

Appendix A:

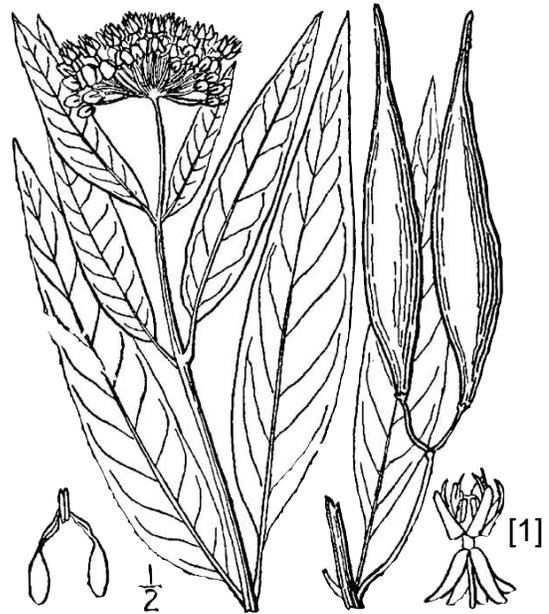
Target Plant Species Plant Profiles

Botanical Name	Common Name
<i>Asclepias incarnata</i>	Swamp milkweed
<i>Asclepias syriaca</i>	Common milkweed
<i>Asclepias verticillata</i>	Whorled milkweed
<i>Chamaecrista fasciculata</i>	Partridge pea
<i>Coreopsis tripteris</i>	Tall coreopsis
<i>Eupatorium perfoliatum</i>	Common boneset
<i>Eupatorium serotinum</i>	Late boneset
<i>Heliopsis helianthoides</i>	Ox eye Sunflower
<i>Monarda fistulosa</i>	Wild bergamot
<i>Penstemon digitalis</i>	Foxglove beardtongue
<i>Pycnanthemum tenuifolium</i>	Narrowleaf mountainmint
<i>Ratibida pinnata</i>	Yellow coneflower
<i>Rudbeckia hirta</i>	Black eyed susan
<i>Symphotrichum laeve</i>	Smooth blue aster
<i>Symphotrichum novae-angliae</i>	New England aster
<i>Symphotrichum pilosum</i>	Frost Aster
<i>Tradescantia ohioensis</i>	Ohio spiderwort
<i>Verbena urticifolia</i>	White vervain
<i>Vernonia gigantea</i>	Giant ironweed
<i>Zizia aurea</i>	Golden Alexander

Asclepias incarnata

swamp milkweed

Other common names include: rose milkweed



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X			

Plant Characteristics:

Duration: Perennial

Type: Herb

Size: 2-5' tall

Leaf: Opposite; up to 6" long and 1½" wide, but typically about 3" long and ½" wide; hairless and toothless, tapering to a point at the tip on a short petiole. Upper leaf surfaces are medium to dark green, although they can become yellowish green or pale green in response to bright sunlight and hot dry conditions.

Stem: Mostly hairless but may have lines of fine hairs in the upper plant.

Flower: Upper stems terminate in pink clusters of flowers spanning about 2-3½" across. Each flower is about ¼" across, consisting of 5 upright whitish hoods and 5 surrounding pink petals that droop downward in the manner of most milkweeds.

Seed collection**: Late September [2]

What it can be confused with:

Swamp milkweed is easily distinguished from other milkweeds (*Asclepias* spp.) by its erect umbels of pink flowers, tall branching habit, and relatively narrow leaves. Other milkweeds with pink flowers, such as *Asclepias syriaca* (common milkweed) and *Asclepias sullivantii* (prairie milkweed), are shorter and less branched plants with wider leaves. Sometimes stray plants of swamp milkweed occur in drier areas; these specimens are usually much shorter and little branched, but their leaves remain narrow in shape. [3]

Known Pollinators:

Hummingbirds, honey bees, native bees, flies, wasps, butterflies, and skippers. [3,4]

Larval Host: Monarch and queen butterflies [4]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

