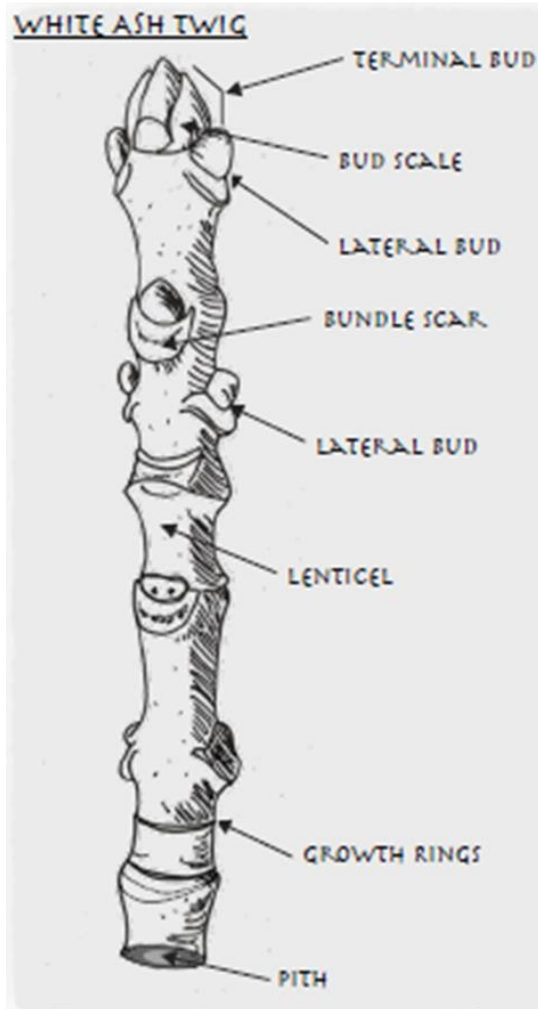


Helpful Characteristics for Identifying Trees & Shrubs in New Hampshire

Updated February 2023

University of New Hampshire Cooperative Extension

Contact matt.tarr@unh.edu to report any errors or to get the most recent update of this reference



Twig Parts Defined

Observe the parts of the twig

Terminal Bud - bud on the tip of the twig.

Lateral Bud - buds on each side of the twig.

Bud Scale - provides protection to buds in Winter. They fall off in Spring.

Leaf Scar - scar on the twig of leaf attachment. When the leaf drops, a scar is left under the bud.

Bundle Scar - scars within the leaf scar can be viewed as visible dots or lines. Once tubes that supplies the leaf with water.

Lenticel - pores on trees that permit inner bark to breath.

Growth Rings - found a few inches from the twig tip, lines/rings close together left when bud scales of last year's terminal bud fell off, indicating a years growth.

Pith - soft inner core of the twig.

TREES with OPPOSITE branching:

Maples

Ashes

Horsechestnut

SHRUBS with OPPOSITE branching:

Dogwoods

Elderberries

Snowberry

Viburnums

Honeysuckles

Coralberry

Lilac

Helpful Characteristics for Identifying Trees & Shrubs in New Hampshire

alder, speckled (*Alnus incana* ssp. *rugosa*) - Betulaceae

- Habit: shrub or small tree (up to 18' tall), usually growing in clumps
- Leaves: simple, ovate, single or double toothed (serrate), veins very prominent beneath with ladder-like patterns, bases rounded to somewhat heart-shaped
- Twigs: alternate, olive-brown; pith greenish, triangular; buds large, reddish-brown, football shaped, stalked, coated in grayish/tawny down. Pseudoterminal bud.
- Flowers: March through May. Reddish. On separate male & female catkins.
- Fruit: August-Sept. Tiny seeds borne in small, persistent drooping cones
- Bark: smooth, dark brown or gray black; prominent, horizontal white lenticels.
- Habitat: wetlands, wet meadows, abandoned gravel pits: FACW



A. incana ssp. *rugosa*

Similar species:

- **smooth alder** (*A. serrulata*): cones do not drupe, bark is relatively unspeckled

Use by Vertebrate Wildlife: Buds and catkins eaten by Ruffed grouse, American woodcock. Seeds eaten by American goldfinch, Pine siskin, Common and Hoary redpoll. Browsed moose, deer, snowshoe hare, cottontails, beaver. Often used by beavers to construct dams and lodges.

Use by Invertebrate Wildlife: Alder used as a host plant for caterpillars of numerous species of moths and butterfly flies including Banded tussock moth (*Halysidota tessellaris*), American dagger moth (*Acronicta americana*), Walnut sphinx moth (*Amorpha juglandis*).

arrowwood, smooth (northern arrowwood) – (*Viburnum dentatum* var. *lucidum*) - Adoxaceae

- Habit: tall shrub, very branchy, often with long, straight arrow-like stems among older branches.
- Leaves: simple, roundish, coarsely toothed with prominent veins
- Twigs: opposite; older branches grayish, present years growth light-brown and 4-angled; buds reddish-brown, pointed
- Flowers: May to early June. Small white flowers in flat-topped clusters.
- Fruit: August through early autumn. Small blue-black, berry-like drupes.
- Habitat: wet sites: FAC



Use by Vertebrate Wildlife: Fruits eaten by probably all bird species that eat fruit, mice, squirrels, eastern chipmunk. Twigs browsed by deer, hares, cottontails and beavers.

Use by Invertebrate Wildlife: Bees, flies, wasps, sawflies, moths, beetles and butterflies use nectar from flowers
Host plant for caterpillars of Pipevine swallowtail butterfly (*Battus philenor*), Brown scoopwing moth (*Calledapteryx dryopterata*), Azalea sphinx moth (*Darapsa choerilus*).

ash, black (*Fraxinus nigra*) - Oleaceae

Habit: tree
Leaves: opposite, compound, 7-11 sessile leaflets, serrate margins
Twigs: first pair of lateral buds usually set back from terminal bud, bud scar not deeply notched at top; buds dark.
Bark: grayish, irregularly scaly or corky, may be powdered by rubbing
Flowers: March-April, Reddish/greenish
Fruit: Ripen June-Sept, Dispersed July-Oct. Long samaras.
Habitat: wet sites: FACW
Similar species: see *white ash*



ash, white (*Fraxinus Americana*) – Oleaceae

Habit: tree (50-70 feet)
Leaves: pinnately-compound, 5-9 (mostly 7) stalked leaflets; margins entire or toothed slightly; white or pale beneath
Twigs: opposite, stout; terminal bud pyramidal shaped, brownish, rather blunt and wider or as wide as it is high, first set of lateral buds touch terminal bud; lateral buds usually set in a deep U or V-shaped notch in the upper edge of leaf scars.
Flowers: April-May. White. Separate male and female plants.
Fruit: Ripens Sept-Nov, Dispersed Sept-Dec. Single narrow samaras pointed at both ends; borne in drooping panicles
Bark: gray; diamond-shaped pattern of shallow ridges and furrows
Habitat: occurs on fertile, moist (not wet) soils: FACU
Similar species:

- **green ash** (*F. pennsylvanica*): terminal buds generally higher than they are wide; lateral buds set in shallow notch or on top of leaf scar; grows in moist or wet soils: FACW
- **black ash** (*F. nigra*): see *black ash*



White ash

green ash

Use by Vertebrate Wildlife: Ash seed eaten by Wood duck, Wild turkey, Ruffed grouse, Northern cardinal, Evening grosbeak, black bear, red squirrel, gray squirrel, white-footed mouse, meadow vole. Browsed by beavers and deer.

Use by Invertebrate Wildlife: Over 140 species of Lepidoptera caterpillars use ash (*Fraxinus*) as a host plant. White ash is the primary host of larvae of the non-native emerald ash-borer.

aspen, quaking (trembling aspen, popple, poplar) (*Populus tremuloides*) - Salicaceae

- Habit: tree
Leaves: alternate, simple, rounded, margins finely toothed; petiole longer than blade, flattened slender
Twigs: slender, reddish-brown, grayish film; buds slightly resinous (shiny), conical, pointed, short (around ¼")
Bark: smooth, greenish white to cream color, older trees dark brown or gray, furrowed
Flowers: Mid-March – April. Male and female flowers on separate trees. Male catkins 1 ¼ to 3 ¼ inches long with long silky hairs, female catkins 1 ¼ to 2 ¼ inches long with red stigmas mixed in with long silky hairs.
Fruit: May-early April. Green, round and conical capsules arranged on the catkins. Capsules split in halves and release a cottony seed.
Habitat: FACU



aspen, bigtooth (*Populus grandidentata*) - Salicaceae

- Habit: tree (up to 60')
Leaves: alternate, simple, ovate, margins coarsely toothed, petioles flat
Twigs: moderately stout, yellowish, reddish, or grayish-brown, hairless or slightly gray-silky; buds non-resinous, coated with thin white felt
Bark: young, olive-green; older trees brown and furrowed (though less than *P. tremuloides*)
Flowers: Mid-March-April. Male and female flowers on separate trees.
Fruit: May-early June. Green, round and conical capsules arranged on the catkins. Capsules split in halves and release a cottony seed.
Habitat: FACU



Use by Vertebrate Wildlife: *Populus* catkins eaten by Ruffed grouse, Cedar waxwing. *Populus* buds eaten by Purple finch, Evening grosbeak. *Populus* twigs and bark eaten by moose, deer, beaver, snowshoe hare, cottontails, porcupine, voles.

Use by Invertebrate Wildlife: *Populus* used as a host plant by caterpillars of more than 360 moths and butterflies in the eastern US including Great ash sphinx (*Sphinx chersis*), Eastern tiger swallowtail (*Papilio glaucus*), and Viceroy (*Limenitis archippus*).

autumn olive (*Elaeagnus umbellata* var. *parvifolia*) - Elaeagnaceae

Habitat: medium size shrub (±20' tall)
Leaves: 2-3 inches long; entire and undulate; bright green to gray green above and silvery scaly beneath with short petioles.
Twigs: new growth silvery, older growth light brown; covered with dark speckles; often has scattered thorns; alternate
Bark: gray-brown
Flowers: April-June. Creamy white.
Fruit: Late-August – October. Bright orange or red, covered in silvery speckles, juicy.
Habitat: forest edges, old fields, dry sites; FACU



Use by Vertebrate Wildlife: Fruit eaten by eastern chipmunk, racoons, skunk, opossum, foxes, black bear, and probably all fruit-eating birds including Gray catbird, American robin, Northern cardinal, Cedar waxwing, Northern mockingbird, Song sparrow, Pileated woodpeckers, Ruffed grouse, Wild turkey. Ruby-throated hummingbirds drink nectar from flowers. Deer usually avoid browsing autumn olive. Few to no caterpillars use autumn olive as a host plant and few insects eat the leaves.

Use by Invertebrate Wildlife: Moths, butterflies, flies and wasps use nectar from flowers. Bees use nectar and collect pollen.

barberry, Japanese (*Berberis thunbergii*) – Berberidaceae

Habit: low, upright shrub
Leaves: Up to 1 inch long, paddle-shaped
Twigs: alternate, brown, grooved; inner bark yellow; spines primarily single; buds small and brown
Flowers: April-June. Yellow
Fruit: Late summer-Fall. Persistent through winter. Bright red oval berries, borne singly on small racemes
Habitat: typical in old-field sites, uplands and moist woodlands, wetland edges: FACU
Similar species:

- **Common barberry (European barberry)** (*B. vulgaris*): taller than *B. thunbergii* (up to 10'tall), spines usually in sets of three, fruits usually borne on clustered or drooping racemes.

Use by Vertebrate Wildlife: Fruits eaten by Ruffed grouse, Wild turkey, Northern mockingbird, Northern cardinal, Gray catbird, Cedar waxwing, Eastern bluebird, Song sparrow.

Use by Invertebrate Wildlife. Flowers provide nectar & pollen. Host plant for caterpillars of Barberry geometer (*Coryphista meadii*), Prometheus silk moth (*Callosamia promethea*), Cecropia silkmoth (*Hyalophora cecropia*), White-marked tussock moth (*Orgyia leucostigma*), Spongy moth (*Lymantria dispar*), Eastern tent caterpillar (*Malacosoma americana*), Tissue moth (*Triphosa haesitata*).



basswood, American (American linden) (*Tilia americana* var. *americana*) - Malvaceae

- Habit: tree (50-80')
- Leaves: simple, heart-shaped, fine-toothed with uneven (lop-sided) bases.
Leaves on saplings may exceed 10", those of mature trees may be less than 5"
- Twigs: alternate. Buds green to bright red with only 2-3 visible scales.
Terminal buds pseudo-terminal (appear lop-sided). Bundle scars more than 3 per leaf scar
- Flowers: April-July.
- Fruit: August-October. Small nutlets clustered beneath large leafy wings that act as spinning parachutes.



Use by Vertebrate Wildlife: Seeds/nutlets eaten by gray squirrel, eastern chipmunk, white-footed mouse. Leaves & twigs eaten by white-tailed deer. Bark of saplings consumed by rabbits, meadow voles. Cavities provide nesting for wood ducks, woodpeckers.

Use by Invertebrate Wildlife: Nectar and pollen from flowers collected by bumblebees, honey bees, Halictid bees, Muscid flies, Syrphid flies, moths. Leaves eaten by caterpillars including: Yellow-Banded Underwing, Linden Prominent, and Basswood Leafroller.

beech, American (*Fagus grandifolia*) – Fagaceae

- Habit: large tree with broad crown (50-75')
- Leaves: alternate, simple, margins sharply toothed, long elliptic or ovate
- Twigs: zigzag, slender; buds long, very sharp pointed, buds scales tan and papery
- Bark: smooth, blue-gray
- Flowers: March-May just as leaves are unfolding. Small and yellow/reddish
- Fruit: Ripen Sept- Nov, dispersed Sept-Nov after frost. Produced 2-3 pyramidal seeds enclosed withing a prickly burr
- Habitat: dry, upland sites: FACU



Use by vertebrate Wildlife: Beech nuts are eaten by probably all wildlife species that consume seeds including Black bear, deer, foxes, raccoon, squirrels, eastern chipmunk, white-footed mouse, deer mouse, Ruffed grouse, Spruce grouse, Wild turkey, Rust blackbird, Common grackle, woodpeckers, Tufted titmouse, black-capped chickadee, nuthatches, Rose-breasted grosbeak, Purple finch. Not usually browsed by deer, moose or beavers.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Host plant of Early hairstreak butterfly (*Erora laeta*). Host of Woolly beech scale (*Cryptococcus fagisuga*) associated with beech bark disease.



