf-stalks densely velvety-hairy. Fruit in dense upright clusters, covered with red hair, used for flavoring. Small tree or, usually, a shrub. Dry thickets, roadsides, open, rocky slopes. Uncommon.



STAGHORN SUMAC



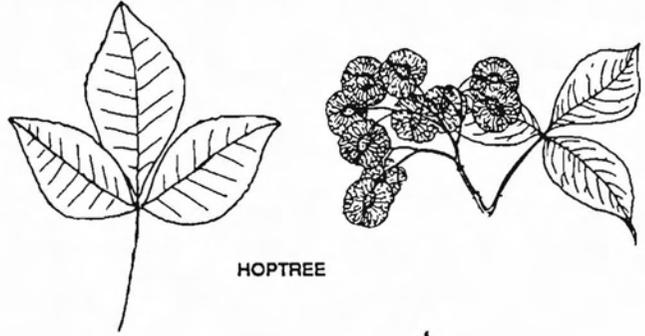
TREES

ALTERNATE COMPOUND LEAVES

PART B: LEAVES MOSTLY WITH FEWER THAN 11 LEAFLETS

HOPTREE *Ptelea trifoliata*

Leaflets three, 6-12 cm. long, resembling Poison Ivy. Fruits wafer-like. A small tree or shrub. Thickets, edges of woods, roadsides. Uncommon escape.



HOPTREE

SHAGBARK HICKORY *Carya ovata*

Leaflets 5-7 (usually 5), with tiny tufts of hair near tips of some teeth (use hand lens). End leaflet becoming 10-20 cm. long, 5-11 cm. wide. Trunk bark very shaggy (except on very young trees). Fruit 3.5-6 cm. long with thick husk (3-12 mm. thick) splitting to the base when mature. Kernel is edible. Woods, roadsides, pastures. Uncommon.



SHAGBARK
HICKORY



SHAGBARK HICKORY

PIGNET HICKORY *Carya glabra*

Leaflets 5-7 (usually 5). End leaflet 8-17 cm. long and mostly 3.5-6 cm wide. Leafstalks not red. Fruit 1.5-3.5 cm. long, dark brown, somewhat shiny. Thin husk generally splitting only partly or not at all in fall. Kernel is bitter or slightly sweet. Catkins 5-8 cm. long. Bark tight, furrowed. Considered a variety of the next species by some botanists. Dry woods, pastures, roadsides. Uncommon.



PIGNET HICKORY



PIGNET HICKORY

SWEET PIGNUT HICKORY *Carya ovalis*

Leaflets 5-7. End leaflet 8-17 cm. long and mostly 4-8 cm. wide. Leafstalks often reddened. Fruit 1.5-3.5 cm. long, light brown, dull, scaly-dotted. Thin husk usually splitting freely to base when mature. Kernel is sweet, edible. Catkins 8-17 cm. long. Bark ridged, scaly or somewhat shaggy when mature. Woods, pastures, roadsides. Common.



SWEET PIGNUT
HICKORY



HICKORY FRUITS

TREES ALTERNATE COMPOUND LEAVES

PART B: LEAVES MOSTLY WITH FEWER THAN 11 LEAFLETS (CONT.)

MOCKERNUT HICKORY *Carya tomentosa*

Leaflets 5-9, hairy beneath, larger ones 10-20 cm. long and 5-12 cm. wide. Twigs and central stalk usually hairy. Fruit 3.5-5 cm. long. Nut has disappointingly small kernel which is edible. Bark of young trees and young bark of older trees has distinctive pattern of interweaving, smooth, flat-topped ridges. Woods, pastures, roadsides. Uncommon.



BITTERNUT HICKORY *Carya cordiformis*

Leaflets 5-11 (usually 7-9), somewhat hairy beneath, larger ones 8-15 cm. long and 2-5 cm. wide. Fruit about 2.5 cm. long, much ridged or winged partway along seams. Kernel is bitter. Buds with bright, yellow, powdery surface, elongate. Bark tight with shallow fissures. Various habitats from wet woods to roadsides. Rare.



BITTERNUT HICKORY



POISON SUMAC *Rhus vernix*

Leaflets 7-13, untoothed, 4-10 cm. long. Fruit berry-like, whitish, in elongated clusters. Small tree or (usually) a shrub. All parts of plant irritate the skin of most people. Wooded swamps, bog margins, occasionally in wet woods. Common.