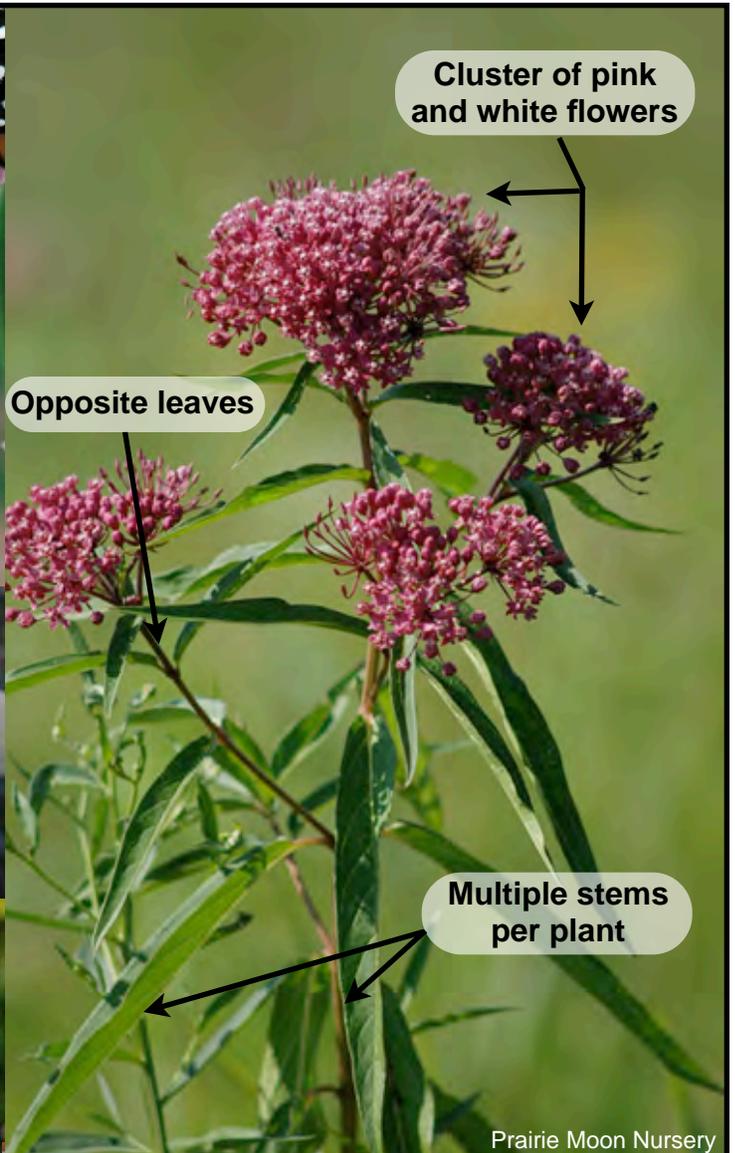
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 26

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html> [3] http://www.illinoiswildflowers.info/wetland/plants/sw_milkweed.htm