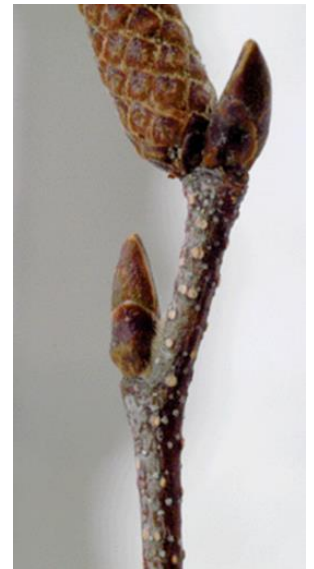
birch, black (cherry birch, sweet birch) (*Betula lenta*) – Betulaceae

Habit: tree (up to 75' tall)
Leaves: simple, heart-shaped base, double-toothed
Twigs: alternate, slender, reddish-brown, twig tips hairless, strong wintergreen scent;
buds two-toned.
Bark: reddish-brown to black
Flowers: April-May. Flowers are on separate male & female catkins
Seeds: Ripen Aug-Sept, dispersed Sept-Nov
Habitat: drier woodlands: FACU
Similar species: *see yellow birch*



birch, gray (*Betula populifolia*) – Betulaceae

Habit: small tree (less than 30' tall)
Leaves: simple, triangular, long tapering tip, doubly serrate
Twigs: alternate, slender, hairless, twig tips have obvious warty, whitish dots;
buds two-toned (green and brown); catkins usually single on ends of twig
Bark: dark brown in young trees; older trees grayish white, not peeling,
triangular black patches on trunk below branches
Flowers: April-May. Flowers are on separate male & female catkins
Seeds: Ripen September-October, dispersed Oct to mid-winter
Habitat: early-successional, typically well drained sites, wetland edges,
abandoned gravel pits: FAC
Similar species: *see paper birch*



birch, paper (white birch) (*Betula papyrifera*) – Betulaceae

Habit: tree (up to 75' tall)
Leaves: simple, ovate, rounded base, double-toothed, stout petioles
Twigs: alternate; reddish-brown with slightly raised whitish spots,
present year's growth somewhat to very hairy; buds two-toned
(green and brown); catkins usually double or triple on ends of twig.
Bark: dark brown on young trees; older trees chalky or creamy white, peeling
Flowers: April-June. Flowers are on separate male & female catkins.
Seeds: Ripen Aug-Sept, dispersed Sept through spring.
Habitat: typically on well-drained sites: FACU
Similar species:

- **heart-leaved paper birch (*Betula cordifolia*)**. Very similar and previously considered a variety of *B. papyrifera*. Unlike *B. papyrifera*, leaves are dotted with resin glands and young twigs not hairy



B. papyrifera

birch, yellow (*Betula alleghaniensis*) – Betulaceae

Habit: tree (up to 75' tall)
Leaves: simple, heart-shaped base, double-toothed
Twigs: alternate, slender, yellowish to brown, twig tips hairy on young trees, subtle wintergreen scent, buds two-toned (green and brown), obviously hairy on scale edges.
Bark: shiny, yellowish, often peeling slightly on young trees
Flowers: April-May. Flowers are on separate male & female catkins
Seeds: Ripen Aug-Oct, dispersed Sept-spring.
Habitat: moist woodlands: FAC
Similar species: *see black birch*



Use by Vertebrate Wildlife: Birch catkins eaten by Ruffed grouse, squirrels. Birch seeds eaten by Common redpoll, Pine siskin, American goldfinch, Black-capped chickadee, Dark-eyed junco, Purple finch, Fox sparrow, White-throated sparrow, eastern chipmunks, white-footed mouse, deer mouse. Birch buds and twigs (mainly white birch) browsed by beaver, deer, hare, cottontails.

Use by Invertebrate Wildlife: Birch (*Betula*) is used as a caterpillar host plant by over 400 species of moths & butterflies in the eastern US.

bittersweet, round leaf (*Celastrus orbiculatus*) – Celastraceae

Habit: Vigorous twining vine or vine-like shrub
Leaves: alternate, simple, nearly circular
Twigs: brown to tan, lenticels barely noticeable, bark not peeling; buds rounded, small, brownish; pith solid, white
Flowers: May-June. White and green.
Fruits: Sept-Oct and persistent into winter. Bright orange-red, borne on axillary cymes (clusters originating near lateral buds)
Habitat: open woods and thickets: UPL
Similar species:

- **American bittersweet** (*C. scandens*): fruits borne on terminal clusters; Uncommon in NH

Use by Vertebrate Wildlife: Fruits eaten by Eastern bluebird, American robin, Northern cardinal, Northern mockingbird, Black-capped chickadee, Tufted titmouse, woodpeckers, Ruffed grouse, Wild turkey, foxes, white-footed mouse, deer mouse.

Use by Invertebrate Wildlife: Flowers likely provide nectar and pollen. *Celastrus* seem to serve as host plants to only a few species of caterpillars in the US, including Common tan wave (*Pleuroprucha insulsaria*) and Curve-toothed geometer (*Eutrapela clemataria*).



blackberry (common blackberry) (*Rubus allegheniensis*) - Rosaceae

Habit: upright or arching shrub
Leaves: alternate, compound, 3-7 leaflets, mostly 5; when 5 or more leaflets, palmately compound; leaflets woolly or velvety beneath
Canes: stout, lower portion angled (not round in cross section); thorns large and recurved,
Flowers: mid-April to late-May. White.
Fruits: July through late-August
Habitat: early successional, upland sites: FACU

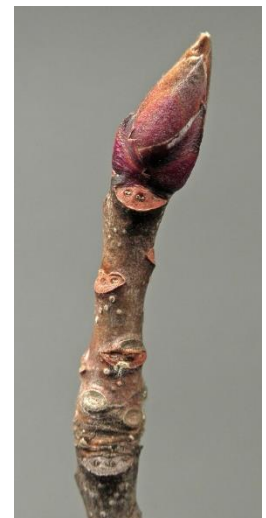
Use by Vertebrate Wildlife: Fruits consumed by probably all wildlife species that eat fruit. Leaves eaten by deer.

Use by Invertebrate Wildlife: Flowers used for nectar & pollen. Rubus are used as caterpillar host plants by over 160 species of moths & butterflies in the eastern US. Numerous insects nest bore into canes to lay larvae and/or overwinter.



blackgum (black tupelo, sour-gum) (*Nyssa sylvatica*) - Nyssaceae

Habit: tree (40-60 feet tall) with a irregular-shape or flat-topped crown
Leaves: Simple & alternate. Egg-shaped to elliptical and widest above the Middle; shiny and leathery. Margins entire. Scarlet in autumn.
Twigs: Slender, brown. Short spur shoots usually common. Pith is chambered when stem is cut length-wise. Obvious leaf scars with three large bundle scars.
Bark: Grayish, deeply-grooved with oblong blocky appearance.
Flowers: April-June. Tiny and greenish. Male & female flowers usually on different trees.
Fruit: Aug-Oct. Bluish and berry-like (1/3") and borne singly or in 2s or 3s on a long slender stem. Pit is ridged.
Habitat: Most common in forest wetlands and along lake shores, but occasionally on upland sites with rich, moist, well-drained soils



Use by Vertebrate Wildlife: Fruit eaten by Wood duck, Ruffed grouse, Wild turkey, Eastern bluebird, American crow, Purple finch, woodpeckers, Northern mockingbird, American robin, European starling, Scarlet tanager, thrushes, Tufted titmouse, black-capped chickadee, red-eyed vireo, squirrels, eastern chipmunk, white-footed mouse deer mouse, raccoon, foxes, opossum, black bears.

Use by Invertebrate Wildlife: Flowers provide pollen and nectar. Host plant for caterpillars of numerous moths including: False underwing (*Allotria elonympha*), Tupelo leafminer (*Antispila nysaefoliella*), Cadbury's mystique (*Comachara cadburyi*), Azalea sphinx (*Darapsa pholus*), Forest tent caterpillar (*Malacosoma disstria*), Large paectes (*Paectes ostoloides*), The Hebrew (*Polygrammate hebraicum*), and Alien probole (*Probole alienaria*).

blueberry (*Vaccinium* spp.) – Ericaceae

Habit: low or medium height shrub

Twigs: alternate, slender, green or reddish or both, covered with raised glandular speckles or warts (use hand-lens); buds are small and are of 2 types: slim leaf buds and swollen flower buds, bud scales usually have long, tapered tips.

Flowers: May-June depending on species

Fruits: June through August for most species.

Habitat: dry woods to swamps, acidic soils

Notes: difficult to distinguish between species without leaves, especially with small shrubs. NH Natural Heritage Inventory lists the following species as occurring in NH (:

a) *V. corymbosum* – **highbush-blueberry**:

up to 12' tall, leaves elliptic, slightly hairy or hairless, usually without teeth but occasionally with sharp teeth, green beneath, hairy or glabrous; twigs hairy or hairless; open swamps and bogs and in upland woods and old fields



b) *V. angustifolium* – **common lowbush-blueberry**

shrub up to 2' tall; leaves elliptic with sharp teeth, green and glabrous or occasionally with a few hairs along the veins; twigs somewhat hairy or not hairy; moist or dry sites, sandy or rocky soil, often in burned-over sites



c) *V. pallidum* – **hillside-blueberry** (late low blueberry)

shrub up to 2' tall; leaves egg-shaped or elliptic, usually entire, seldom toothed, glaucous and sometimes hairy beneath; twigs never hairy; bud scales rounded above; dry upland woods and old fields



d) *V. myrtilloides* – **velvetleaf-blueberry**

shrub up to 3' tall; leaves thin and soft, elliptic or lance-elliptic, not toothed, hairy beneath; bud scales sharp-pointed; twigs hairy; moist or dry soil and bogs



e) *V. boreale* - **alpine blueberry** (northern blueberry, sweet hurts)

grows in alpine meadows, low growing with rhizomes that form dense colonies; leaves narrow and elliptic, with small sharp teeth along the margins, green and glabrous



f) Other blueberries listed in NH but not listed here:

- *V. caesariense* – New Jersey highbush blueberry
- *V. cespitosum* – Dwarf blueberry
- *V. fuscatum* – black highbush blueberry

Use by Vertebrate Wildlife: Blueberry fruits consumed by probably all wildlife species that eat fruit.

Use by Invertebrate Wildlife: *Vaccinium* used as caterpillar host plant by over 160 species of moths and butterflies in the eastern US. Flowers used for nectar & pollen.

bog rosemary (wild rosemary, downy andromeda) (*Andromeda polifolia* var. *glaucophylla*) – Ericaceae

- Habit: Low-growing shrub (up to two feet)
Leaves: slender, not toothed, edges curled underneath, light green on top & whitish and slightly hairy underneath, 1 to 1½", evergreen
Twigs: Current year's growth whitened, older stems tan. Hairless.
Flowers: May-July, White and pinkish, globe-shaped and in nodding clusters on ends of twigs
Fruit: August. Many tiny seeds borne within dry capsules
Habitat: Peat bogs. OBL

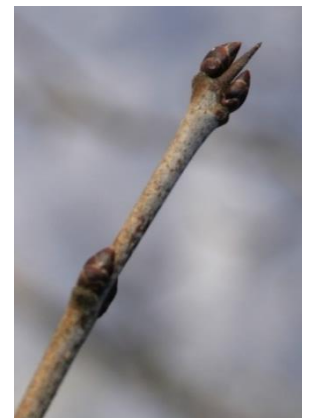


Use by Vertebrate Wildlife: Probably of minor importance for vertebrate wildlife. Song sparrow, white-throated sparrows, Dark-eyed juncos, redpolls might eat the tiny seeds. TOXIC TO HUMANS

Use by Invertebrate Wildlife: Flowers provide pollen and nectar. Host plant to caterpillars of Chain-dotted geometer (*Cingilia catenaria*), Huckleberry sphinx (*Paonias astylus*).

buckthorn, common (*Rhamnus cathartica*) – Rhamnaceae

- Habit: Clumped shrub or small tree up to 25' tall; large shrubs may be reminiscent of an apple tree
Leaves: Dark green, oval, slightly serrate with 3-4 pairs curving veins at somewhat folding tip.
Twigs: sub-opposite but can be opposite or alternate; end in sharp spike or thorn; buds naked, lateral buds pointed and pressed tight against stem,
Bark: gray-brown, shiny with prominent lenticels
Flowers: June. Small & yellow-green; borne in dense clusters; Male & female flowers usually on different plants.
Fruit: July through September. Blue-black drupes.
Habitat: field edges, thickets: FAC



buckthorn, glossy (glossy false buckthorn) (*Frangula alnus*) – Rhamnaceae

- Habit: shrub or small tree (up to 20')
Leaves: alternate, simple, elliptic, entire margins, waxy above, hairy beneath
Twigs: hairy, three bundle scars; buds long, naked, not stalked
Flowers: Late May-early Sept. White and small.
Fruit: mid-July to autumn. Black drupe containing two seeds, persistent
Habitat: very adaptable and can be found in nearly all sites but not usually in water or on very gravel sites; FAC



Use by Vertebrate Wildlife: Buckthorn (*R. cathartica* and *F. alnus*) fruits are readily eaten and their seeds are dispersed by at least 46 species of birds in the eastern US, including Wood duck, Northern flicker, Red-eyed vireo, Philadelphia vireo, White-breasted nuthatch, Eastern bluebird, thrushes, American robin, Gray catbird, Northern mockingbird, Brown thrasher, European starling, Waxwings, Tennessee warbler, Cap May warbler, Magnolia warbler, Blackpoll warbler, Black-throated blue warbler, Black-throated green warbler, Yellow-rumped warbler, Eastern towhee, sparrows, Scarlet tanager, Northern cardinal, Baltimore oriole, grosbeaks, and finches. Fruits likely eaten by white-footed mice, deer mice, eastern chipmunks, squirrels, foxes, and raccoons. Rarely browsed by deer, hare, cottontails or beavers.

