

Ravine Meander Floristic Quality Assessment Species Identification Guide

Plants of Concern, Chicago Botanic Garden
Version 2 • August 2019

About

This guide is part of a floristic assessment tool for the ravine and bluff ecosystems of the Illinois Lake Michigan Watershed. The purpose of this identification guide is to highlight the species used in the meander-based Ravine Rapid Floristic Quality Assessment (RRFQA), developed by Plants of Concern at the Chicago Botanic Garden, and should be used with the RRFQA protocol and datasheet found at plantsofconcern.org/guides#ravines.

Species Included

The species represented here are only those included in the assessment; this is not a comprehensive guide to species found in ravines. The species in this guide were selected with help from ecologists, botanists, and land managers familiar with the ravine and bluff ecosystems of the Illinois Lake Michigan Watershed. They were carefully chosen to provide a qualitative floristic assessment representative of more intensive sampling while remaining within the limits of the RRFQA protocol.

Special Species Key

- # Indicates a species that is monitored by Plants of Concern. These plants are native to the region and are listed as endangered or threatened in Illinois and/or considered to be rare in northeast Illinois, particularly in ravine and/or bluff ecosystems. More information on these species can be found at plantsofconcern.org.
- * Indicates a non-native invasive species or an aggressive native species that negatively impacts other native species. Visit invasive.org or the Northeast Illinois Invasive Plant Partnership's website at niipp.net for more information.

Additional Resources

Many resources are available to help you identify unknown species. We recommend:

- Newcomb (1989) *Newcomb's Wildflower Guide*
- Kurz (2004) *Illinois Wildflowers*
- Brown (1992) *Grasses: An Identification Guide*
- Wilhelm and Rericha (2019) *Flora of the Chicago Region*

Credits

This identification guide was adapted from the "Ravine Rapid Assessment Vegetation Identification Guide" by Dan Fink, Kristina Geiger, Rachel Goad, and Susanne Masi with assistance from John Balaban, Rebecca Collings, Aimee Collins, Elizabeth Ettelson, Rebecca Grill, Ken Klick, Linda Masters, Deb Maurer, and Gerould Wilhelm.

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Ravine Rapid Assessment Vegetation Identification Guide

Woody Species



Acer saccharum

Sugar Maple

Opposite, 5-lobed leaves. Winged fruits are paired. Rough, gray-brown bark. Leaves lighter on undersides.



Betula papyrifera

Paper Birch

White papery bark with dark horizontal stripes.



Carpinus caroliniana

Blue Beech

Small tree with muscular, sinewy-looking trunk. Alternate, elliptical leaves have double serrated margins. Hanging papery fruit.



Carya cordiformis

Mustard Bud

Bark thin with small platy scales or shallow ridges & fissures. End buds slender and fuzzy yellow. Compound leaves of 7-9 leaflets



Carya ovata

Shagbark Hickory

Shaggy trunk bark. Odd-pinnate compound leaves, each with 5 leaflets. Leaflets obovate, serrated margins.



Cornus alternifolia

Alternating-Leaved Dogwood

Alternate leaves, sometimes appear whorled. Ovate leaves with smooth margins; tops are dark green & glabrous, undersides are pale green to white.



Cornus racemosa

Gray Dogwood

Leaves with 5 pairs of lateral veins. Smooth red branches have a white pith. White flowers occur in an open, flattish cluster, later developing into white fruits.



Cornus rugosa

Roundleaf Dogwood

Leaves entire with 3-4 pairs of lateral veins. Underside pale green to white. Twigs and bark smooth gray. Dome-shaped panicles of white flowers develop into white fruits.



Cornus sericea

Red Osier Dogwood

Opposite twigs green with purple spots, pith white. Leaves hairy below. Flowers white, fruits pale blue.



Diervilla lonicera

Bush Honeysuckle

Short, erect shrub. Oblong, finely toothed leaves taper to a tip; opposite. Yellow, funnel-shaped flowers.