[4] http://www.wildflower.org/plants/result.php?id_plant=ASIN

Asclepias incarnata

swamp milkweed

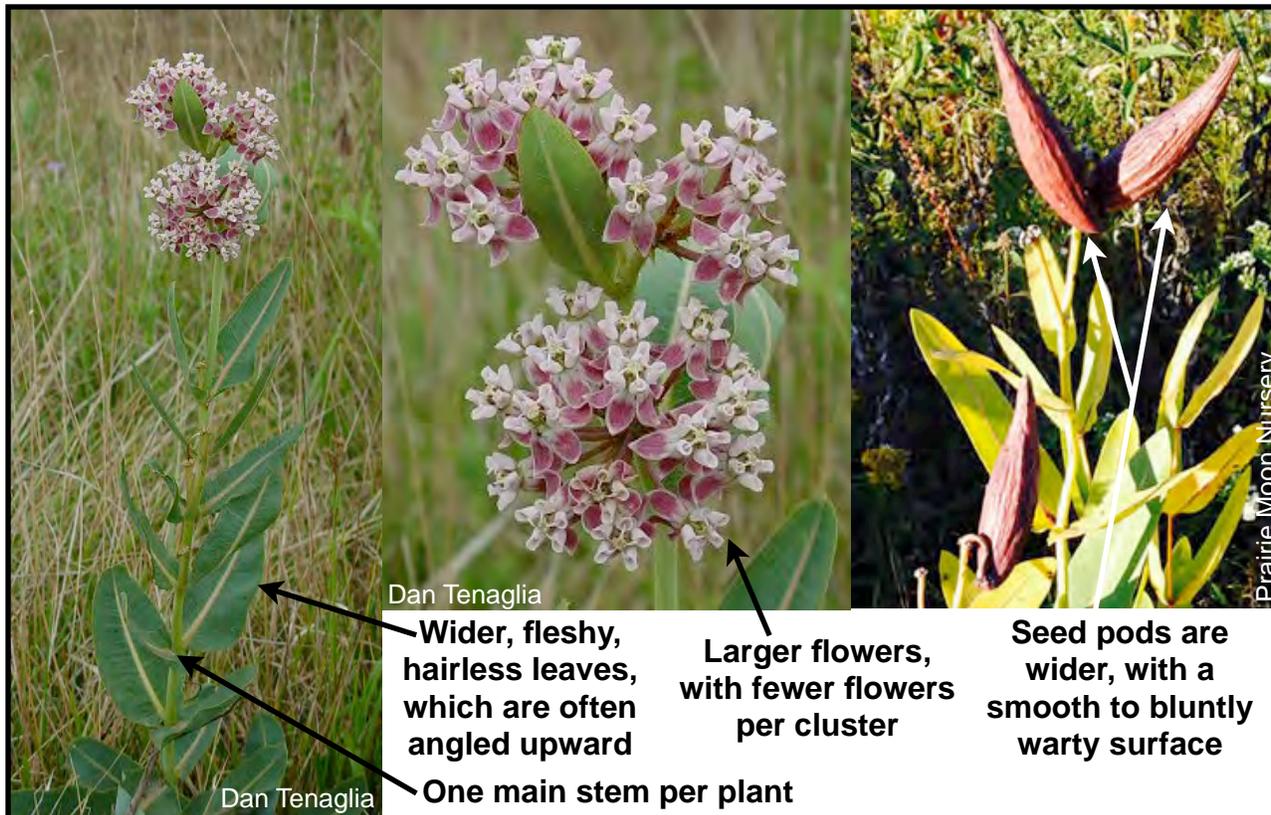


Asclepias incarnata

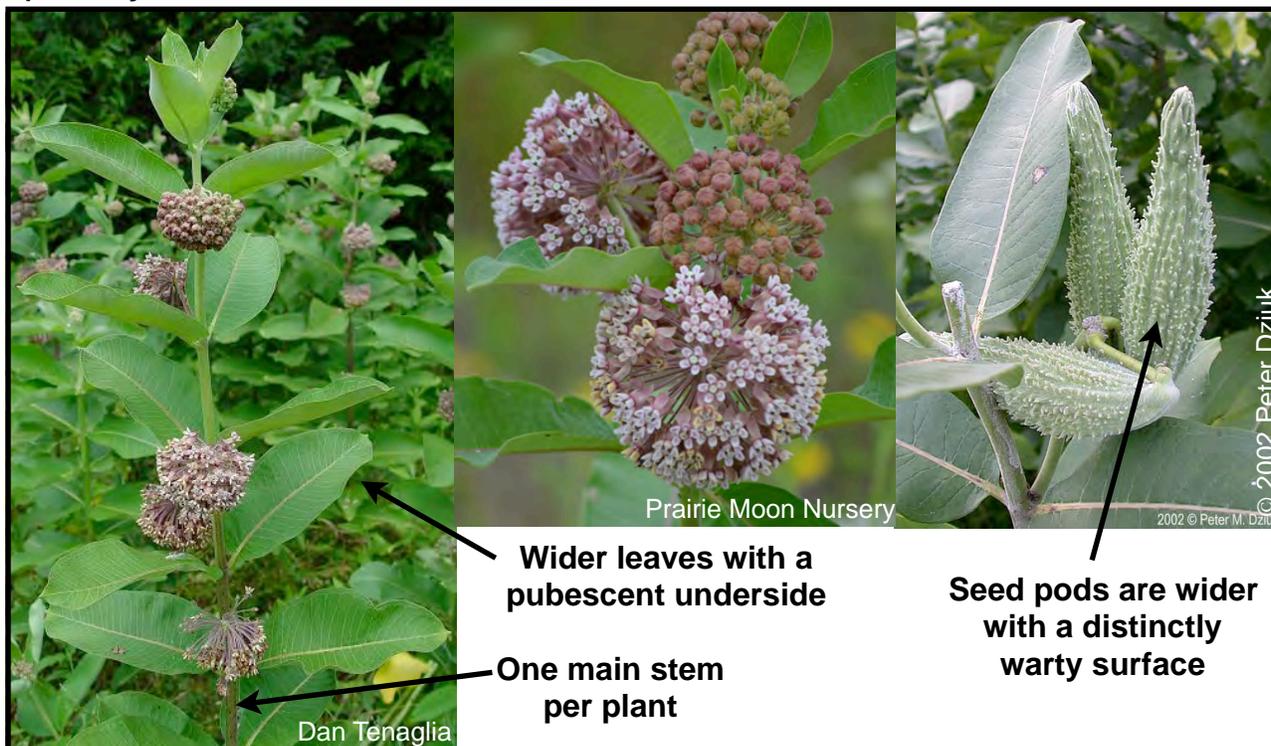
swamp milkweed

SWAMP MILKWEED COULD BE CONFUSED WITH:

Asclepias sulivantii - prairie milkweed



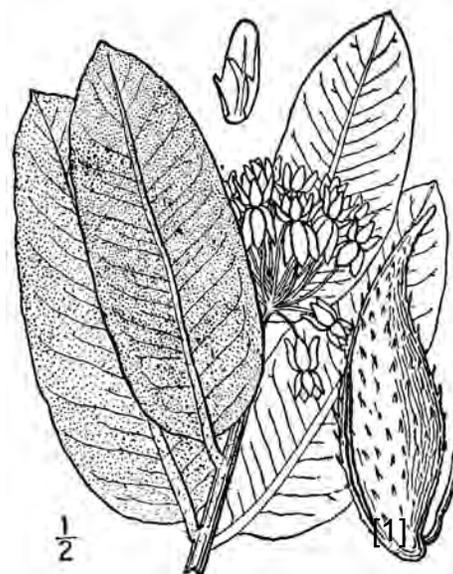
Asclepias syriaca - common milkweed



Asclepias syriaca

common milkweed

Other common names include: silkweed and milkplant

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X				

Plant Characteristics:Duration: PerennialType: ForbSize: 3-5' tall

Leaf: Opposite; up to 8" long and 3.5" wide; oblong with smooth margins, the upper leaf surface is pale-medium to dark green and hairless above, lower leaf surface is densely covered with woolly hairs that are very short; prominent central vein; if damaged, milky sap is released.

Stem: Central stem is stout, pale green, unbranching (except sometimes at the tip near the flowers) and usually covered in small, short hairs.

Flower: Umbels of flowers, each about 2½-4" across, emerge from the axils of the upper leaves. These flowers are fragrant and range in color from faded light pink to reddish purple. Each flower is about ¼" across, consisting of 5 reflexed petals and 5 raised hoods with curved horns. The hoods are more light-colored than the petals. The pedicels (flower stem) of the flowers are light green to pale red and hairy.

Seed collection**: Late September - October

What it can be confused with:

Common milkweed can be distinguished from other milkweeds by its warty seedpods – other *Asclepias* spp. within the ecoregion have seedpods which are smooth, or nearly so. The leaves of swamp milkweed are more narrowly lanceolate than those of common milkweed. Prairie milkweed is similar in having one main stem and large leaves, but it is hairless, unlike the common milkweed which has small hairs on the stems and undersides of the leaves. [2]

Known Pollinators:

Honey bees, native bees, flies, wasps, butterflies, moths, and skippers. [2,3]

Larval Host: Monarch and milkweed tiger moth. [2,3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 30.

[2] http://www.illinoiswildflowers.info/weeds/plants/cm_milkweed.htm [3] https://www.wildflower.org/plants/result.php?id_plant=ASSY