Use by Invertebrate Wildlife: Flowers source of nectar and pollen. Used as host plant to caterpillars of Tissue moth (*Triphosa haesitata*), Gray leaf roller (*Syndemis afflictana*), Oak leaf roller (*Argyrotaenia quercifoliana*), Cecropia moth (*Hyalophora cecropia*), Oystershell metrea moth (*Metrea ostreonalis*).

bunchberry (Canada dwarf-dogwood) (*Chamaepericlymenum canadense*) – Cornaceae

Habit: low, creeping shrub
Leaves: opposite (appear whorled when looking down at plant), simple, oblong to round, arcuate venation
Fruit: globular, bright orange-red clusters of drupes
Habitat: moist sites: FAC

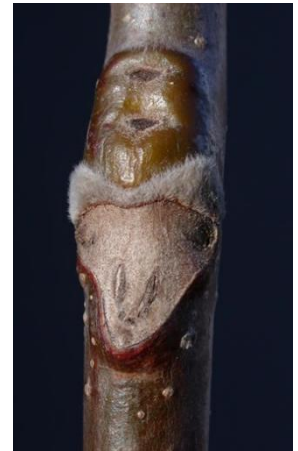


Use by Vertebrate Wildlife: Fruits eaten by Ruffed grouse, Wild turkey, thrushes, Song sparrow, White-throated sparrow, Red-eyed vireo, white-footed mouse, deer mouse

Use by Invertebrate Wildlife: Host plant to caterpillars of Heath proboscidea (*Probole nepiasaria*), White-marked tussock moth (*Orgyia leucostigma*), Black army cutworm (*Actebia fennica*), White-lined leaf roller (*Amorbia humerosana*)

butternut (white walnut) (*Juglans cinerea*) - Juglandaceae

Habit: tree (40-80')
Leaves: compound. 7-17 leaflets. Leafstalk bases somewhat hairy. End leaflet usually present.
Twigs: Buds white-woolly, often appear pale yellow. Leaf scars large with bundle scars in groups of three. Upper edges of leaf scar have a hairy fringe. Pith dark brown and chambered. Twigs somewhat hairy.
Bark: Bark dark and deeply grooved, ridges are smooth-topped creating a shiny, interlaced gray network superimposed upon the black fissures.
Fruits: Oblong and sticky nuts
Similar species: see walnut, black (*J. nigra*) – leaf scars lack the hairy fringe



buttonbush (*Cephalanthus occidentalis*) – Rubiaceae

Habit: A short to medium height (3 to 8 feet), wide-branching aquatic shrub
Leaves: Simple, entire, opposite or whorled in 3's and 4's, elliptic and long-pointed. Leafstalks often red and grooved.
Twigs: Current year's growth smooth and reddish brown; older growth dark gray, smooth, cracked or flaky. Terminal bud absent, side buds imbedded in bark; one bundle scar.
Flowers: May-Aug. Small and creamy white, arranged in tight 1 to 1.5 inch ball-shaped clusters that turn brown and often persist on plant into winter
Fruit: Sept-Dec or into winter. Small and in ball-like clusters.
Habitat: OBL Aquatic shrub



Use by Vertebrate Wildlife: Seeds eaten by Wood duck, Mallard, Black Duck, Hooded merganser, Canada geese, shorebirds, American goldfinch, Song sparrow.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Host plant for caterpillars of Titan sphinx (*Aellopos titan*), the Hydrangea sphinx (*Darapsa versicolor*) and the Royal walnut moth (*Citheronia regalis*).

catalpa, northern (hardy catalpa, western catalpa, bean tree) (*Catalpa speciosa*) – Bignoniaceae

Habit: Large tree (40 to 70 feet)
Leaves: Opposite or in whorls of 3, large (6"-13"), heart-shaped, hairy beneath, have a foul odor when crushed,
Twigs: Leaf scars sunken (resemble suction cups) and in whorls of 3,
Solid pith
Bark: Scaly
Flowers: May-July. White with yellow and purple spots, less than 2", grow in panicles
Fruit: Ripen in Oct. Long (8" to 15") & green (resemble green beans).
May remain on tree into the winter and resemble brown icicles.
NOT EDIBLE for HUMANS.
Habitat: Native to mid-western US. Most common as an ornamental in New England but regularly escapes cultivation and beginning to show invasive tendencies.



Use by Vertebrate Wildlife: Large shade tree that provides nesting cover for American robins, Mourning doves, gray squirrels and cavities for squirrels, woodpeckers and owls. The extent to which wildlife eat the seeds is not reported, but the tree readily spreads from cultivation so the seeds are likely spread by wildlife. Deer are reported to browse saplings and eat the leaves.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Host plant for caterpillars of only a few species of moths, including Catalpa sphinx moth (*Ceratomia catalpa*), White-marked tussock moth (*Orgyia leucostigma*), Spring cankerworm moth (*Paleacrita vernata*), Fall webworm (*Hyphantria cunea*).

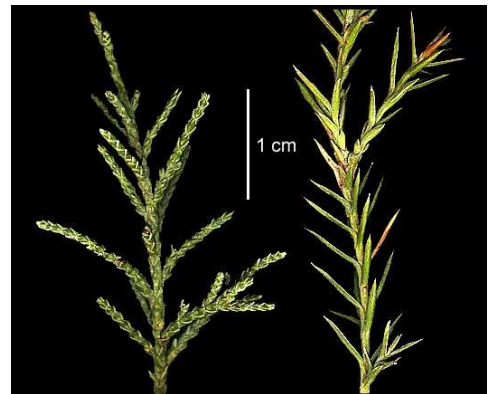
cedar, eastern red (*Juniperus virginiana*) – Cupressaceae

Habit: tree (up to 40')
Leaves: two kinds - 1) small and scale-like, closely overlapping and pressed against branchlet (mature branchlets) and 2) on young branchlets, thick, awl-like; both kinds occur in pairs in 4 rows
Twigs: four-sided
Bark: dry, shredding, long strips
Flowers: early to late spring, pollination in May
Fruit: Mature late-July to mid-November. Persistent. Globular, hard, whitish to blackish-green berries, 1/4"
Habitat: old fields, poor dry sites: FACU

Similar species:

- **Atlantic white cedar (*Chamaecyperis thyoides*)** – leaves similar to northern white cedar but twigs not flattened
- **Northern white cedar (arborvitae) (*Thuja occidentalis*)** – leaves scale-like in 4 rows around twigs that are flattened from the sides

Use by Vertebrate Wildlife: Cedar fruit eaten by Cedar waxwing, Bohemian waxwing, Ruffed grouse, Wild turkey foxes, raccoons, skunk, opossum, and eastern coyotes. Northern white cedar is a preferred browse of deer.



Junipers virginiana



Thuja occidentalis

Use by Invertebrate Wildlife: Red cedar is larval host plants for caterpillars of numerous moth/butterfly species including, olive butterfly (*Callophrys gryneus*), Arborvitae leafminer moth (*Argyresthia freyella*), Evergreen bagworm moth (*Thyridopteryx ephemeraeformis*), Juniper hairstreak (*Mitoura siva* and *M. grynea*). Northern white cedar is host for numerous caterpillars including Early zanclognatha (*Zanclognatha cruralis*), bagworm moth (*Thyridopteryx ephemeraeformis*), and Prometheus silkmoth (*Callosamia promethea*).

cherry, black (*Prunus serotina* var. *serotina*) - Rosaceae

Habit: tree (up to 60' tall)
 Leaves: simple, blunt toothed, lanceolate, mid-vein on underside of leaf usually has white hair in spring and orange hair in summer & fall. or white hair
 Twigs: alternate, strong cherry odor, slender; buds not clustered at twig tips; bud scales pointed/keeled, reddish-brown and greenish yellow.
 Bark: young stems: smooth, horizontal lenticels. Older trees: small plated scales, cracking irregularly
 Flowers: Late-May to June. White in cylindrical clusters.
 Fruit: August – September. Black berries.
 Habitat: woods and thickets: FACU



cherry, choke (*Prunus virginiana* var. *virginiana*) – Rosaceae

Habit: shrub or small tree
 Leaves: simple, oblong-obovate, abruptly pointed at tip, finely toothed margin, hairless midribs
 Twigs: alternate, cherry scent, upper stems stout; buds large and pointed, may be crowded toward twig tip – but not clustered around terminal bud, bud scales rounded.
 Bark: gray-brown and smooth
 Flowers: Late-April to early June. White in cylindrical clusters.
 Fruit: July-October. Red-Purple to Dark Purple.
 Habitat: young woods and thickets: FACU
 Similar species: see black cherry (*P. serotina*):



cherry, pin (fire cherry) (*Prunus pensylvanica* var. *pensylvanica*) – Rosaceae

Habit: shrub or small tree (up to 30' tall)
 Leaves: alternate, simple, narrow, long, lanceolate, finely toothed slender
 Twigs: alternate, reddish-brown, cherry odor subtle; buds small, blunt, clustered at twig tips and spur branches, reddish brown
 Bark: shiny, reddish with large horizontal lenticels
 Flowers: Late-March to early July. White in small clusters along stems
 Fruit: July-Sept. Light red.
 Habitat: pioneer species, young woods, thickets: FACU-

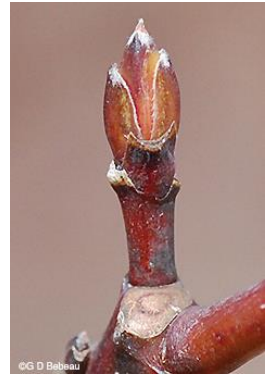


Use by Vertebrate Wildlife: Prunus fruits eaten by probably all wildlife species that eat fruit. Rarely browsed by deer.

Use by Invertebrate Wildlife: Prunus used as host plant by caterpillars of over 456 species of butterflies and moths. Flowers provide nectar and pollen.

dogwood, alternate-leaf (pagoda dogwood) (*Swida alternifolia*) – Cornaceae

Habit: shrub or sometimes small tree (up to 20' tall)
Leaves: simple, entire, arcuate veins
Twigs: alternate, greenish to dark purple, pith white, buds 2-scaled
Bark: younger growth often reddish, most specimens have yellow-orange dead wood
Flowers: May-July. White in large clusters.
Fruit: July-Sept. Blueish-purple when ripe.
Habitat: upland woods: FACU



dogwood, gray (red-panicled dogwood) - (*Swida racemosa*) - Cornaceae

Habit: shrub
Leaves: opposite, simple, narrowly ovate to lanceolate
Twigs: light gray, pith of current year's growth white; pith of older branchlets light brown; buds conical, pointed, dark red.
Flowers: Late-May-July. White flowers in clusters.
Fruit: July-Oct. Clusters of white drupes born on red panicles
Habitat: old fields, dry or moist sites: FAC



dogwood, red-osier (red-twig dogwood) (*Swida stolonifera*) - Cornaceae

Habit: shrub
Leaves: opposite, simple, ovate to oval, arcuate venation, entire,
Twigs: twigs and branchlets purplish red to bright blood red; pith white; prominent white, warty lenticels: buds stalked, pair of leaf-like bud scales, densely coated with appressed tawny or rusty hairs
Flowers: June-Aug. White in clusters.
Fruits: July -Oct and persist into winter. Round, white drupes
Habitat: usually wet sites: FACW



dogwood, silky (*Swida amomum*) – Cornaceae

Habit: upright shrub
Leaves: simple, broadly ovate, wide rounded bases, hairless or somewhat brown-or gray-hairy beneath
Twigs: opposite, dull purple/reddish with silky hairs on new growth, older branches blotchy and less red, brown/tan pith.
Flowers: March to early June. White
Fruit: Ripe in September. Silvery-blue in drooping clusters.
Habitat: usually wet sites: FACW



Use by Vertebrate Wildlife: Dogwood Fruits eaten by white-footed mice, deer mice, squirrels, skunk, raccoon, opossum, foxes, eastern coyote, black bear and probably all species of birds that eat fruit. Browsed by deer, hares, cottontails, beavers.

Use by Invertebrate Wildlife: Used as a nectary plant by predatory and parasitoid insects, nectar plant for bees, wasps, flies, moths butterflies. Host plant for spring and summer azure butterfly caterpillars.

elderberry, common (black elderberry) (*Sambucus nigra* ssp. *canadensis*) – Adoxaceae

Habit: upright shrub
Leaves: opposite, compound with 5-11 sharp-toothed leaflets
Twigs: stout, warty lenticels, leaf scars large with connecting lines in between; pith large and white (check previous year's stems); buds small and conical with greenish or brownish scales
Flowers: June-July. Creamy white in large flat-topped clusters.
Fruit: Aug-Sept. Purplish-black drupes in flat-topped clusters
Habitat: moist rich sites, roadsides and ditches: FACW
Similar species: Red elderberry (*S. racemosa*): large, round buds; brownish pith



elderberry, red (*Sambucus racemosa*) – Adoxaceae

Habit: upright shrub
Twigs: opposite, stout with warty lenticels, pith brownish (check previous year's stems); buds large, round, green and purple, often twin terminal buds.
Flowers: April-June. Creamy white in clusters at branch tips. Foul odor.
Fruit: June-July. Bright red, fleshy drupes in clusters.
Habitat: moist, rich sites, roadsides and ditches: FACU
Similar species: common elderberry (*S. nigra* ssp. *canadensis*): small, conical buds; white pith.



Use by Vertebrate Wildlife: Sambucus fruits eaten by deer, snowshoe hare, cottontails, squirrels, chipmunks, Ruffed grouse, Wild turkey, Brown thrasher, Rose-breasted grosbeak, Northern mockingbird, Cedar waxwing, American robin, thrushes, Gray catbird, Northern cardinal, woodpeckers, Black-capped chickadee, Tufted titmouse, sparrows, Eastern bluebird, finches. Browsed by moose, deer, beavers, porcupine, voles.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. *Sambucus* are host plants for numerous caterpillars including Cecropia moth (*Hyalophora cecropia*).

elm, American (*Ulmus americana*) - Ulmaceae

Habit: rarely grows larger than small sapling ($\pm 30'$ tall)
Leaves: slightly sandpapered above, hairless or hairy beneath; alternate, simple, margins coarsely serrate, lopsided at base
Twigs: alternate, brown, slightly hairy especially near terminal bud; buds brown, pseudoterminal bud at 45° angle to the stem.
Bark: grayish-brown, diamond-shaped furrows, alternate layers of dark and lighter colored cork in cross section of bark ridges
Flowers: March-May
Fruit: March to June.
Habitat: mostly bottomlands: FACW-

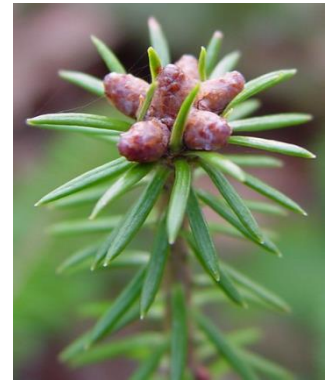


Use by Vertebrate Wildlife: Seeds and/or buds eaten by Wood duck, Ruffed grouse, Wild turkey, Black-capped chickadee, Purple finch, American goldfinch, Rose-breasted grosbeak, Yellow-bellied sapsucker, sparrows, dark-eyed junco, Yellow-rumped warbler, foxes. Browsed by cottontails, beaver.

Use by Invertebrate wildlife: Flowers are an important early source of nectar and pollen. Host plant for caterpillars of Mourning cloak (*Nymphalis antiopa*), Columbia silkmoth (*Hyalophora columbia*), Question mark butterfly (*Polygonia interrogationis*), Painted lady butterfly (*Vanessa cardui*).

fir, balsam (*Abies balsamea*) – Pinaceae

- Habit: tree, spire-like crown (up to 60')
- Leaves: flattened needles, broad circular base, whitened beneath, blunt tips
- Twigs: terminal buds blunt, resinous, and fused together
- Bark: brown with raised lenticels and raised pitch pockets
- Flowers: May. Small. Male & females on separate cones on the same tree. Male flowers yellowish to red, female flowers with purplish, green-tipped bracts.
- Fruit: Ripen late-Aug to early Sept. Dispersed Mid-Sept.
Cones upright and fleshy; disintegrate on ripening, often leaving a slender central core
- Habitat: forest, swamps, wetland edges



Use by Vertebrate Wildlife: Needles eaten by Spruce grouse, Ruffed grouse. Seeds eaten by Boreal chickadee, White-winged crossbill, Red crossbill, Yellow-bellied sapsucker, Red-breasted nuthatch, eastern chipmunk, red squirrel, white-footed mouse, deer mouse. Browsed by porcupine, white-tailed deer, moose. Provides high-quality year round cover and is an important component of deer wintering areas where it occurs.