Frangula alnus

Alder Buckthorn

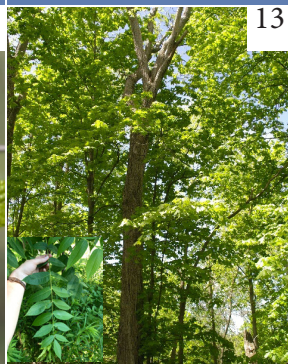
Dark outer bark, yellow inner bark. Glossy leaves have smooth margins; prominent veins.



* *Hamamelis virginiana*

Witch Hazel

Shrubby, multi-branched tree. Oval leaves with wavy margins; uneven base. Yellow flowers with contorted petals bloom in the fall. Fruits resemble tiny woody acorns.



Juglans cinerea

Butternut

Smaller than black walnut & nuts are more oval than round. Odd-pinnate compound leaves, each 11-17 oblong to lanceolate leaflets.



Juglans nigra

Black Walnut

Terminal leaflet small or absent. Compound leaf stalk covered in sticky hairs. Mature trees have furrowed, grey-black bark. Nut is round 1.5-3"



Juniperus communis

Common Juniper

Spreading evergreen with awl-shaped needles, 3-sided twigs. Needles in whorls of 3; bluish-green. White band on upper leaf surface. Fruits are powdery, blue-black, and berry-like.

Ravine Rapid Assessment Vegetation Identification Guide

Woody Species

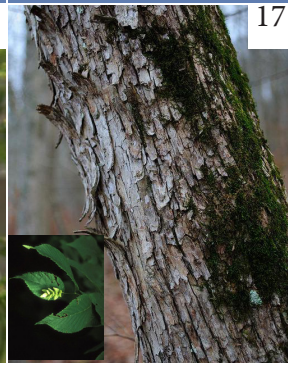


16

Juniperus virginiana

Eastern Red Cedar

Bark reddish, thin, crown column-like. Leaves are minute scale-like. Berry-like fruits have a powdery white coating.



17

Ostrya virginiana

Hophornbeam

Reddish bark becomes shaggy with age and divides into narrow strips. Double-serrated, oval leaves abruptly taper to a tip. Fruits are hop-like with papery coverings.



18

Physocarpus opulifolius

Atlantic Ninebark

3-9' tall. Alternate leaves, 3- to 5-lobed with coarsely toothed margins. Leaves are hairless, with occasional sparse hairs on lower surface.



19

Populus deltoides

Eastern Cottonwood

Grey to black, deeply furrowed bark. Triangular, prominently veined leaves. Coarsely toothed leaf margins. Sticky leaf buds



20

Populus tremuloides

Quaking Aspen

Smaller than eastern cottonwood. Bark usually has horizontal black rings and scattered black knots. Alternate leaves; toothed, oval-ovate, glabrous.



21

Prunus virginiana

Choke Berry

Leaves finely serrated ending with abrupt tapered point; widest in middle. Mature bark is brown and smooth with prominent lenticels. Young bark has diamond grooves.



22

Quercus alba

White Oak

Leaves lobed and rounded. Bark shallowly furrowed and grey-whitish with patches. End buds clustered.



23

Quercus rubra

Red Oak

Leaves lobed and pointed. Bark with dark vertical striping. End buds clustered.



24

Rhamnus cathartica

Common Buckthorn

Smooth brown bark speckled with white. Oval leaves; finely crenulate margins. Some branches have thorn-like tips.



25

* *Rhus typhina*

Staghorn Sumac

Small clone-forming tree. Velvety hairs on stout twigs. Leaves compound. Flowers in branched clusters, berries hairy.



26

Robinia pseudoacacia

Black Locust

Stout thorns at bases of leaf stalks. Compound leaves with 7-21 small, rounded leaflets. Fragrant clusters of white flowers. Long, straight, leathery seed pods.



27

* *Rubus occidentalis*

Black Raspberry

Leaves with 3 leaflets, double toothed, silver hairy underside. Stems are a waxy red or green with prickles. Flower stalk ending with white flowers and triangular sepals of 5.