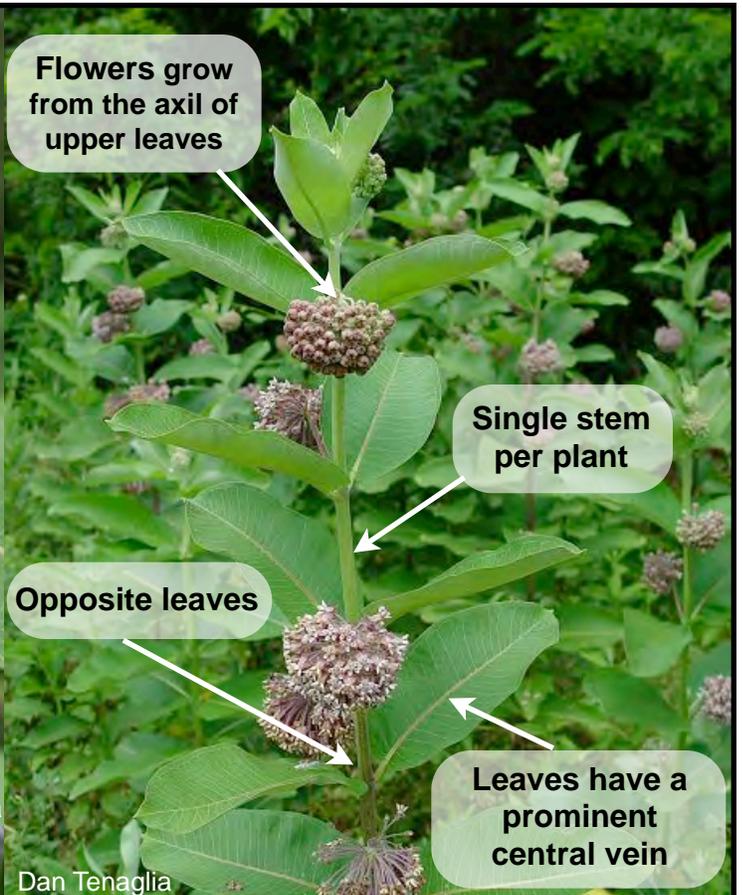
Asclepias syriaca

common milkweed



Small, light and dark pink flowers

© 2008 k. chayka



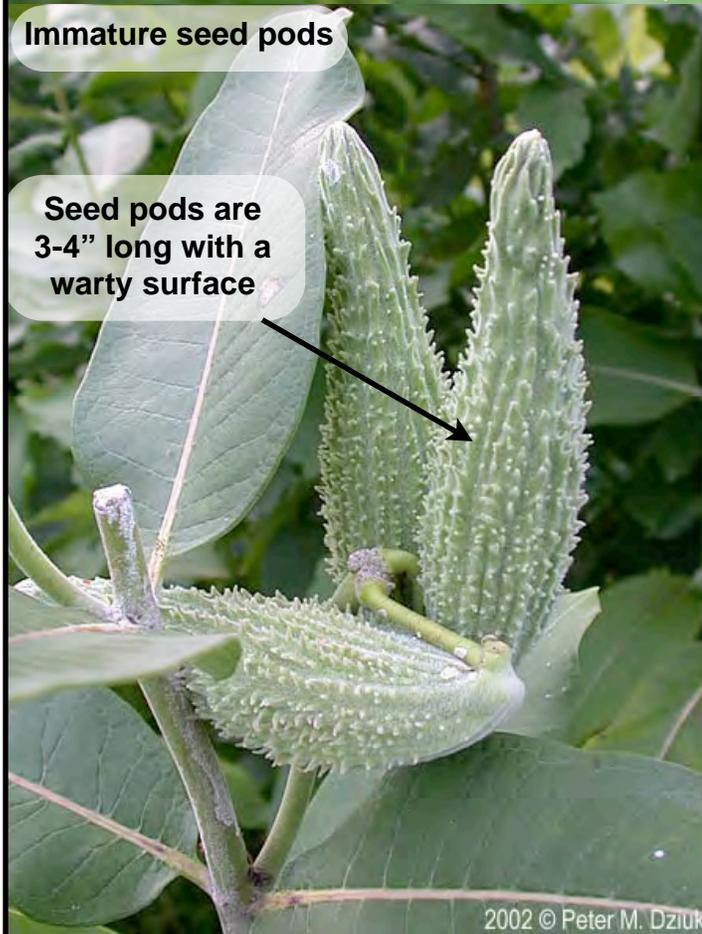
Flowers grow from the axil of upper leaves

Single stem per plant

Opposite leaves

Leaves have a prominent central vein

Dan Tenaglia



Immature seed pods

Seed pods are 3-4" long with a warty surface

2002 © Peter M. Dziuk



Stems and leaf bottoms are covered in small hairs

John Hilty, Illinois Wildflowers



Cleaned Seeds

Prairie Moon Nursery

Asclepias syriaca

common milkweed

COMMON MILKWEED COULD BE CONFUSED WITH:

Asclepias sulivantii - prairie milkweed



Fleshy, hairless leaves, which are often angled upward

Similar in having one main stem per plant

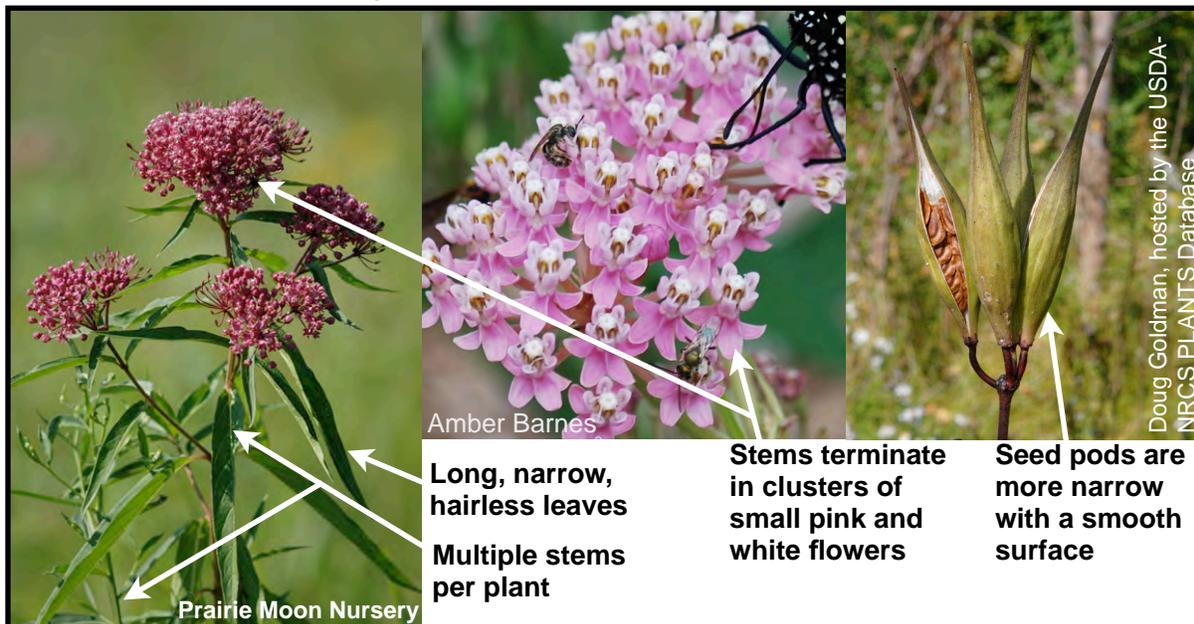
Larger flowers, with fewer flowers per cluster

Seed pods are similar in size, but are clearly distinguishable by the smooth to bluntly warty surface

Dan Tenaglia

Prairie Moon Nursery

Asclepias incarnata - swamp milkweed



Long, narrow, hairless leaves

Multiple stems per plant

Stems terminate in clusters of small pink and white flowers

Seed pods are more narrow with a smooth surface

Amber Barnes

Prairie Moon Nursery

Doug Goldman, hosted by the USDA-NRCS PLANTS Database



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Asclepias verticillata

whorled milkweed

Other common names include: eastern whorled milkweed

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X			

Plant Characteristics:Duration: PerennialType: HerbSize: .5-2' tallLeaf: Whorls of 4-6 leaves surround the central stem, long and thin: 2-3" long, 1/16-1/8" across, smooth leaf edges, and some leaves droop downward. The upper leaf surface is yellowish-medium green and nearly hairless with narrow grooves along the middle. The lower leaf surface is whitish green with small hairs.Stem: Yellowish green to medium green, sparsely branched along the upper half of the central stem.Flower: White. 1-4 flower heads grow from the middle to upper leaf axils. Flowerheads span 3/4-1 1/2" across and consist of 7-20 small whitish green flowers.Seed collection**: Mid-Late September - Early October [2]**What it can be confused with:**

This small milkweed blooms later into the year than most milkweed species (*Asclepias* spp.). Whorled milkweed superficially resembles the common field horsetail (*Equisetum arvense*) because of its thin whorled leaves. It can be distinguished from this horsetail by the milky latex of its foliage and the later development of its flowers and seed pods. Field horsetail is a spore-bearing plant that lacks true flowers. Whorled milkweed is readily distinguished from other milkweed species by its more narrow leaves (only 1/16-1/8" across). Narrow-leaved milkweed (*Asclepias stenophylla*) is an exception, because its linear leaves are almost as narrow. However, this latter species has leaves that are alternate to nearly opposite along its stems, rather than whorled. [3]

Known Pollinators:

Honey bees, native bees, flies, wasps, butterflies, moths, and beetles. [3]

Larval Host:

Monarch

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 32.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/prairie/plantx/wh_milkweedx.htm

Asclepias verticillata

whorled milkweed



Cleaned seeds



5 mm

Steve Hurst, hosted by the USDA-NRCS PLANTS Database

Mature seed pod



Flowers



John Hilty, Illinois Wildflowers

John Hilty, Illinois Wildflowers

Asclepias verticillata

whorled milkweed

WHORLED MILKWEED COULD BE CONFUSED WITH:

Equisetum arvense - field horsetail

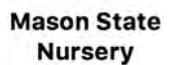
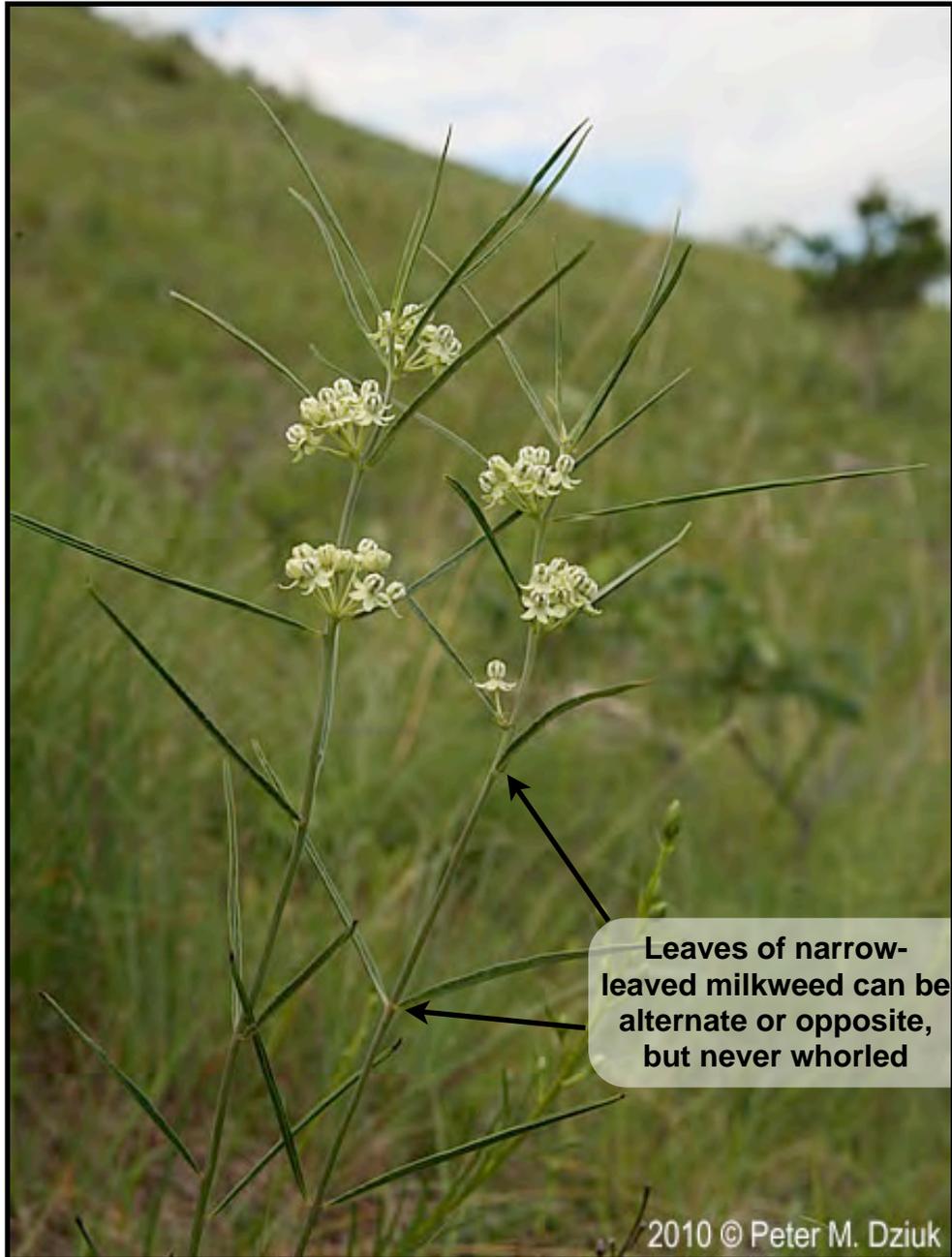


Asclepias verticillata

whorled milkweed

WHORLED MILKWEED COULD BE CONFUSED WITH:

Asclepias stenophylla - narrow-leaved milkweed

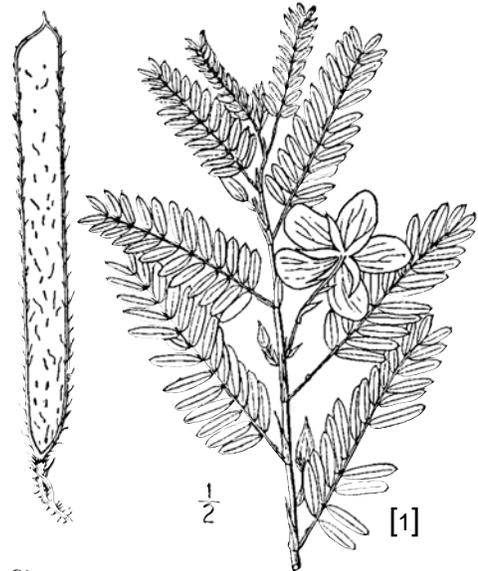


Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Chamaecrista fasciculata

partridge pea

Other common names include: showy partridge pea, sleepingplant, or sensitive plant