Use by Invertebrate Wildlife: A host plant to caterpillars of over 114 species of moths and butterflies including Apple sphinx (*Sphinx gordius*), Io moth (*Automeris io*), White-marked tussock moth (*Orgyia leucostigma*), and Eastern spruce budworm (*Choristoneura fumiferana*).

greenbriar, common (roundleaf greenbriar) (*Smilax rotundifolia*) - Smilacaceae

- Habit: Native woody vine often forming dense tangles by sprawling along ground or climbing other vegetation
- Leaves: Roundish to heart-shaped, entire, leathery, green above and below beneath; have three obvious acute veins. Leaves are semi-evergreen
- Twigs: Green, angled or round, & covered with numerous stout, triangular thorns, thorns usually pale-colored with black tips.
- Flowers: April-Aug. Male and female flowers on different plants
- Fruit: Ripen September and often persist through spring. Blue-black berries with a powdery bloom
- Habitat: forests and forest edges with sandy, moist or dry soils



Use by Vertebrate Wildlife: Fruits eaten by Ruffed grouse, Wild turkey, Northern cardinal, Gray catbird, Northern mockingbird, American robin, Fox sparrow, White-throated sparrow, Song sparrow, Thrushes, Brown thrasher, Cedar waxwing, woodpeckers, Fish crow, American crow, eastern chipmunk, squirrels, white-footed mouse, deer mouse, black bear, raccoon, opossum. Deer browse leaves.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Used as host plant by caterpillars of Spongy moth (*Lymantria dispar*), Florida fern moth (*Callopietria floridensis*), Pearly underwing moth (*Peridroma saucia*), Spotted phosphila (*Phosphila miselioides*); Turbulent phosphila (*Phosphila turbulenta*), Curve-lined owlet (*Phyprosopus callitrichoides*), Cabbage looper (*Trichoplusia ni*), Reddish Ephestiodes moth (*Ephestiodes infimella*).

grape (*Vitis* spp.) - Vitaceae

Habit: climbing or trailing vine
Leaves: alternate, large, dull green above, often hairy below; coarsely toothed, heart-shaped, often lobed
Twigs: brown to green, hairy or not hairy, shreddy brown bark that shreds parallel to the stem; pith brown, discontinuous
Flowers: May-July. Small yellow-green clusters
Fruits: Sept-Oct. Large (½") blue, pulpy berry
Habitat: wetland edges, field edges and hedgerows, abandoned fields.
Notes: Four species occur in NH: silverleaf grape (*V. aestivalis* var. *argenteifolia*), fox grape (*V. labrusca*), river grape (*V. riparia*), European grape (*V. vinifera*)



Use by Vertebrate Wildlife: Fruits eaten by probably all species that eat fruit.

Use by Invertebrate Wildlife: Host plants for caterpillars of Virginia creeper sphinx moth (*Darapsa myron*), Grape root borer (*Vitacea polistiformis*), and *Phyllocnistis vitegenella*.

hickory, bitternut (*Carya cordiformis*) – Juglandaceae (SEE PHOTO ON NEXT PAGE)

Habit: tree (50-100')
Leaves: compound. 5-11 but usually 7-9 leaflets with somewhat hairy undersides
Twigs: Twigs slender, mostly hairless. Buds bright yellow-powdery with scales in pairs, not overlapping.
Bark: tight with a network of fine smooth ridges
Fruit: cylindrical, smooth and bitter nuts.

Similar species:

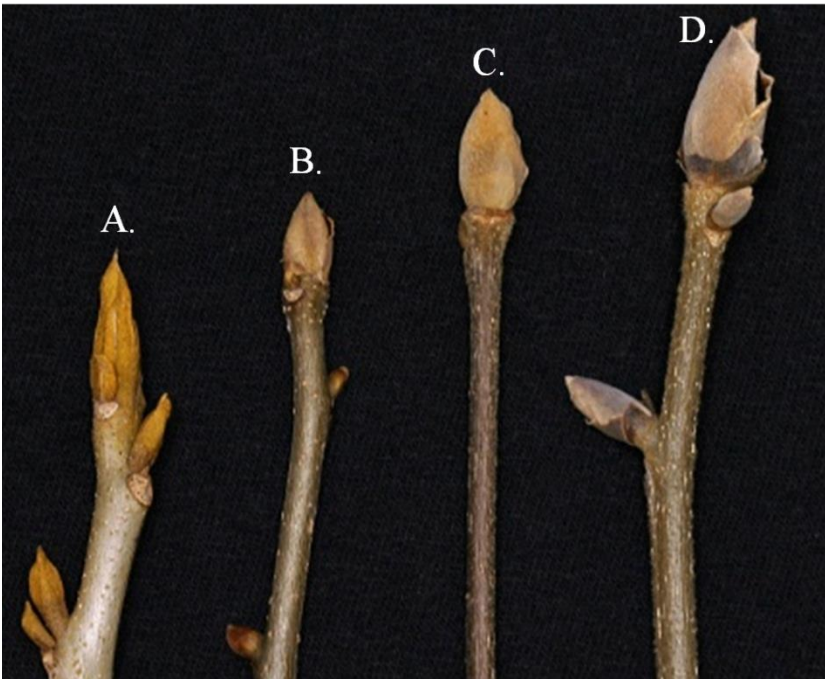
- **mockernut hickory** (*C. tomentosa*) – leaf undersides and twigs matted-woolly. Leaves fragrant when crushed, pale or orange-brown beneath. Buds with overlapping scales with outer scales that drop in autumn
- **pignut hickory** (*C. glabra*) – Twigs slender, red-brown & hairless. Buds have overlapping scales and are silky-hairy after outer scales drop in autumn.

hickory, shagbark (*Carya ovata*) - Juglandaceae (SEE PHOTO ON NEXT PAGE)

Habit: large tree (50-70')
Leaves: alternate, compound, mostly 5 leaflets
Twigs: stout, glabrous; buds broadly ovoid, outer scales exfoliate (peeling) but not deciduous (as they are in pignut hickory), resemble a crown, terminal buds in winter greater than ½ " long
Bark: older trees flaking into conspicuous long shaggy plates; smooth and gray on young trees
Flowers: Late-May through late-June once leaves are fully grown.
Fruit: Ripe Sept-Oct; 4-parted nut with thick husk, meat sweet

Use by Vertebrate Wildlife: Hickory nuts eaten by black bear, red fox, gray fox, white-footed mouse, deer mouse, squirrels, eastern chipmunk, Mallard, Wood duck, Wild turkey American crow, Blue jay, White-breasted nuthatch, woodpeckers.

Use by Invertebrate Wildlife: Hickories are host plant for the caterpillars of hundreds of species of moth and butterflies, including Hickory tussock moth (*Lophocampa caryae*), Horned spanworm (*Nematocampa resistaria*), Hag moth (Phobetron pithecium), Funerary dagger moth (*Acrionicta funeralis*), Walnut caterpillar moth (*Datana integerrima*), Dotted leaftier moth (*Psilocorsis reflexella*), Tiger swallowtail (*Papilio glaucus*), Luna moth (*Actias luna*), Polyphemus moth (*Antheraea polyphemus*), Io moth (*Automeris io*).



Comparing the terminal buds of the hickories

A. bitternut hickory

B. pignut hickory

C. mockernut hickory

D. shagbark hickory

hawthorn (thorn apple) (*Crataegus* spp.) – Rosaceae

Habit: dense shrub or small tree

Leaves: alternate, simple, toothed or lobed (highly variable)

Twigs: generally armed with large, stiff, sharp thorns; buds small, roundish, reddish

Fruit: small, yellow to red pomes borne on cymes

Bark: dark red to gray, scaly or shallowly furrowed

Habitat: old field, field edges, woodlands, usually rich soil

Note: NH Natural Heritage lists 19 species of hawthorn as occurring in NH.



Use by vertebrate Wildlife: Hawthorn fruits are eaten by Ruffed grouse, Wild turkey, grosbeaks, Fox sparrow, Song sparrow, White-throated sparrow, American robins, Gray catbird, Northern cardinal, Northern mockingbird, Brown thrasher, waxwings, woodpeckers, chickadees, Tufted titmouse, black bear, foxes, raccoon, opossum, squirrels, eastern chipmunk, striped skunk. Provides nesting cover for American robin, Gray catbird, Northern cardinal, Northern mockingbird.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. *Crataegus* serve as host plants for caterpillars of hundreds of species of moths and butterflies, including Horned spanworm moth (*Nematocampa resistaria*), Unspotted tentiform leafminer moth (*Parornix melanotella*), Apple blotch leafminer (*Phyllonorycter crataegella*), Eastern tent caterpillar (*Malacosoma americana*), Dogwood borer (*Synanthedon scitula*), Cecropia moth (*Hyalophora cecropia*), Polyphemus moth (*Antheraea polyphemus*), Tiger swallowtail (*Papilio glaucus*).

hazelnut, American (*Corylus americana*) - Betulaceae

- Habit: low to tall (up to 10 feet), erect shrub
Leaves: simple; heart-shaped double-toothed; Leaf stalks have stiff hairs.
Twigs: twig tips have stiff gland-tipped hairs that surround the twig like a bottle brush (see photo); buds are blunt and have 4 uniformly reddish scales; catkins average 1 inch long and are attached to the twig on a stalk
Flowers: April-June. Tiny and red.
Fruit: July-October. Fruit a nut enclosed in a hairy husk with ragged edges.
Habitat: Forest edges and dry thickets: FACU



hazelnut, beaked (*Corylus cornuta* ssp. *cornuta*) - Betulaceae

- Habit: low to tall (up to 12 feet) shrub
Leaves: simple, broad, somewhat heart-shaped, double toothed
Twigs: alternate, tips slightly hairy (with hand lens); buds round, 2 pairs of bud scales – pair covering lower 1/3 of bud are dark, pair covering upper portion of bud are light-colored and often fuzzy (2-toned buds); catkins 1/3 to 1/2 inch long and attached directly to twig (they don't have a stalk).
Flowers: April
Fruit: Unripe green fruits evident in July and ripen to brown in August-Sept. Nut borne in a husk with a long "beak"
Habitat: forest edges and thickets: FACU-



Use by Vertebrate Wildlife: Hazelnuts are eaten by squirrels, eastern chipmunk, white-footed mouse, woodpeckers, Blue jay, Ruffed grouse, Wild turkey. Catkins are eaten by Ruffed grouse, Wild turkey, squirrels, and likely by various resident songbirds. Moose, deer, snowshoe hare, cottontails and beavers eat brose stems and eat bark.

Use by Invertebrate Wildlife: American hazelnut is a host plant for caterpillars of Io moth (*Automeris io*) Polyphemus moth (*Antheraea polyphemus*), Luna moth (*Actias luna*). Beaked hazelnut is larval host of Early Hairstreak (*Erora laeta*)

hemlock, eastern (*Tsuga canadensis*) – Pinaceae

Habit: tree, (up to 80')
Leaves: flat needles and sprays, slender stalks; whitened beneath, 2 lines
Twigs: rough when leaves removed
Cones: small (5/8 to 1"), rounded, pendant, few scales
Flowers: April to early June
Fruit: Sept-Oct and persist through winter
Bark: dark and rough, ridged and scaly; bright purple inner bark
Habitat: cool, moist sites

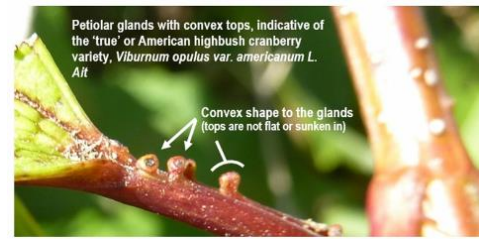


Use by Vertebrate Wildlife: Seeds eaten by Ruffed grouse, Black-capped chickadee, crossbills, Red-breasted nuthatch, Pine siskin, kinglets, red squirrel, white-footed mouse, deer mouse. Buds and foliage eaten by porcupine, deer, snowshoe hare, cottontails. Provides important year round cover for forest birds and mammals and is a key component of deer wintering areas south of spruce-fir range.

Use by Invertebrate Wildlife: Host plant for caterpillars of at least 20 moth species. Host of hemlock woolly adelgid and hemlock scale.

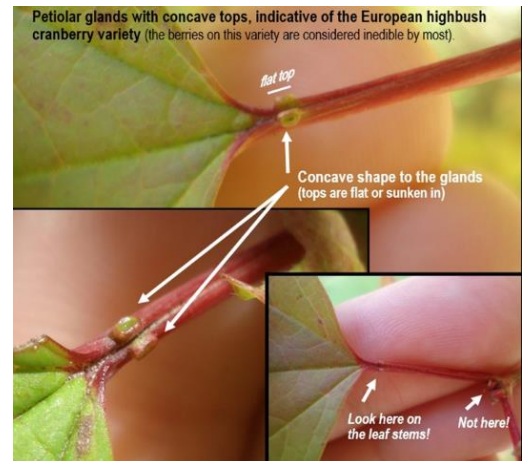
highbush cranberry (*Viburnum opulus* var. *trilobum*) - Caprifoliaceae

Habit: tall shrub (up to 17')
Leaves: opposite; 3-lobed and tending to be long-pointed, bottom third of lobes without teeth and top part with only a few teeth, hairy or not on both surfaces; leaf blades distinctly 3-ribbed at base and have tiny dome-shaped glands (use hand lens) near leaf base, glands are convex (bulging outward), club-shaped, or columnar (look at glands near leaf base, not at glands at base of petiole)
Twigs: Hairless; buds with 2 scales; terminal buds single or double; ranches nearly erect and are angled or ridged
Fruits: medium to large red berries born on a panicle, often drooping



Similar species:

- **European highbush cranberry** (*V. opulus* var. *opulus*): Non-native variety that is common. Looks nearly identical to *V. opulus* var. *trilobum* except that has flat-topped or concave (slightly dented) glands on leaf blades (look at glands near leaf base, not at glands at base of petiole)



hobblebush (*Viburnum lantanoides*) - Adoxaceae

Habit: straggling shrub, often forming dense thickets
Leaves: 4-8", heart-shaped with fine teeth and rusty hairs (leaves may become less rusty with age)
Twigs: opposite, fine hairy; buds naked and hairy, yellow-orange in color
Flowers: May-June. White to pinkish in flat-topped clusters
Fruit: Aug-Sept. Bright red drupes in flat topped clusters
Habitat: cool moist woods and shores of ponds and streams: FAC

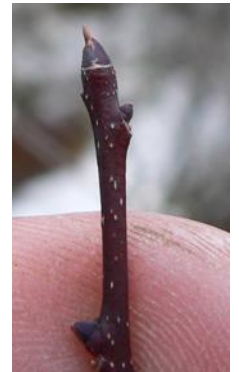


Use by Vertebrate Wildlife: Preferred browse of deer, moose, snowshoe hare. Provides nesting sites for black-throated blue warbler, thrushes. Fruits eaten probably by all forest wildlife that eat fruit.