28

Shepherdia canadensis

Canada Buffaloberry

6-8' high & wide. Thick, leathery foliage. Yellow flowers turn to red oval fruits. White bark with orange dots.



29

Thuja occidentalis

Northern White Cedar

Dense, conical to pyramidal shaped evergreen tree up to 60' tall. Aromatic foliage appears in flattened sprays. Red-brown bark.



30

Tilia americana

Basswood

Large heart-shaped leaves. Leaf margins serrated, leaf bases asymmetrical. Fragrant, cream-colored flowers in early summer. Fruits attached to elongated persistent bracts. Trunks often multiple.

Ravine Rapid Assessment Vegetation Identification Guide

Woody Species



31

Viburnum acerifolium

Maple-Leaved Viburnum

3-lobed leaves maple-like. Small, white, 5-petaled flowers in terminal clusters. Berries blue-black.



32

Viburnum opulus

Highbush Cranberry

Up to 15' tall. White, flat-topped flowers in spring turn into cranberry-red berries in fall. Maple-like, 3-lobed, dark green leaves.

Graminoid Species



33

* *Brachyelytrum erectum*

Bearded Shorthusk

Wide, flat leaves; hairy along veins. Cross veins between the lateral, parallel veins. Hairy stems & spikelets.

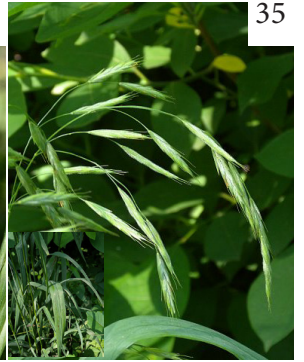


34

Bromus latiglumis

Smooth Brome

Matures later than Bromus pubescens. Auricled sheaths. Line of hair at ligules.

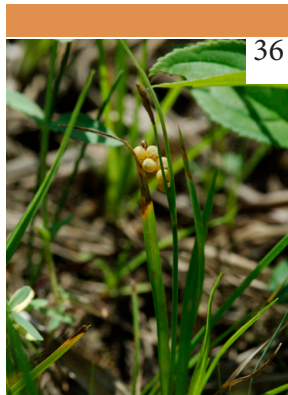


35

Bromus pubescens

Hairy Wood Brome

Leaves shiny above, duller below. Nodes and drooping inflorescences are finely hairy.



36

Carex aurea

Golden Sedge

Leaf blades light green & glabrous. Perigynia obovoid in shape, glabrous, and golden.



37

Carex pedunculata

Long-Stalked Sedge

Rosette forming. Strap-like leaves dark-green with red bases. Fruits appear in May.



38

Carex pensylvanica

Pennsylvania Sedge

Stem sharply 3- angled and smooth. Bright-green arching leaves to 12" long. Blooms in early spring.



39

Elymus canadensis

Great Plains Wild Rye

Long narrow leaves; green above, bluish below. 5 - 9" nodding flower spike. Long awns curve outward with age.



40

Elymus hystrix var. *hystrix*

Bottlebrush Grass

Greyish-green, arching leaves. Erect, smooth, central stem to 4 feet. Bottle-brush shaped terminal floral spikes.



41

Patis racemosa

Black-Seeded Rice Grass

Stems arise from a knotty rhizome. Upper leaf surface rough, lower leaf surface hairy. Seeds black.



42

Phalaris arundinacea

Reed Canary Grass

Leaves to 10 or more inches long. Leaf margins are rough. Flowering heads become straw colored. Ligule, where leaf meets stem, is large, membranous, and conspicuous. Prefers wet habitats.



43

* *Phragmites australis*

Common Reed

Tall (to 16 feet) grass. Leaves bluish-green. Flower panicle is silky, and purple or red turning yellow later in the season. Forms dense colonies on wet ground.