POISON SUMAC

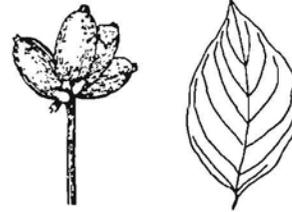


TREES

OPPOSITE SIMPLE LEAVES

FLOWERING DOGWOOD *Cornus florida*

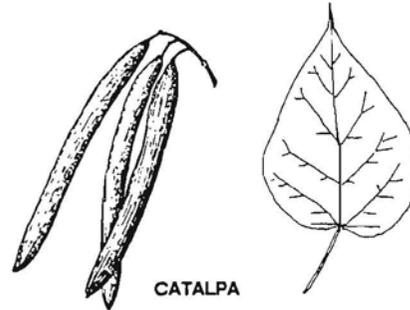
Small tree or large shrub with untoothed leaves. Side veins curving strongly, tending to parallel leaf margin. Mature bark broken into squarish blocks. Fruit red, berry-like, bitter. Frequently cultivated. Acidic woods. Uncommon.



FLOWERING DOGWOOD

NORTHERN CATALPA *Catalpa speciosa*

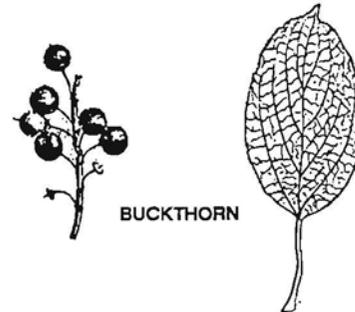
Leaves large, 15-30 cm. long, untoothed (occasionally lobed), sometimes in whorls of three. Fruit a long, narrow, bean-like pod. Roadsides, waste places. Uncommon escape.



CATALPA

COMMON BUCKTHORN *Rhamnus cathartica*

Leaves opposite or nearly so, toothed with rounded teeth; main veins reaching strongly forward. Fruits black, berry-like, purgative. Small tree or large shrub. Thickets, roadsides. Naturalized. Common.



BUCKTHORN

BIRCHES *Betula spp.* - Pairs of alternate leaves crowded on spur branches give appearance of opposite arrangement. See p. 29.

TATARIAN MAPLE *Acer tataricum*

Typical leaves unlobed, very irregularly toothed, not whitened but more or less hairy on veins beneath. Fruit mature in late summer or early autumn. Small tree or shrub. Escaped at single site in Concord.



TATARIAN MAPLE



MAPLE FRUIT

SIBERIAN MAPLE *Acer ginnala*

Leaves typically 3-lobed with central lobe much lengthened, not whitened and essentially hairless beneath. Often a shrub. Fruit mature in late summer or early autumn. Roadsides, woods, thickets. Uncommon escape.



SIBERIAN MAPLE

STRIPED MAPLE *Acer pensylvanicum*

Leaves large (up to 20 cm. wide), 3-lobed, and very finely toothed. Bark greenish with white stripes. A small tree. Cool, rocky woods. Rare.



STRIPED MAPLE

TREES

OPPOSITE SIMPLE LEAVES

RED MAPLE *Acer rubrum*

Leaves 3-5 lobed (rarely unlobed) with central lobe wide-based, undersides whitened. Fruit mature in late spring or early summer, each half 1.5-2.5 cm. long. Autumn color bright red and yellow. Wet woods, second growth areas. Abundant.



RED MAPLE

SILVER MAPLE *Acer saccharinum*

Leaves deeply 5-lobed with central lobe narrowed at base, whitened beneath. First native tree to blossom in spring. Fruit mature in late spring, each half 4-8 cm. long. Autumn color yellow. Often planted. Riverbanks, bottomlands. Common.



SILVER MAPLE

SYCAMORE MAPLE *Acer pseudo-platanus*

Leaves 5-lobed with lobes broader towards the tips than Red Maple. Mature bark flaky, similar to Sycamore bark. Flowers and fruit in elongated hanging clusters. Fruit maturing in midsummer or early autumn, each half 3-5 cm. long. Frequently planted, occasionally escapes.



SYCAMORE MAPLE

MOUNTAIN MAPLE *Acer spicatum*

Leaves similar to Red Maple or Sycamore Maple, hairy beneath. Flowers and fruit borne on upright stalks in spike formation. Fruit maturing in late summer or autumn. Small tree or (usually) a large shrub. Introduced at a single site in Concord.



MOUNTAIN MAPLE

NORWAY MAPLE *Acer platanoides*

Leaves lobed but with few teeth, green beneath. Leafstalk sap milky. Mature bark with many firm, narrow ridges. Autumn color bright yellow, turning late in season. Commonly planted shade tree which sometimes escapes.



NORWAY MAPLE

SUGAR MAPLE *Acer saccharum*

Leaves lobed but with few teeth, paler beneath. Leafstalk sap not milky. Mature bark deeply furrowed or shaggy. Autumn color scarlet, orange, or yellow. In our area mainly an escape near roadside plantings.



SUGAR MAPLE