Use by Invertebrate wildlife: Flowers provide nectar and pollen. Host plant for caterpillars of Spring azure butterfly (*Celastrina ladon*).

holly, mountain (cat berry) (*Ilex mucronata*) - Aquifoliaceae

Habit: shrub
Leaves: simple, elliptic to oblong, growing alternately along stem and in whorls at the end of small spur branches; leaf petioles purplish
Twigs: alternate, twig tips purplish, lower portion of branches gray; buds pointed, somewhat pyramidal shaped and purplish, 2-3 scales
Flowers: May-June. Inconspicuous, small, white to greenish yellow
Fruit: July. Dull to crimson red
Habitat: damp thickets and swamps: OBL



Use by Vertebrate Wildlife: Fruits eaten by Wood ducks, Ruffed grouse, Wild turkey, American robin, Black-capped chickadee, tufted titmouse, woodpeckers, Northern cardinal, Northern mockingbird, Gray catbird, Eastern bluebird, Cedar waxwing, Hermit thrush, White-footed mouse, deer mouse.

Use by Invertebrate Wildlife: Host plant of caterpillars of Columbia silkmoth (*Hyalophora columbia*), *Rhopobota finitimana* and Laurel sphinx moth (*Sphinx kalmiae*).

holly, winterberry (common winterberry) (*Ilex verticillata*) – Aquifoliaceae

Habit: shrub, often growing in dense clusters
Twigs: alternate, light gray-silvery, dotted with small lenticels; buds are small and round, small black stipules on edges of leaf scars.
Flowers: May-Aug. Small and white.
Fruit: Sept-Nov and often persist into winter. Bright red drupe.
Habitat: wet sites: FACW+



Use by Vertebrate Wildlife: Fruits eaten by Wood ducks, Ruffed grouse, Wild turkey, American robin, Black-capped chickadee, tufted titmouse, woodpeckers, Northern cardinal, Northern mockingbird, Gray catbird, Eastern bluebird, Cedar waxwing, Hermit thrush, White-footed mouse, deer mouse. TOXIC TO HUMANS.

Use by Invertebrate Wildlife: Flowers provide nectar & pollen. Host plant for caterpillars of 34 species of butterflies and moths including Henry's elfin butterfly (*Callophrys henrici*) and Harris' three-spot moth (*Harrisimemna trisignata*).

hop-hornbeam (ironwood) (*Ostrya virginiana*) – Betulaceae

Habit: small tree (typically less than 30' tall)
Leaves: simple, ovate, toothed margins
Twigs: alternate, buds two-toned (green-brown), round in cross-section, buds egg-shaped, vertical striations on scales (like the lines on your thumbnail)
Bark: brownish, grooved, shreddy
Flowers: April
Seeds: Ripe August-October.
Habitat: fertile woods: FACU-
Similar species:

- **musclewood** (*Carpinus caroliniana*): buds rusty brown, buds rectangular in cross-section, no vertical striations on scales; bark of older trees gray and muscular in appearance.
- **American elm** (*Ulmus americana*): 45° terminal bud, twig tips often slightly hairy.



O. virginiana

Use by Vertebrate Wildlife: Ruffed grouse eat catkins. Squirrels, mice, Ruffed grouse, Downy woodpeckers eat seeds.

Use by Invertebrate Wildlife: Host plant to larval caterpillars including walnut sphinx, winter months, and common emerald.

honeysuckle (*Lonicera* spp.) – Caprifoliaceae

Habit: climbing vines or erect shrubs, most in NH are erect shrubs.
Leaves: simple, oblong to elliptic, entire margins, very short petioles
Twigs: opposite, grayish-whitish, often shiny, papery; have scales at the bases of twigs; opposing leaf scars are connected by lines. Native species have solid white pith, non-native species have no pith (stems are hollow)

Non-native honeysuckles (all with hollow pith):

- **tartarian honeysuckle** (*L. tatarica*)
Habit: erect shrub
Leaves: Leaves elliptic to cordate, hairless
Twigs: hairless; hollow pith; buds small and blunt
Flowers: May-June. White to pink
Fruit: July through Aug. Yellow, orange or red
Habitat: forest edges and thickets: FACU
- **European fly-honeysuckle** (*L. xylosteum*): buds long and sharp
Flowers: Late Spring. White
Fruit: Dark red
- **Morrow honeysuckle** (*L. morrowi*): leaves narrow or oblong;
Twigs & leaves gray-hairy; buds short and conical
Flowers: May-June. White, yellow or pink
Fruit: June-Aug. Yellow, red or dark red



L. morrowi

Native honeysuckle on next page...

Native honeysuckle – only one species encountered commonly in NH

• **Canada honeysuckle (Canada fly-honeysuckle) (*L. canadensis*)**

- Habit: a straggling (2-4' tall) shrub generally encountered in forest understory
- Leaves: glabrous, edges fringed with fine hairs, oblong to ovate, often heart-shaped
- Twigs: solid white pith; long greenish-purplish buds; twigs two-lined; lower bud scales shorter than buds
- Flowers: April – July. Yellow
- Fruit: July-Aug. elongate red/orange-red berries born in pairs



L. canadensis

Use by vertebrate Wildlife. Honeysuckle fruits readily eaten by most wildlife that eat fruit including Gray catbird, Northern cardinal, Northern mockingbird, Song sparrow, White-throated sparrow, American robin, Eastern bluebird, Purple finch, House finch, Dark-eyed junco, Hermit thrush, Wild turkey, Ruffed grouse, black bear, foxes, eastern coyote, raccoon, opossum, squirrels, eastern chipmunk, white-footed mouse, meadow jumping mouse. Not usually browsed by deer or beavers.

Use by invertebrate Wildlife: Honeysuckle flowers provide nectar and pollen. Lonicera serve as host plants for caterpillars of Great leopard moth (*Hypercompe scribonia*), Cranberry spanworm moth (*Ematurga amitaria*), Small engrailed (*Ectropis crepuscularia*), *Phyllonorycter emberizaepenella*, Alternate woodling (*Egira alternans*), Hummingbird clearwing (*Hemaris thysbe*), Snowberry clearwing (*Hemaris diffinis*), Cecropia moth (*Hyalophora cecropia*).

juniper, common (dwarf juniper) (*Juniperus communis*) – Cupressaceae

- Habit: Low shrub that often forms mats, rarely a small tree
- Leaves: Short, sharp-pointed, hollow needles in wholes of three; whitened above
- Twigs: Branchlets three-sided
- Bark: Brown and furrowed to shreddy along branches
- Flowers: April-May. Small, white/brown
- Fruit: Ripens Aug-Oct. Persistent for 2-3 years. Blue-black hard berries covered in a white powder
- Habitat: Dry sites with history of grazing by livestock



J. communis

Use by Vertebrate Wildlife: Fruits eaten by Wild turkey, Ruffed grouse, Eastern bluebird, Gray catbird, Woodpeckers, Purple finch, grosbeaks, Northern mockingbird, American robin, Cedar waxwing, Yellow rumped warbler, Hermit thrush, eastern chipmunk, White-footed mouse, deer mouse, jumping mice. Wild turkeys often conceal nests under junipers. Provides valuable winter cover for New England cottontails.

Use by Invertebrate Wildlife: Host of Juniper hairstreak butterfly (*Callophrys gryneus*). Numerous insects eat juniper foliage and are considered pests to ornamental shrubs.

Labrador-tea (*Rhododendron groenlandicum*) – Ericaceae

Habit: Low-growing (less than 3 feet) shrub
Leaves: alternate but appear to grow in a spiral along stem, elliptical, toothless, leathery, edges rolled underneath, green on top, densely rusty or white-woolly underneath, evergreen, fragrant when crushed
Twigs: rusty-woolly stems
Flowers: May-June. Small, white, in clusters at top of plant
Fruit: Tiny seeds borne in oblong, dry capsules attached to long stems and in nodding tannish clusters that resemble fireworks
Habitat: Cold bogs. OBL



Use by Vertebrate Wildlife: Browsed by deer, moose, snowshoe hare

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Host plant to caterpillars of *Coleophora ledi*, Brown elfin (*Incisalia augustinus*), *Syngrapha montana*, Fruit-tree leafroller moth (*Archips argyrospila*)

laurel, mountain (*Kalmia latifolia*) – Ericaceae

Habit: shrub or small tree
Leaves: shiny/waxy above and yellow-green below, cluster at twig tips, elliptic, entire, pointed at tip
Twigs: Twisted; red or green when young, brownish-red and often shreddy on older stems; hairless; Buds small.
Flowers: June-July. White to pinkish, petals form a 5-sided bowl,
Fruits: Very small seeds borne in round capsules that split into 5 valves when dry
Habit: Dry to mesic soils in forest understory, occasionally in Swamps. FACU
Notes: TOXIC TO HUMANS



Similar species: **giant laurel (great laurel)** (*Rhododendron maximum*): Large terminal buds; leaves leathery and large and somewhat hairy and whitish underneath, leaf edges rolled underneath

laurel, sheep (lambkill) (*Kalmia angustifolia* ssp. *angustifolia*) – Ericaceae

Habit:
Leaves: Opposite or often in whorls of three, often drooping, less than 2", elliptic, bright green, entire, evergreen
Twigs: round & hairless, gray to tan
Flowers: June-Aug. Positioned below current years growth (i.e., NOT at end of twigs). Rose-pink to reddish-purple, saucer-shaped
Fruit: Tiny seeds borne in dry capsules clustered below current year's growth
Habitat: wet, low fertility soils, bogs, barrens FAC
Note: TOXIC TO HUMANS & LIVESTOCK
Similar species:



K. angustifolia

• **bog laurel (pale laurel)** (*K. polifolia*): Leaves opposite & seldom whorled; twigs 2-edged & hairless; flowers and dry capsules clustered at twig tips

Use by vertebrate Wildlife: Sheep laurel has minimal use by vertebrate wildlife. Seeds might be eaten by Song sparrow, White-throated sparrow, redpolls, Dark-eyed junco. Mountain laurel provides high-quality cover and

leaves are eaten by Ruffed grouse and deer in winter.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. *Kalmia*'s are used as host plants by caterpillars of numerous moths, including Eye-spotted bud moth (*Spilota ocellana*), Laurel sphinx (*Sphinx kalmiae*), Azalea sphinx (*Darapsa choerilus*), Rhododendron borer moth (*Synanthedon rhododendri*), Columbia silk moth (*Hyalophora columbia*), Toothed apharetra (*Apharetra dentata*).

leatherleaf (*Chamaedaphne calyculata*) - Ericaceae

Habit: Low erect & spreading shrub forming dense monocultures
Leaves: Narrow and elliptic, green above & yellow below, not hairy.
Leaves diminish in size as they approach the twig tips: evergreen
Twigs: spreading & horizontal, mostly hairless
Flowers: March-July. White, bell-shaped, hang below stems.
Fruit: July-Sept. Many tiny, flat winged seeds borne in dry capsules
Habitat: Bogs, pond & lake edges OBL



Use by Vertebrate Wildlife: Browsed by deer and snowshoe hare. Provides nesting cover for Mallard, American black duck, Canada goose, Wilson's snipe, Song sparrow, Lincoln's sparrow, Common yellowthroat

Use by Invertebrate Wildlife. Flowers provide nectar and pollen. Host plant for caterpillars of *Coleophora ledi*, Chain-dotted geometer (*Cingilia catenaria*), Brown elfin (*Incisalia augustinus*), Black arches (*Melanchnra assimilis*), Young's blueberry dart (*Xestia youngii*), *Syngrapha microgamma*.

lilac, common (*Syringa vulgaris*) – Oleaceae

Habit: Shrub up to 10 feet tall
Leaves: Opposite, heart-shaped, entire, 2" to 3½"
Twigs: End buds paired in pairs; buds stout, green or reddish; leaf scars with a single bundle scar
Bark: on old stems is gray to gray-brown, slightly shreddy and shallowly furrowed
Flowers: May-June. Purple or white. Densely clustered in showy, elongated terminal panicles
Fruit: Aug-Oct. winged seeds borne in pairs within dry, smooth, brown capsules
Habitat: Planted as an ornamental and escaped from plantings. Moist to dry-mesic soil, full sun. Native to south eastern Europe.



Use by Vertebrate Wildlife: Buds eaten by Common redpoll, and likely by American goldfinch. Seeds likely eaten by redpolls, finches, sparrow, Dark-eyed junco. Often used as nesting cover by sparrows when planted densely near buildings. Hummingbirds don't usually use lilacs for nectar.

Use by Invertebrate Wildlife. Flowers provide nectar for long-tongued bees. Used as host plant by caterpillars of Tiger swallowtail (*Papilio glaucus*), Spicebush swallowtail (*Papilio troilus*); Promethea silk moth (*Callosamia promethea*); Cecropia moth (*Hyalophora cecropia*), Plebeian sphinx (*Paratreia plebeja*); Laurel sphinx (*Sphinx kalmiae*).

maleberry (he-huckleberry) (*Lyonia ligustrina* var. *ligustrina*) - Ericaceae

- Habit: shrub
Leaves: narrow to egg-shaped, often hairy beneath but may be hairless, toothed finely
Twigs: alternate, twig tips often hairy; buds bright red, pointed, 2 bud scales, often pressed against the stem.
Flowers: May-July. White, nodding, globe-shaped bells.
Fruit: Sept. 5-parted brown “nutlets”, persistent
Habitat: swampy thickets and sandy soils: FACW



Use by Vertebrate Wildlife: Likely used occasionally as nesting site for Gray catbird, Yellow warbler, Alder flycatcher, Song sparrow. Seeds might be eaten by Pine siskin, American goldfinch, Common redpoll, Hoary redpoll, American tree sparrow, White-throated sparrow, Dark-eyed junco.