44

* *Actaea pachypoda*

Doll's Eyes

1-2.5' tall. Unbranched or sparingly branched. Alternate compound leaves. Raceme of white flowers mature to white berries w/ red stalk.



45

Adiantum pedatum

Northern Maidenhair Fern

Central stalks of pinnae are dark & glabrous with 4-24 pairs of alternate & single terminal leaflets. Non-terminal leaflets are smooth and curved on one side, cleft and crenate on the other.

Ravine Rapid Assessment Vegetation Identification Guide

Herbaceous Species



46

Alliaria petiolata

Garlic Mustard

Lower leaves heart-shaped, upper leaves more oval; light-green. Leaf margins deeply toothed. Strong aroma of garlic when crushed. White 4-petaled flowers.



47

* *Anemone virginiana*

Tall Anemone

Leaves palmately compound in groups of 3. Petioles long with white hairs. Greenish white flowers of 5 petals, stalks hairy.



48

Apocynum androsaemifolium

Common Dogbane

Shorter and more wide spreading than common dogbane. Flowers have pink stripes along sides of corolla's interior.



49

Aralia nudicaulis

Wild Sarsaparilla

Leaves compound in groups of 3-7 with a whorl of 3 at the tip. Finely toothed leaflets, wavy edges ending in a sharp point. Round clusters of white to green-white flowers with 5 white tipped stamens.



50

Aralia racemosa

#

Spikenard

Branches are glabrous, maroon to black in color. Pinnate compound leaves, toothed. Panicked greenish-white flowers.



51

Arisaema triphyllum

Jack-In-The-Pulpit

One or two trifoliate leaves occur on a stout stalk with a flower cluster (spadix) occurring inside a modified leaf (spathe). Spathe ranges from light green to reddish green.



52

Caltha palustris

Water Arum

Wide, heart-shaped, glossy leaves. Thick branching stem. Flowers bear 5 petal-like sepals; deep yellow.



53

Campanulastrum americanum

Tall Bellflower

Central stalk with alternate toothed leaves. Leaves are hairy along veins and underneath. Violet-blue flowers.



54

Carduus nutans

Musk Thistle

Deeply pinnately lobed leaves with prickles. Large purple flowering heads nod. May grow to six feet.



55

* *Cirsium arvense*

*

Creeping Thistle

Leaves narrow, lobed; prickles along margins. Upper leaves clasp stem. Purple flowering heads are smaller than those of Musk Thistle.



56

Erythronium albidum

White Trout Lily

Oblong, lanceolate, dark green, mottled leaves. Flowers white, lily-like, nodding. Grows in large colonies.



57

Eupatorium purpureum

Purple Joe-Pye Weed

Tall and unbranched, with whorls of 4 to 5 leaves. Domed mass of small, pink to purple flowers. Crushed leaves aromatic. Stem purple at nodes.



58

Eupatorium maculatum

Joe-Pye Weed

3-5 feet tall; unbranched. Leaves lanceolate with forward pointing teeth; in whorls of 4 to 5. Pink flowers in flat-topped flower clusters. Stems slightly hairy with purple spots.

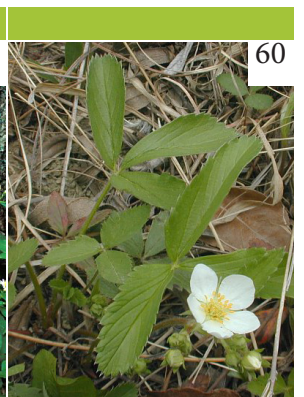


59

Eurybia macrophylla

Large-Leafed Aster

Large, heart-shaped basal leaves, often forming a mat. Purple to reddish stems. White to lavender flowers.



60

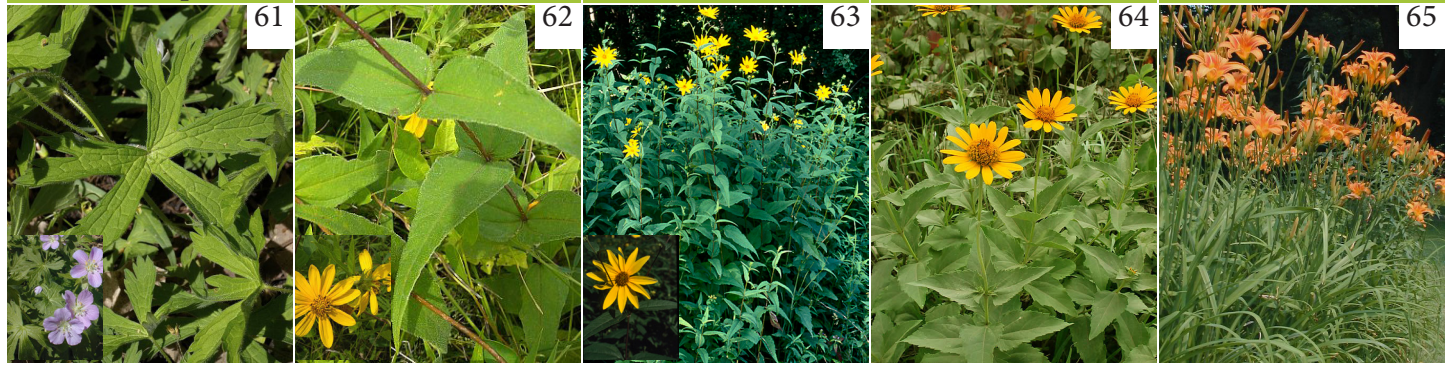
Fragaria virginiana

Common Strawberry

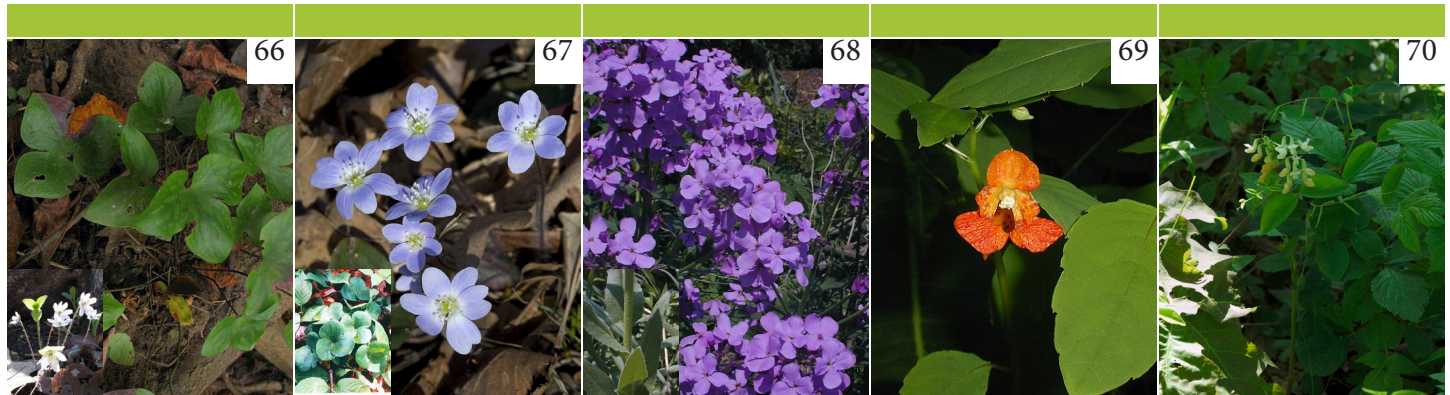
Trifoliate leaves are oval and coarsely toothed along the middle to outer edges. Produces white flowers with 5 petals that develop into a red edible fruit. Spring blooming.