Use by Invertebrate Wildlife: Flowers provide nectar & pollen. Host plant to caterpillars of *Chrysoclista vellella*, Chain-dotted geometer (*Cingilia catenaria*), Azalea caterpillar (*Datana major*), Huckleberry sphinx moth (*Paonias astylus*), Apple sphinx moth (*Sphinx gordius*), and Clemen’s sphinx moth (*Sphinx luscitiosa*).

maple, mountain (*Acer spicatum*) – Sapindaceae

- Habit: small tree
Leaves: 3-5 lobed, coarsely toothed, hairless or slightly hairy underneath
Twigs: opposite, greenish/reddish, twig tips velvety-hairy; buds stalked and have 2 scales.
Flowers: May-June. White, borne on an upright spire.
Fruit: Ripen Sept-Oct, Dispersed Oct-Dec. Paired samaras.
Bark: lower portion of stem brownish, fading in to reddish, not white-striped.
Habitat: woodlands: FACU-



maple, red (swamp maple, soft maple) (*Acer rubrum*) - Sapindaceae

- Habit: tree (40-60’)
Leaves: opposite, simple, 3-5 lobes with V-shaped sinuses
Twigs: red, slender; buds red, blunt, single or clustered
Flowers: March-May. Red.
Fruits: Ripen April-June, dispersed April-July. Paired samaras.
Bark: on young trees, smooth, silver gray; long narrow, scaly dark plates on older trees, often with “target” pattern
Habitat: found in moist situations, but also on dry soils: FAC



maple, silver (*Acer saccharinum*) – Sapindaceae

- Habit: tall tree (20-60 feet)
Leaves: 5-lobed; deeply & finely cut leaf lobes; whitened and sometimes hairy underneath
Twigs: Twigs red, slender. Have unpleasant odor when crushed. Buds round and often clustered densely. Branches of mature trees
Bark: Grayish and flaking in long vertical strips on older trees
Flowers: Feb-May. Greenish/yellowish/reddish
Fruit: Ripen April-June, dispersed April-June
Habitat: Floodplains, ornamental plantings



maple, striped (moose maple, moosewood) (*Acer pensylvanicum*) – Sapindaceae

Habit: tall shrub or slender tree (up to 40' tall)
Leaves: shaped like a "goose foot", 3-lobed with lobes somewhat lone pointed; Double-toothed, hairless, green on both sides but paler beneath
Twigs: opposite, green, hairless; buds bright red, smooth, stalked, two bud scales
Bark: green with whitish stripes
Flowers: May through June. Yellow-green
Fruit: Ripen Sept-Oct, dispersed Oct-Feb. Paired samaras.
Habitat: cool, moist shaded sites: FACU
Similar species:

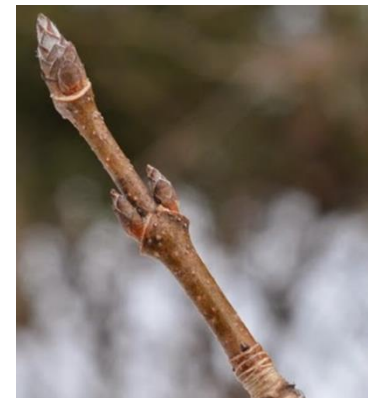
- **mountain maple (*A. spicatum*)**: A small shrub. Twig tips and buds velvety, bark and lower portion of branches light brown, not white-striped



A. pensylvanicum

maple, sugar (rock maple, hard maple) (*Acer saccharum* var. *saccharum*) - Sapindaceae

Habit: large tree (60 to 90'), with broad crown
Leaves: opposite, simple, 5-lobed, sinuses rounded or U-shaped, green beneath
Twigs: reddish-brown, slender, smooth, glossy; buds reddish-brown, sharp pointed, slender, occur singly
Flowers: March through May. Yellow-green
Fruit: Ripen Sept-Oct, dispersed Oct-Dec. Small, paired samaras.
Bark: extremely variable, gray to black, smooth on young trees, Becoming thick, deeply furrowed, often with long, irregular, scaly plates
Habitat: nutrient rich & well-drained soils of flood plains and forests: FACU



Use by Vertebrate Wildlife: Maple seeds and buds eaten by white-footed mouse, deer mouse, squirrels, chipmunks, foxes, Black-capped chickadee, Tufted titmouse, Purple finch, Evening grosbeak, Red-breasted nuthatch, woodpeckers, Wild turkey, Ruffed grouse. Sap of sugar maple and red maple eaten by yellow-bellied sapsucker, ruby-throated hummingbird, squirrels. Maple twigs browsed by deer, hare, cottontails, porcupine.

Use by Invertebrate Wildlife: *Acer* is used as a host plant by caterpillars of nearly 300 species of moths and butterflies in the eastern US. For example, red maple and sugar maple are host plants for Rosy maple moth (*Dryocampa rubicunda*) and Cecropia moth (*Hyalophora cecropia*) caterpillars. Maple flowers are especially important sources of nectar and pollen in early spring.

maple-leaved viburnum (dockmackie) (*Viburnum acerifolium*) - Adoxaceae

Habit: small (2 to 6 feet) shrub on the forest understory
Leaves: 3-lobeds, velvety-hairy beneath with yellow and black dots on undersides
Twigs: opposite, slender, velvety; buds long-pointed, greenish and purplish
Flowers: April-May. Pink-tinged
Fruit: Sept-Oct, occasionally present into early winter, round bluish-black drupes, borne on flat top clusters
Habitat: forest understory: UPL



Use by Vertebrate Wildlife: Fruits eaten by probably all forest wildlife that eat fruit

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Host plant for caterpillars of Rose hooktip moth (*Oreta rosea*), Holly blue (*Celastrina argiolus*), Henry's elfin (*Incisalia henrici*), Spongy moth (*Lymantria dispar*), Pink prominent (*Hyarpax aurora*)

meadowsweet (white meadowsweet) (*Spiraea alba* var. *latifolia*) - Rosaceae

Habit: shrub 2-3' tall
Leaves: alternate, simple, elliptic, coarsely tooth, hairless
Twigs: reddish-brown to purplish brown, smooth and hairless;
buds small, brown and glabrous with many scales
Flowers: June-Sept, white or pale-pink in loose pyramid-shaped clusters.
Fruit: Aug-Sept. Tiny oblong seeds borne in persistent 5-parted capsules
Bark: thin, brittle, shreddy
Habitat: marshes, fields, shores, wetland margins: FACW
Similar species: *see steplebush*



Use by Vertebrate Wildlife: Used occasionally as nesting cover by Song sparrow, Field sparrow, Prairie warbler, Common yellowthroat. Seeds may be eaten by sparrows, Dark-eyed junco.

Use by Invertebrate Wildlife: Flowers provide pollen & nectar. Host plant for caterpillars of over 80 species of moths and butterflies including New England buckmoth (*Hemileuca Lucina*) and Spring azure butterfly (*Celastrina ladon*).

mountain-ash, American (*Sorbus americana*) - Rosaceae

Habit: Shrub to medium tree (to 40 feet)
Leaves: Alternate, compound, usually with 11 to 17 lance-shaped leaflets; leaflets over 3 times as long as broad, pointed, with small, sharp teeth,
Twigs: Hairless with narrow leaf scars with five bundle scars; solid pith; Buds red, gummy, hairless and hairless
Flowers: May-June. Small, white and in dense flat-topped clusters
Fruit: Ripen August and persist into spring. Fruits ¼ pomes look like little apples, bright red and in clusters
Bark: Smooth and gray-brown
Habitat: Cool, moist, mid-elevation forests, mountain summits, ridges, ledges, edges of swamps. Often planted as an ornamental. FAC
Notes: Not an ash as it is in the rose family. Branching is alternate, unlike ashes (*Fraxinus* spp.)
Similar species:



- **showy mountain-ash (northern mountain-ash)** – (*S. decora*): Leaflets oblong, < 3 times as long as broad;
- **European mountain-ash (Rowan-tree)** – (*S. aucuparia*): leaflets paired along a hairy leaf stem; buds white-woolly and not sticky. Non-native. The mountain-ash most commonly planted as an ornamental.

Use by Vertebrate Wildlife: Fruits eaten by Spruce grouse, Ruffed grouse, Evening grosbeak, Pine grosbeak, thrushes, waxwings, Gray catbird, Northern mockingbird, American Robin, Northern cardinal, woodpeckers, chickadees, Tufted titmouse, black bear, porcupine, American marten, squirrels, eastern chipmunk, white-footed mouse, deer mouse. Browsed by moose, deer, snowshoe hare.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Sorbus are host plants to caterpillars of numerous butterflies and moths, including Bent-lined gray (*Iridopsis larvaria*), White spring moth (*Lomographa vestaliata*), Welsh wave (*Venusia cambrica*), Brown-shaded carpet (*Venusia comptaria*), American dagger moth (*Acronicta pruni*), Gold-striped leaf-tier (*Machimia tentoriferella*), Tiger swallowtail (*Papilio glaucus*), American plum borer (*Euzophera semifuneralis*), Polyphemus moth (*Antheraea polyphemus*), Dogwood borer (*Synanthedon scitula*), Three-lined leaf roller (*Pandemis limitata*).

musclewood (American hornbeam, blue beech) (*Carpinus caroliniana* ssp. *virginiana*) – Betulaceae

Habit: small tree (generally less than 30')
Leaves: simple, ovate, toothed margins
Twigs: buds acute, rusty brown, rectangular in cross section, no vertical striations on scales (see hop hornbeam)
Bark: muscular appearance, smooth, dark gray:
Flowers: Mar-June. Male flowers on catkins.
Fruit: Aug-Oct and may persist until spring. Clusters of small, ovoid nutlets attached to 3-lobed bracts
Habitat; tree of deep rich moist sites: FAC

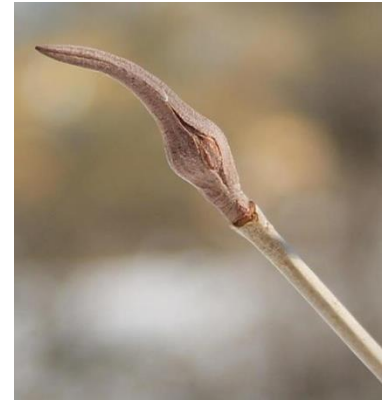


Use by Vertebrate Wildlife: Catkins eaten by Ruffed grouse, Wild turkey, gray squirrels. Seeds eaten by Wild turkey, Wood duck, Yellow-rumped warbler and likely other songbirds (perhaps Pine siskin, Dark-eyed junco, White-throated sparrow, American goldfinch). Browses by beaver, cottontails.

Use by Invertebrate Wildlife: Host plant for caterpillars of Eastern tiger swallowtail (*Papilio glaucus*), Striped hairstreak (*Satyrium liparops*), Red-spotted Purple (*Limenitis arthemis*).

nannyberry (*Viburnum lentago*) - Adoxaceae

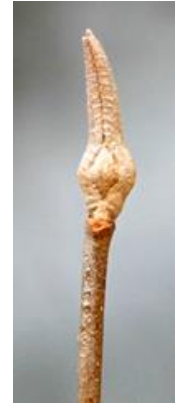
Habit: shrub or small tree (up to 25' tall)
Leaves: simple, ovate to narrowly elliptic, short to long-pointed at tip, sharply fine-toothed, petioles winged
Twigs: opposite; buds reddish/purplish brown; flower buds swollen at base and completely covered by two leaf scales
Flowers: May-July. Creamy white in flat-topped clusters.
Fruit: Sept-Oct. Blue-black berry-like drupe. Flattened fruit, red stalks, Flat pit.
Habitat: wetlands, moist woodlands: FAC
Similar species: see *northern wild-raisin*



V. lentago

northern wild-raisin (withe-rod) (*Viburnum nudum* var. *cassinoides*) - Adoxaceae

Habit: erect shrub (up to 15' tall)
Leaves: simple, narrow to ovate, with wavy edges or irregular teeth, petioles without wings, may have abrupt narrow tip
Twigs: opposite; buds yellowish-brownish and bumpy. Flower buds only partly covered by the two scales – center of bud is exposed,
Flowers: May-June. Small white or yellowish flowers clustered in stalked, flat-topped blooms. Unpleasant odor.
Fruit: Sept-Oct. Green then red then blue-black when ripe, Dangling in clusters.
Habitat: wet areas: FACW
Similar species: see *nannyberry*



V. nudum var. *cassinoides*

Use by Vertebrate Wildlife: Fruits of nannyberry and northern wild-raisin likely eaten by all wildlife species that eat fruit. Browsed by deer, snowshoe hare, cottontails, beavers.

Use by Invertebrate Wildlife: Nannyberry and northern wild-raisin flowers provide nectar & pollen. Used as host plant by caterpillars of over 100 species of moths & butterflies including Spring Azure (*Celastrina ladon*), Prometheus silkmoth (*Callosamia promethea*), Isabella tiger moth (*Pyrrharctia isabella*), Marbled wave moth (*Orthofidonia tinctaria*) and brown scoopwing moth (*Calledapteryx dryopterata*).

oak, black (*Quercus velutina*) - Fagaceae

Habit: large tree (60-90')
Leaves: alternate, simple, lobes pointed and bristle-tipped, often pubescent underneath especially in margins of leaf veins
Twigs: buds gray, hairy, angled in cross section, branches more numerous than *Q. rubra*
Bark: dark, blocky on lower trunk; upper branches like *Q. rubra*
Flowers: April-May as leaves emerge. Tiny yellowish-green flowers. Male flowers on long catkins, female flowers on long stalks in leaf axils.
Fruit: September – Oct. Cup deeper (bowl-shaped), scales loose (upper scales forming a short fringe somewhat spreading from acorn)
Habitat: dry upland sites: UPL



oak, northern red (*Quercus rubra*) - Fagaceae

Habit: large tree (60-90')
Leaves: alternate, simple, lobes pointed and bristle-tipped, smooth and waxy on both surfaces, dark green above, paler below
Twigs: moderately stout, glabrous, greenish-brown to reddish-brown; buds red-brown, round in cross-section, sharp pointed
Bark: deep furrows, flat-topped (shiny) gray ridges
Flowers: May. Male flowers on long catkins, female flowers on small stalk in leaf axils.
Fruit: Sept-Oct. Cup shallow, saucer-like, scales tight, nut large and barrel shaped
Habitat: well drained, deep soils: FACU



Similar species:

- **Scarlet oak** (*Q. coccinea*): Leaf lobes pointed and bristle-tipped, leaves with narrow lobes and very deep sinuses, tufts of hairs in angles of leaf veins. Twigs hairless and terminal buds hairy.
- **Pin oak** (*Q. palustris*): Leaves similar to scarlet oak. Terminal buds small and hairless. Lower branches numerous, stubby, and point downward. FACW

oak, scrub (bear oak) (*Q. ilicifolia*) - Fagaceae

Habit: scraggly thicket-forming shrub or small tree (up to 20 feet)
Leaves: Small (2-5 inches long), narrow, dark green above and white-woolly underneath, unlobed/three lobed at tip/5-7 lobes, lobes bristle-tipped.
Twigs: Twigs hairy. Terminal buds small, blunt, hairless
Bark: Dark
Flowers: May. Male flowers catkins, red. Female flowers born in clusters or singly on the current year's growth
Fruit: Acorn about as wide as tall, usually striped, with a deep cup. Very bitter.
Habitat: Very dry, infertile soils. Most common encountered in pine-oak/oak-pine barrens. UPL



Q. ilicifolia

Similar species:

- **dwarf chestnut oak (dwarf chinkapin oak, dwarf oak)** (*Q. prinoides*): Usually shrubby (up to 10 feet). Leaves small, 3-7 lobed, broadest above middle with wavy margins, white-hairy beneath Acorns often striped, cup covers about ½ of acorn & very warty. Usually with *Q. ilicifolia*. FACU



Q. prinoides

oak, white (*Quercus alba*) - Fagaceae

- Habit: large tree, (50-75')
- Leaves: alternate, simple, lobes rounded, not bristle-tipped, sinus deep cut and U-shaped
- Twigs: rather stout, glabrous, pearly appearance; buds small, rounded, buds clustered at twig tips
- Bark: extremely variable, light ashy gray, scaly plates, sometimes furrowed with narrow ridges
- Flowers: Spring. Male flowers on long catkins, female flowers on small stalk in leaf axils.
- Fruit: Sept-Oct. Large (1/2-3/4") oblong nut; bowl shaped cup, much shorter than nut, with wart-like scales
- Habitat: dry forest soils: FACU



Similar species:

- **swamp white oak** (*Q. bicolor*): Bark light gray, ragged in young trees and deeply furrowed in mature trees. Tree looks unkempt with numerous epicormic branches. Leaves have pointed teeth without bristles on tips, shallow sinuses, wedge-shaped at base and usually white-hairy beneath. Twigs hairless. Terminal buds small, blunt, hairless. Usually in or along the edges of forested wetlands or riparian areas. FACW
- **chestnut oak** (*Q. montana*): Bark with distinctive deep, blocky furrows. Leaves lancelet to widest above middle with rounded teeth and shallow sinuses, slightly hairy and pale underneath. End buds narrow and sharp. Very dry sites. UPL

Use by Vertebrate Wildlife: *Quercus* acorns eaten by a huge variety of wildlife including Wood duck, Mallard, Pintail, Ruffed grouse, Wild turkey, Rusty blackbird, Common grackle, woodpeckers, Black-capped chickadee, nuthatches, Tufted titmouse, American crow, Common raven, Rose-breasted grosbeak, Blue jay, Brown thrasher, Black bear, deer, foxes, raccoon, squirrels, eastern chipmunk, white-footed mouse, deer mouse, woodland jumping mouse. Browsed by moose, deer, beavers, snowshoe hare, cottontails, voles.