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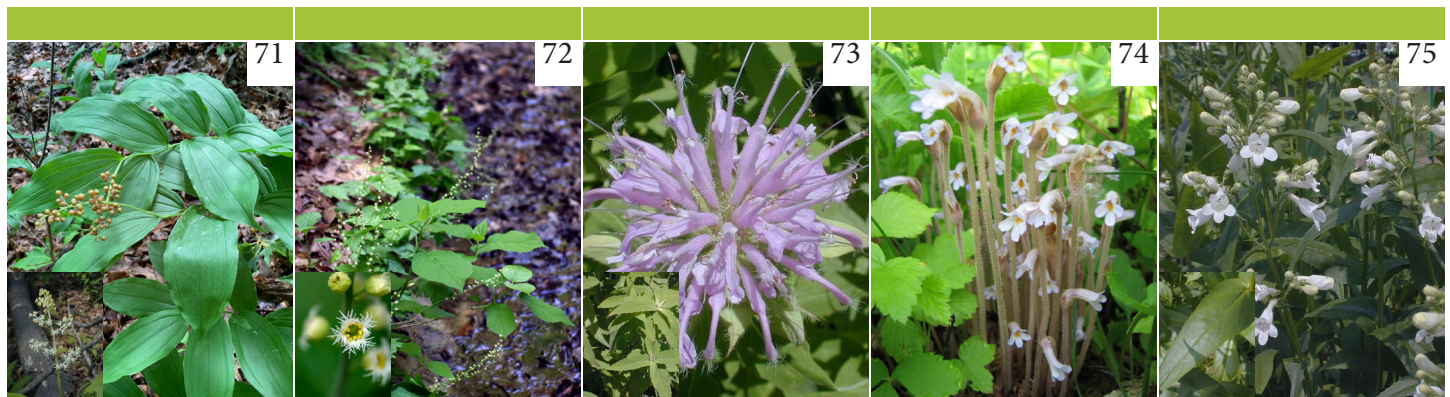
Herbaceous Species



<p><i>Geranium maculatum</i> Spotted Crane's Bill Leaves up to 5" wide & across with 5 deep lobes. Coarsely hairy petioles. Flowers have 5 rounded purple to pink petals.</p>	<p><i>Helianthus divaricatus</i> Woodland Sunflower Sessile or nearly sessile opposite leaves. Stems mostly hairless, light green to dark purple.</p>	<p><i>Helianthus strumosus</i> Pale-Leafed Sunflower Narrow, ovate leaves with pale undersides. Flowers yellow mostly solitary at branch tips.</p>	<p><i>Heliopsis Helianthoides</i> False Sunflower Stems light to reddish green, sometimes hairy. Opposite leaves with coarsely serrated margins, pedunculate. Petioles present.</p>	<p><i>Hemerocallis fulva</i> * Daylilly Sword-like leaves bright green, smooth. Tall flowering stalk bears bright orange and yellow flowers.</p>
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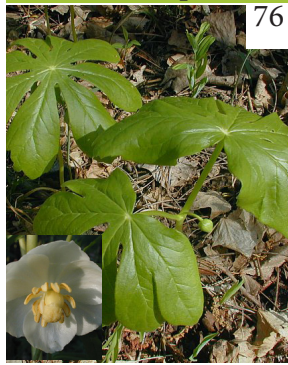
<p><i>Hepatica acutiloba</i> Liverwort Leaves leathery, 3-lobed, tips somewhat pointed. Pink, purple, blue, or white flowers.</p>	<p><i>Hepatica nobilis</i> var. <i>obtusata</i> # Round-Leafed Hepatica Leaves roundly 3-lobed. Flowers white to lavender. Uncommon.</p>	<p><i>Hesperis matronalis</i> * Dame's Rocket Hairy stem. Leaves sessile, lance-shaped, and toothed. Clusters of flowers; purple to pink.</p>	<p><i>Impatiens capensis</i> Orange Jewelweed Leaves hairless with widely toothed edges. Orange flowers funnel-shaped with elongated lip. Explosive seed pods when touched.</p>	<p><i>Lathyrus ochroleucus</i> # Cream Vetchling Stems light green to purplish brown, glabrous, sometimes glaucous. Alternate compound leaves with 4-10 leaflets. White flowers.</p>
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<p><i>Maianthemum racemosum</i> Feathery False Solomon's Seal Stem light green, slightly hairy, sometimes zigzag terminating in a panicle of white flowers. Polygonatum spp. have flowers that droop below each leaf. Spring blooming.</p>	<p><i>Mitella diphylla</i> # Two-Leaf Mitrewort Single pair of nearly sessile, opposite, 3-lobed leaves toward base of stem. Basal leaves similar but have petioles. Flowers appear fringed.</p>	<p><i>Monarda fistulosa</i> Wild Bee-Balm Square light green stems. Opposite leaves, hairless, serrated margins. Flowers are pink to lavender, unlike other Monarda spp.</p>	<p><i>Orobanche uniflora</i> # One-Flowered Broomrape Flowering stalks pale gray to grayish tan, hairy, each with a single nodding flower. Flowers white to lilac and hairy.</p>	<p><i>Penstemon digitalis</i> * Foxglove Beardtongue Flowering stalks light green & hairless. Opposite leaves lanceolate, shiny, toothed. White tubular flowers.</p>
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Ravine Rapid Assessment Vegetation Identification Guide

Herbaceous Species



76

Podophyllum peltatum

Mayapple

Infertile plants have 1 leaf, fertile plants have 2. Leaves glabrous with 5+ lobes. White flower underneath 2nd leaf.



77

Polygonatum pubescens

Hairy Solomon's Seal

Stem slightly zigzags, glabrous to short-pubescent. Flowers hang below leaves. Hairs along veins of leaf undersides.



78

Prenanthes alba

White Rattlesnake Root

Central stem light green to purple, glabrous, glaucous. Alternate leaves usually 3-5 lobed. Each flowerhead has 8 primary purple-green, hairless bracts.



79

Pyrola elliptica

Elliptic-Leaved Shinleaf

Basal leaves with very small teeth form a rosette. White nodding flowers on a raceme.



80

Sanguinaria canadensis

Bloodroot

Single large sheath-like, multi-lobed leaf at base of flower; white flowers with yellow stamens. Can grow in large colonies.



81

Sanicula odorata

Common Black Snakeroot

Stem light green to purple, glabrous. Upper leaves are trifoliate, glabrous, & usually sessile. Greenish yellow flowers.



82

Securigera varia

Crown Vetch

Densely spreading. Compound leaves with 11-25 leaflets. Pink to white pea-like flowers.



83

* *Solidago speciosa*

Showy Goldenrod

Leaves entire. Stems & leaves toothless, or nearly so. Flowering stems erect or curved upward.



84

Solidago flexicaulis

Zig-Zag Goldenrod

Stem zig-zags; leaves broadly ovate, toothed, on a winged leaf stalk.

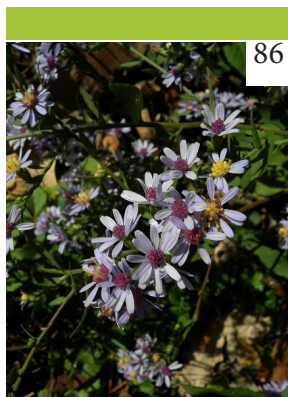


85

Solidago ulmifolia

Elm-Leaved Goldenrod

Inflorescence branches arching; leaves ovate to elliptic or lance-elliptic with coarsely toothed edges.



86

Symphyotrichum drummondii

Drummond's Aster

Upper stems densely hairy. Shallowly-toothed, hairy below, leaves on winged stalks. Basal leaves with cordate bases. Flower cluster elongated, pyramidal.



87

Symphyotrichum laeve

Bluebird

Leaves smooth, waxy, and clasping. Stem green or reddish, hairless or sparse hairs on upper stem. Pale purple flowers occur in open branching clusters from upper leaf axils.