Use by Invertebrate Wildlife: *Quercus* is the top-ranked caterpillar host plant in the eastern US, hosting caterpillars of over 530 species of moths and butterflies. Many insects mine the leaves, the bark and nuts. Flowers provide pollen & nectar.

pine, red (*Pinus resinosa*) - Pinaceae

- Habit: tree (up to 80 feet)
- Leaves: needles in bundles of two; 3-8" long, slender, soft and flexible
- Twigs: bud scales brown with white-fringed margins
- Cones: round-conical, 1 1/2"-2 1/2", right angle to branches, scales thornless
- Bark: reddish-brown, flaky, shallow fissures
- Habitat: dry uplands: FACU



P. resinosa

Similar species:

- **pitch pine** (*P. rigida*): needles in bundles of three; needles clusters often growing along trunk, cones have scales with short, rigid thorn; bark plate-like with deep, irregular fissures.
- **Scotch pine** (*P. sylvestris*): needles in bundles of two, bent stiff and twisted; cones with yellow-brown scales thickened at tip, point backwards along branches; bark along upper trunk bright orange-red and flaky.

pine, eastern white (*Pinus strobus*) - Pinaceae

- Habit: tree (up to 90'+)
Leaves: needles in bundles of 5, soft, flexible, bluish-green, 2-4" long
Cones: long –not round, 3" to 10" long, thornless
Bark: not scaly as in other pines; young trees – smooth, green; older trees – dark with deep furrows
Flowers: April-June. Flowers borne in structures called cones (strobili) with separate male and female cones on the same tree. Male cones egg-shaped in dense clusters at base of new branchlets (candles). Female cones form at the tips of the new candle.
Fruit: August-Sept. Pine seeds borne in long soft cone on tips of 1 year old branches.
Habitat: uplands: FACU



Use by Vertebrate Wildlife: Pine seeds eaten by Black-capped chickadee, red-breasted nuthatch, Pine warbler, Pine siskin, Evening grosbeak, Pine grosbeak, Red crossbill, White-winged crossbill, Spruce grouse, Wild turkey, Brown creeper, American goldfinch, Dark-eyed junco, Brown thrasher, Eastern towhee, woodpeckers, white-footed mouse, deer mouse, southern red-backed vole, red squirrel, gray squirrel, northern flying squirrel. Young shoots eaten by porcupine, deer, snowshoe hare and cottontails.

Use by Invertebrate Wildlife: Pinus is serves as a host plant to caterpillars of about 200 species of moths and butterflies including: White pine cutworm (*Xestia badicollis*), White pine angle (*Macaria pinistrobata*), Esther moth (*Hypagyrtis esther*) and the Eastern pine elfin (*Callophrys niphon*). It serves as a host plant for many other insects that lay eggs in the bark, bore into the tree, at the larval stage, develop in the pitch, or feed on the bark of seedlings. The White pine weevil (*Pissodes strobi*) is a pest that infests and kills a pine's terminal leader, resulting in a "weevilled" or forked pine.

poison-ivy (*Toxicodendron radicans* var. *radicans*) - Anacardiaceae

- Habit: erect shrub, trailing vine, or climbing vine
Leaves: trifoliate, long rachis; end leaflet with longer petiole than laterals, sharp pointed
Twigs: alternate; buds tan/yellowish, naked, elongated, often stalked.
Flowers: April-June. White/green/brown
Fruit: Ripen Late-summer-early autumn. Yellow-white berry in compact panicles, occasionally persistent
Habitat: moist woods, growing on field edges, forests, wetlands: FAC
Notes: all parts of the plant can cause irritation all any time during the year.



Use by Vertebrate Wildlife: Fruits have a high fat content and are eaten by many birds including woodpeckers, Eastern bluebirds, Yellow-rumped warblers, Northern mockingbird, Gray catbird, Northern cardinal, Brown thrasher, Ruffed grouse, Wild turkey. Fruits and leaves eaten by black bear, deer, raccoon, muskrat, snowshoe hare, cottontails, white-footed mice, eastern chipmunk, squirrels.

Use by Invertebrate Wildlife: Flowers provide pollen and nectar. Host plant to caterpillars of at least eight moth species: Sumac leafblotch miner (*Caloptilia rhoifoliella*), *Cameraria guttifinitella*, *Stigmella rhoifoliella*, Beautiful eutelia (*Eutelia pulcherrimus*), Light marathyssa (*Marathyssa basalis*), Dark marathyssa (*Marathyssa inficita*), Eyed paectes moth (*Paectes oculatrix*), White-lined leafroller (*Amorbia humerosana*).

raspberry, black (*Rubus occidentalis*) – Rosaceae

Habit: arching shrub
Leaves: leaflets white, tomentose (woolly-hairy) beneath; pinnately compound when 5 or more leaflets present
Canes: round, reddish-brown or greenish with glaucous bloom (whitish powder); thorns small, stiff, and recurved,
Flowers: April-June. White to pinkish.
Fruit: June-Aug.
Habitat: early successional, upland sites: UPL
Similar species: see red raspberry
Note: *R. idaeus* and *R. occidentalis* can hybridize and the hybrid; *R x neglectus* has traits intermediate between the species



raspberry, red (*Rubus idaeus*) - Rosaceae

Habit: arching shrub
Leaves: alternate, compound, 3-7 leaflets (commonly trifoliate), petioles bristly, lower surface whitened; pinnately compound when 5 or more leaflets present
Canes: reddish brown, thorns bristly and weak, somewhat glaucous, round in cross-section
Flowers: Late-May-July. White.
Fruit: Late-June-Oct. Cluster of red drupes, somewhat downy, sweet edible
Habitat: disturbed sites, forest and wetland edges, old fields and Shrublands: FACU
Similar species: see black raspberry
Note: *R. idaeus* and *R. occidentalis* can hybridize and the hybrid; *R x neglectus* has traits intermediate between the species



Use by Vertebrate Wildlife: *Rubus* fruits consumed by probably all wildlife species that eat fruit Leaves eaten by deer.

Use by Invertebrate Wildlife: *Rubus* flowers used for nectar & pollen. *Rubus* are used as caterpillar host plants by over 160 species of moths & butterflies in the eastern US. Numerous insects nest bore into canes to lay larvae and/or overwinter.

rose, multiflora (rambler rose) (*Rosa multiflora*) - Rosaceae

Habit: large arcing shrub, often forming impenetrable tangles
Leaves: elliptic to obovate, bases of petioles with wings (similar to other roses)
Stems: rounded, reddish-green; thorns very stout, recurved, often paired.
Flowers: June-July. White.
Fruit: August and persist into winter. ¼” globular, red hip,
hips clustered (i.e., multiflora)
Habitat: prefers dry sites: FACU
Similar species:

NH Natural Heritage Inventory lists 15 *Rosa* species as occurring in NH



Use by Vertebrate Wildlife: *Rosa* hips eaten by Ruffed grouse, Wild turkey, Northern mockingbird, Northern cardinal, Cedar waxwing, American robin, vireos, thrushes, white-footed mouse, deer mouse, jumping mice. Multi-flora rose provides exceptional year-round cover for cottontails and snowshoe hare and nesting cover for numerous songbirds.

Use by Invertebrate Wildlife: *Rosa* species are used as host plants by caterpillars of more than 130 species of moth and butterflies in the eastern US. Multiflora rose often supports as many or more caterpillars that the native shrubs it grows with.

serviceberry (Juneberry, shadbush, shadblow) (*Amelanchier* spp.)

Habitat: usually small shrub, sometimes small tree (up to 40’ tall)
Twigs: alternate, slender; buds pinkish, long, tapering; bud scales overlapping and twisted at the tip
Bark: smooth, gray or brown, often with longitudinal stripes.
Flowers: All but Bartram’s (*A. bartramiana*) have long clusters of flower
Habitat: uplands to wetlands depending on species
Notes: NH Natural Heritage Inventory lists 8 species in NH. Very difficult to identify to the species level and species readily hybridize.



Amelanchier species known to occur in NH:

- **common serviceberry/downy shadbush (*A. arborea*):** undersides of leaves velvety, downy-hairy
- **Bartram’s serviceberry/mountain shadbush (*A. bartramiana*):** flower produced in small groups of 1-4
- **Canadian serviceberry/eastern shadbush (*A. canadensis*):** leaves oblong and fine toothed
- **smooth serviceberry/shadbush (*A. laevis*):** multi-trunked small tree, reddish bark on young stems
- **Nantucket Serviceberry/shadbush (*A. nantucketensis*):** low shrub, leaves small hairless and shiny with hairy leaf stalks. Small spoon-shaped flower petals that sometimes bear pollen directly on their margins. Globally rare.
- **round-leaved serviceberry/shadbush (*A. sanguinea*):** leaves oblong to nearly circular with coarse teeth
- **dwarf serviceberry/shadbush (*A. spicata*):** rounded finely-toothed leaves, leaf veins don’t extend into the teeth; forms dense, low thickets
- **intermediate/swamp shadbush (*A. intermedia*):** leaves fine toothed, slightly hairy beneath, short-pointed

Use by vertebrate Wildlife: *Amelanchier* fruits eaten by probably all wildlife that eat fruit.

Use by Invertebrate Wildlife: *Amelanchier* flowers provide pollen and nectar. *Amelanchier* are host plants to caterpillars of hundreds of species of moths and butterflies, including: Banded tussock moth (*Halysidota tessellaris*), Fall webworm (*Hyphantria cunea*), Elm spanworm moth (*Ennomos subsignaria*), Eastern tent caterpillar (*Malacosoma americana*)

spicebush, northern (*Lindera benzoin*) – Lauraceae

Habit: erect shrub
Leaves: elliptic, not toothed, hairless or nearly so, pleasantly aromatic when crushed
Twigs: alternate, spicy-scented; buds round, usually clustered; leaf buds 2- to 3-scaled. End buds pseudoterminal.
Flowers: Mar-April before leaves appear. Small, yellow, clustered at leaf nodes
Fruit: July-Sept. Bright red, oval, very spicy-aromatic when crushed
Habitat: wooded bottomlands: FACW-



Use by Vertebrate Wildlife: Fruits eaten by Ruffed grouse, Wild turkey, Gray catbird, Northern cardinal, Great-crested flycatcher, Eastern kingbird, American robin, thrushes, woodpeckers, Red-eyed vireo, squirrels, eastern chipmunk.

Use by Invertebrate Wildlife: Host plant to caterpillars of the following species: Spotted apatelodes (*Apatelodes torrefacta*), Yellow slant-line (*Tetracis crocallata*), Spongy moth (*Lymantria dispar*), Eastern tiger swallowtail (*Papilio glaucus*), Laurel swallowtail (*Papilio palamedes*), Spicebush swallowtail (*Papilio troilus*), Prometheus silkmoth (*Callosamia promethea*), Imperial moth (*Eacles imperialis*)

spruce, red (*Picea rubens*) – Pinaceae

Habit: tree (up to 70')
Leaves: needles dark or yellow-green (not powdery), ½ - 5/8", arranged spirally, four-sided (square in cross-section), born on slender pegs
Twigs: branches spread horizontally, twigs and buds hairy (w/ hand lens)
Flowers: April-May. Occur as small cones. Male flowers bright red, female flowers greenish-red to pink.
Fruit: Cones ripen Sept-Mar. Seeds are small samaras born two per cone scale. Cones ovoid-oblong, 1¼ and 2" long;
Habitat: well-drained sites: FACU
Similar species:



P. rubens

- **black spruce** (*P. mariana*): boggy or high elevation sites; branches mostly horizontal; twigs with hairs (w/ hand lens); needles blue-green and powdery, square in cross-section. Flowers in May-June. Flowers are small cones, male flowers bright red, female flowers purple. Cones ripen September and persistent on tree for several years; cones semi-serotinous and release seeds throughout the year.
- **white spruce** (*P. glauca*): needles blue-green often with a pale bloom, give off and unpleasant odor when crushed, often mass toward the upper side of the twig; twigs without hairs; branches mostly horizontal, moist upland sites. Flowers in May. Flowers are small cones, male flowers yellowish-red, female flowers purplish. Cones ripen Aug and seeds disperse Aug-May.
- **Norway spruce** (*P. abies*): needles dark green; twigs without hairs; branchlets drooping. Long (4 to 7 inches) cones with wedge-shaped ragged scales. Planted or escaped from a planting. Flowers in Apr-June. Cones ripen Sept-Nov and seeds dispersed Sept-Apr.

Use by Vertebrate Wildlife: Spruce grouse eat the needles. Seeds eaten by Red crossbill, White-winged crossbill, Red-breasted nuthatch, Pine siskin, cedar waxwing, Black-capped chickadee, red squirrel, eastern chipmunk. Browsed by porcupine, snowshoe hare, cottontails, squirrels, deer. Provide high-quality year-round cover.

Use by Invertebrate Wildlife: Spruces are hosts to many lepidopteran caterpillars including: Spruce needle miner (*Endothenia albolineana*), European spruce needle miner (*Epinotia nanana*), Larch needleworm moth (*Zeiraphera improbana*), Columbia silkmoth (*Hyalophora columbia*), Bog elfin butterfly (*Callophrys lanoraieensis*), Imperial moth (*Eacles imperialis*).

steeplebush (rosy meadowsweet, hardhack) (*Spiraea tomentosa*) - Rosaceae

Habit: shrub 2-3' tall, slender
Leaves: alternate, simple, elliptic, coarsely toothed, underside tan woolly
Twigs: rusty or tawny woolly; buds small, round, very woolly
Flowers: July-Sept. Pinkish or sometimes white, in tight spires ("steeples")
Fruit: August into spring in brown steeple clusters (see photo); small 5-parted ovid capsules.



Use by Vertebrate Wildlife: Used occasionally as nesting cover by Song sparrow, Field sparrow, Prairie warbler, Common yellowthroat. Seeds may be eaten by sparrows, Dark-eyed junco.

Use by Invertebrate Wildlife: Flowers provide pollen & nectar. Host plant for caterpillars of Columbia silkmoth (*Hyalophora columbia*)

sumac, staghorn- (*Rhus typhina*) - Anacardiaceae

Habit: shrub or small tree (up to 25' tall)
Leaves: large, compound with 11-31 toothed leaflets
Twigs: alternate, round, stout, very hairy, large pith; buds woolly; leaf scars U-shaped, enclosing buds.
Flowers: May-July. Male and female flowers on different plants. Greenish-yellow in large (1 foot) panicles.
Fruit: Aug and persistent through winter. Fuzzy, bright red berries in erect pyramidal clusters.
Bark: dark, numerous raised cross streaks
Habitat: upland, early successional, grows in clumps or patches in old pastures, open areas: UPL

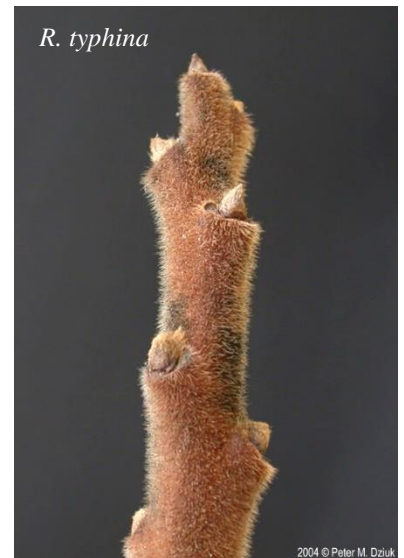
Similar species:

smooth sumac (*R. glabra*): twigs are not hairy; fruits heads less dense

poison-sumac (*Toxicodendron vernix*): growing in wetlands, typically with red maple, high-bush blueberry; twigs not hairy; leaf scars crescent shaped, not enclosing buds; fruits white berries in loose clusters, often present in early winter.

winged-sumac (*R. copallinum* var. *latifolia*): 11-23 narrow, smooth-edged shiny leaflets, midrib bordered by thin "wings". Twigs & leaf stalks velvety

fragrant sumac (*R. aromatica* var. *aromatica*): 3-parted large-toothed leaves with pleasant odor when crushed



Use by Vertebrate Wildlife: Fruit eaten by woodpeckers, Eastern bluebirds, American robins, Northern mockingbirds, European starlings, Black-capped chickadee, Tufted titmouse, Ruffed grouse, Wild turkey, squirrels, eastern chipmunk. Browsed by moose, deer, porcupines, beaver.

Use by Invertebrate Wildlife: Host plant for caterpillars of at least five moth species: *Pseudochelaria walsinghami*, *Caloptilia belfrageella*, Dark marathyssa moth (*Marathyssa inficita*), Cecropia moth (*Hyalophora cecropia*), and the Raspberry leaf roller moth (*Olethreutes permundana*). Flowers provide nectar and pollen.

sweet-fern (*Comptonia peregrina*) – Myricaceae

Habit: much branched, mat forming shrub
Leaves: foliage fern-like, aromatic
Twigs: grayish, hairy, aromatic; catkins clustered toward twig tips, often pressed tight against stem.



Flowers: April-May. Green. Male flowers on drooping catkins, female flowers on bur-like clusters.
Fruit: July-Sept. Small (¼“), hard nutlets, inside brown bur formed from persistent bracts.
Habitat: dry, sterile open sites, UPL

Use by Vertebrate Wildlife: Catkins eaten by Ruffed grouse and Wild turkey. Deer browse twigs, foliage and eat bark especially in late winter. Occasionally used as nesting sites by Prairie warbler.

Use by Invertebrate Wildlife: Host plant for caterpillars of Gray hairstreak butterfly (*Strymon melinus*), Double-lined gray moth (*Cleora sublunaria*), the Sweetfern geometer (*Cyclophora pendulinaria*), the Sweetfern casebearer moth (*Acrobasis comptoniella*), the Brown-collared Agonopterix (*Agonopterix atrodorsella*), the Red-Fronted Emerald (*Nemoria rubrifrontaria*) and the Sweetfern Underwing (*Catocala antinympha*).

sweetgale (*Myrica gale*) – Myricaceae

Habit: erect shrub
Leaves: thin, wedge-shaped, toothed at tip, slightly hairy beneath or hairless
Twigs: alternate, brownish, covered in aromatic resin-dots (use hand lens); very small buds whitish and oval.
Flowers: April-June. Red on female catkins that are positions in axils of upper leaves. Male flowers are catkins that look like buds clustered toward twig tips (see photo)
Fruit: small winged seeds borne in cone-like clusters
Habitat: swamps, pond edges: OBL



Use by vertebrate Wildlife: Browsed by deer. Buds eaten by Ruffed grouse. Tiny seeds may be eaten by Song sparrow, White-throated sparrow, Dark-eyed junco, redpolls.

Use by Invertebrate Wildlife: Host plant to caterpillars of many moth species, including Virginian tiger moth (*Spilosoma virginica*), Ornate bella moth (*Utetheisa bella*), White-marked tussock moth (*Orgyia leucostigma*), Impressed dagger moth (*Acronicta impressa*), Smear-dagger moth (*Acronicta obliqua*)

sweet pepper-bush, coastal (*Clethra alnifolia*) – Clethraceae

Habit: erect shrub
Leaves: wedge-shaped, and short-pointed
Twigs: alternate, hairy; outer bark red-brown, separating into loose strips; large end buds with loose or shedding hairy outer scales
Flowers: June-Sept. White in long (2 to 6 inch) spikes. Very fragrant.
Fruit: Sept-Oct. Tiny seeds born in round capsules in a spike are persistent
Habitat: swamps and sandy soils: FAC+



Use by vertebrate Wildlife: Provides nectar for hummingbirds, Sparrows and juncos may eat the tiny seeds.

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Host plant to caterpillars of at least seven moth species, including Isabella Tiger moth (banded woolly bear) (*Pyrrharctia isabella*), Bold-feathered grass moth (*Herpetogramma pertextalis*), Zigzag Herpetogramma (*Herpetogramma thestealis*), Inornate olethreutes (*Olethreutes inornatana*).

sycamore, American (*Platanus occidentalis*) - Platanaceae

Habit: Large tree (50-130')
Leaves: Large (6-10"), 3- to 5-lobed; edged with large teeth; nearly hairless. Leaf stalk bases hollow and completely cover buds.
Twigs: Single saucer-like, leafy toothed stipules clasp and encircle twigs at points on leaf at attachment; Stipule scars completely encircle the winter buds; buds covered by a single scale; terminal buds pseudoterminal.
Bark: Distinctive mottled brown bark that flakes off in jigsaw-puzzle-like pieces to expose yellowish and whitish underbark
Flowers: Apr-June. Non-showy in small, ball-like clusters,
Fruit: small and hairy, in tight, brown, long-stalked hanging balls
 $\frac{3}{4}$ " – 1 $\frac{1}{2}$ " in diameter (Oct-winter)



Similar species:

- **London sycamore** (Plane tree) (*P. hybrida*): A non-native ornamental. Usually have 2 or more fruit "balls" per stalk rather than 1 and have more yellowish underbark.

Use by Vertebrate Wildlife: Seeds eaten by Ruffed grouse, American goldfinch, Purple finch, House finch, Wild turkey, squirrels. Browsed by deer, beaver, cottontails

Use by Invertebrate Wildlife: Flowers provide nectar and pollen. Host plant to caterpillars of many moths including Sycamore tussock moth (*Halysidota harrisii*), Banded tussock moth (*Halysidota tessellaris*), Drab prominent (*Misogada unicolor*), American plum borer (*Euzophera semifuneralis*), Sycamore webworm moth (*Pococera militella*), Polyphemus moth (*Antheraea polyphemus*), Io moth (*Automeris io*), *Automeris metzli*, Imperial moth (*Eacles imperialis*), Cecropia moth (*Hyalophora cecropia*)

Virginia creeper (*Parthenocissus quinquefolia*) - Vitaceae

Habit: climbing vine
Leaves: 5 (rarely 3 or 7), toothed, arranged like spokes of a wheel, hairy or hairless
Twigs: Hairless, pith white and continuous. Bark tight, often dotted. Have long, slender tendrils that are disk-tipped, several Branched. Cupped leaf scars. Bud scale-covered,
Flowers: June-August. Inconspicuous small, greenish and clustered.
Fruit: Ripe July-Oct and often persistent through winter. Small ($\frac{1}{4}$ ") bluish berries. Fruits TOXIC TO HUMANS.

Similar species:

- **Thicket creeper** (*P. inserta*). Similar to *P. quinquefolia* tendrils tips lack adhesive disks

Use by Vertebrate Wildlife: Fruit eaten by Eastern bluebird, Gray catbird, Northern Cardinal, Northern mockingbird, American robin, Black-capped chickadee, Tufted titmouse, White-breasted nuthatch, Great crested flycatcher, sparrows, Brown thrasher, thrushes, Red-eyed vireo, yellow-rumped warbler, foxes, white-footed mouse, striped skunk, raccoon. Not usually browse by deer.



Use by Invertebrate Wildlife: Host plant for caterpillars of Abbott's sphinx moth (*Sphecodina abbottii*), Pandora sphinx moth (*Eumorpha pandorus*), Virginia creeper sphinx moth (*Darapsa myron*), White-lined sphinx moth (*Hyles lineata*).

walnut, black (*Juglans nigra*) - Juglandaceae

- Habit: Large tree (70 to 100 feet)
Leaves: Compound, 7-14 leaflets, end leaflet often absent (leaf ends in a pair of leaflets). Leaflets slightly hairy beneath. Crushed leaves have spicy scent
Twigs: Buds white-woolly; leaf scars large with three obvious bundle scars, upper edge of leaf scars without a hairy fringe.
Pith light brown & cambered
Bark: Deep and deeply grooved
Flowers: April-June. Flowers are catkins. Green-yellow.
Fruit: Ripe Oct-Nov. Large nuts enclosed within a green husk.
Habitat: Well-drained sandy-loam soils. Often planted around older homes and readily spreads to field edges when squirrels move nuts.
Similar species: see *butternut* (*J. cinerea*)



Use by Vertebrate Wildlife: Seeds eaten by woodpeckers, squirrels, white-footed mouse, deer mouse, black bear

Use by Invertebrate Wildlife: Flowers provide nectar and pollen Host to caterpillars of numerous species of moths and butterflies, including: Fall webworm (*Hyphantria cunea*), *Caloptilia blandella*, Pecan leafminer moth (*Cameraria caryaefoliella*), Hag moth (*Phobetron pithecium*), Skiff moth (*Prolimacodes badia*), The bride (*Catocala neogama*), Angus's datana (*Datana angusii*), Red-humped caterpillar moth (*Schizura concinna*), Luna moth (*Actias luna*)

willow (*Salix* spp.) – Salicaceae

- Habit: shrub or tree
Leaves: long and narrow
Twigs: alternate, long and slender; inner bark yellow; terminal bud absent; lateral buds pressed tightly against stem, covered by single cap-like bud scale, buds covered in white hairs when bud scale is removed
Flowers: March-June. Usually begins flowering before leaves emerge. Separate Male and female catkins.
Fruit: May-July. Small seeds with silky down.
Habitat: wet sites
Notes: NH Natural Heritage Inventory currently lists 21 species or hybrids of willow in NH and identifying to species is difficult



Use by Vertebrate Wildlife: Buds and catkins eaten by Ruffed grouse, Wild turkey, grosbeaks, squirrels. Browsed by deer, beaver, snowshoe hare, cottontails.

Use by Invertebrate Wildlife: Flowers provide an important early source of pollen and nectar. *Salix* is used as a host plant by caterpillars of over 450 species of moths and butterflies in the eastern US including Striped hairstreak (*Satyrrium liparops*), Compton tortoiseshell (*Nymphalis vaualbum*), Northern pearly-eye (*Enodia anthedon*), Cecropia moth (*Hyalophora cecropia*), Mourning Cloak (*Nymphalis antiopa*) Red-spotted Purple (*Limenitis arthemis*), and Viceroy (*Limenitis archippus*).

witch-hazel, American (*Hamamelis virginiana*) - Hamamelidaceae

- Habit: shrub or small, irregular tree (up to 15' tall); often with several trunks in a group
- Leaves: simple, oval, wavy edged, uneven bases
- Twigs: alternate; buds stalked, naked and hairy, shaped like a colt's hoof
- Bark: smooth, brownish with lighter blotches
- Flowers: October to December; yellow petals persist after leaves drop.
- Fruit: October to December; urn-shaped woody capsule,
- Habitat: woodlands: FAC-



Use by Vertebrate Wildlife: Wildlife that eat the fruit of witch hazel include ruffed grouse, squirrels, mice. Beaver, cottontail rabbits, snowshoe hare, voles & deer browse stems/eat bark.

Use by Invertebrate Wildlife: Host plant to caterpillars on moths including Woodgrain leafroller (*Pandemis lamprosana*), Merrick's crambid moth (*Olethreutes merrickanum*), Polyphemus moth (*Antheraea polyphemus*), Cecropia moth (*Hyalophora cecropia*), Oak-maple humped caterpillar (*Schizura ipomoeae*), Three-spotted nola moth (*Nola triquetrana*), Mustard Sallow (*Pyreferra hesperidago*), Drexel's datana (*Datana drexelii*), Holly blue (*Celastrina argiolus*), *Cameraria hamameliella*

CREDITS & CONTACTS

This reference is compiled and maintained by Matt Tarr (Extension Professor & State Specialist, Wildlife Habitat, University of New Hampshire Cooperative Extension) with regular input from professional colleagues from UNH Cooperative Extension - Natural Resources and the USDA Natural Resources Conservation Service. Additional input was provided by Tom Foster and from UNH Wildlife & Conservation Biology students.

This reference is updated regularly. Please contact Matt (matt.tarr@unh.edu) if you find any errors or would like the most recent version.

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Plant taxonomy from: <http://www.arthurhaines.com/tracheophyte-checklist>

HOSTS – A database of the World's Lepidopteran Hostplants: <https://www.nhm.ac.uk/our-science/data/hostplants/search/index.dsml>

Wetland Indicator Status:

National Wetland Plant List: https://wetland-plants.usace.army.mil/nwpl_static/v34/home/home.html

OBL	Obligate Wetland	Occurs almost always (99%) under natural conditions in wetlands
FACW	Facultative Wetland	Usually occurs in wetlands (67%-99%), but sometimes occasionally found in non-wetlands
FAC	Facultative	Equally likely to occur in wetlands or non-wetlands (34%-66%)
FACU	Facultative Upland	Usually occurs in non-wetlands (67-99%), but occasionally found in wetlands (1%-33%)
UPL	Upland Obligate	Occurs almost always (99%) under natural conditions in non-wetlands