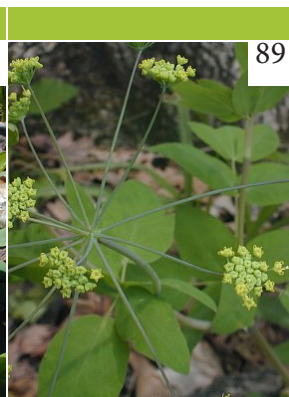


88

Symplocarpus foetidus

Skunk Cabbage

Early blooming plant of wet habitats. Distinctive spike of minute flowers enclosed in a speckled, brownish purple hood. Leaves initially basal, becoming large and quilted over the growing season.



89

Taenidia integerrima

Yellow Pimpernel

Alternate compound leaves. Leaflets trifoliate, toothless. Yellow umbels open & airy.



90

Thalictrum dioicum

Early Meadow Rue

Leaves odd-pinnate. Each kidney-shaped leaflet lobed in 3-12 rounded parts. Flowers petal-less. Males droop with long yellow anthers, females have thick white to greenish pistils. Spring blooming.

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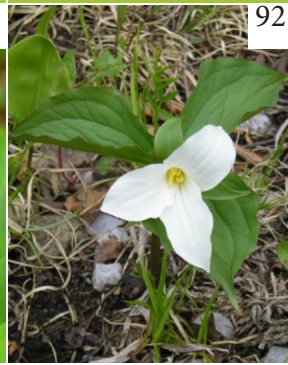
Herbaceous Species



Thaspium trifoliatum

Purple Meadow Parsnip

Alternate leaves trifoliate, toothed. Only carrot plant in area with maroon flowers.



Trillium grandiflorum

Great White Trillium

3 large leaf-like, ovate bracts sit below flower. Single, 3-petaled white, purple, or pink flower.



Triosteum aurantiacum

Early Horse Gentian

Opposite leaves do NOT join together at stem. Glandular hairs present on leaves. Flowers in leaf axils.



Triosteum perfoliatum

Perfoliate-Leaved Horse Gentian

Opposite leaves join together at stem. Flowers in leaf axils.



Uvularia grandiflora

Large-Flowered Bellwort

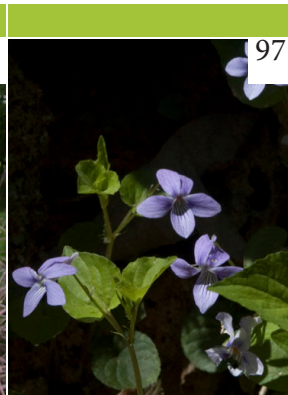
Leaf bases perfoliate with several prominent veins. Hanging yellow flower composed of 6 narrow tepals that later develop into 3-sectioned triangular capsules. Spring blooming



Verbena urticifolia

White Vervain

Leaves ovate, coarsely toothed, softly hairy, and tapered point. Square, hairy stems terminate in numerous slender white flowering spikes.



Viola conspersa

Dog Violet

Stemmed plants with heart-shaped, scalloped leaves and lobed stipules. Blue to violet flowers.



Zizia aurea

Common Golden Alexanders

Leaves shiny, odd-pinnate; 3 or 5 serrated leaflets. 2-3 times compound. Terminal leaflet largest with variable shape. Flat, stalkless, umbels of yellow flowers. Wild Parsnip larger, 1 compound.



Lonicera dioica

Limber Honesuckle

Oval leaves opposite; uppermost pair joined at base. Tubular red flowers in whorls. Berries red.



Parthenocissus quinquefolia

Virginia Creeper

Leaves palmately divided into 5 leaflets, dark green above and light green below. Leaves turn red in fall. Panicles of yellow green flowers. Vines scramble on ground or climb up trees.



Toxicodendron radicans

Poison Ivy

Trifoliate leaves are variable in shape (smooth, large teeth, shallow lobes). Growing as a shrub or woody vine. Round, green berry fruits appear in fall.



Vitis riparia

Riverbank Grape

Alternate leaves palmately lobed. Leaf margins coarsely serrated & slightly hairy. Lower leaf surface is hairless, except along veins.

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