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X			

Plant Characteristics:

Duration: Annual

Type: Herb

Size: 1-3' tall

Leaf: Alternate, pinnately compound. Medium to dark green. Petioles with nectaries. Each compound leaf has up to 20 leaflets, which are hairless, oblong, and roughly 2/3" long and 1/3" wide.

Stem: Shorter plants are erect while larger plants tend to sprawl. Stems are slender and hairless, and are light green at first but become reddish brown.

Flower: Flowers are bright yellow and irregular, appearing on 1/3" flower stalks along major stems near leaf axils. Flowers are 1" wide with 5 rounded petals and approximately 10 ruddy stamens. No scent. [3]

Seed collection**: Early September [2].

What it can be confused with:

Sometimes confused with *Chamaecrista nictitans* (sensitive partridge pea) which can be distinguished by its flowers (which are smaller in size - about 1/3" across, have 5 stamens, and appear on 1/10" flower stalks), as well as its leaves, which are sensitive to the touch and will fold when contacted. [5]

Known Pollinators:

Honey bees, native bees, flies, wasps, ants, butterflies [4, 5]

Larval Hosts:

Several species of sulfur butterflies feed on the foliage. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 2: 337.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

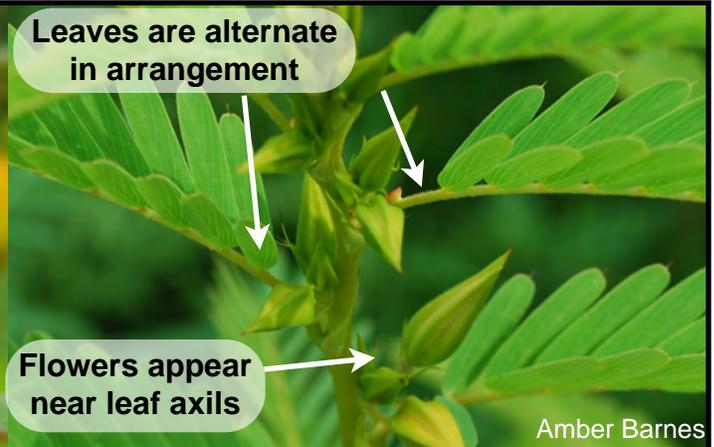
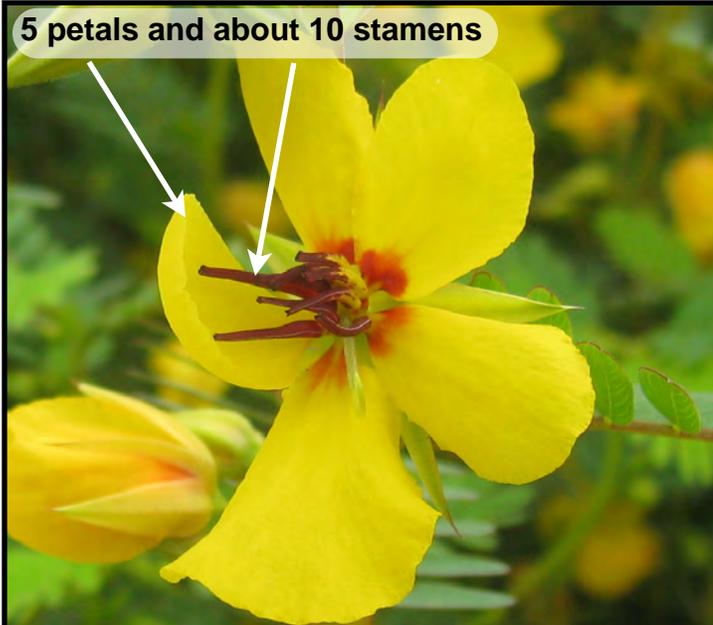
[3] http://www.illinoiswildflowers.info/prairie/plantx/part_peax.htm

[4] http://www.wildflower.org/plants/result.php?id_plant=CHFA2

[5] <https://gobotany.newenglandwild.org/species/chamaecrista/fasciculata/>

Chamaecrista fasciculata

partridge pea

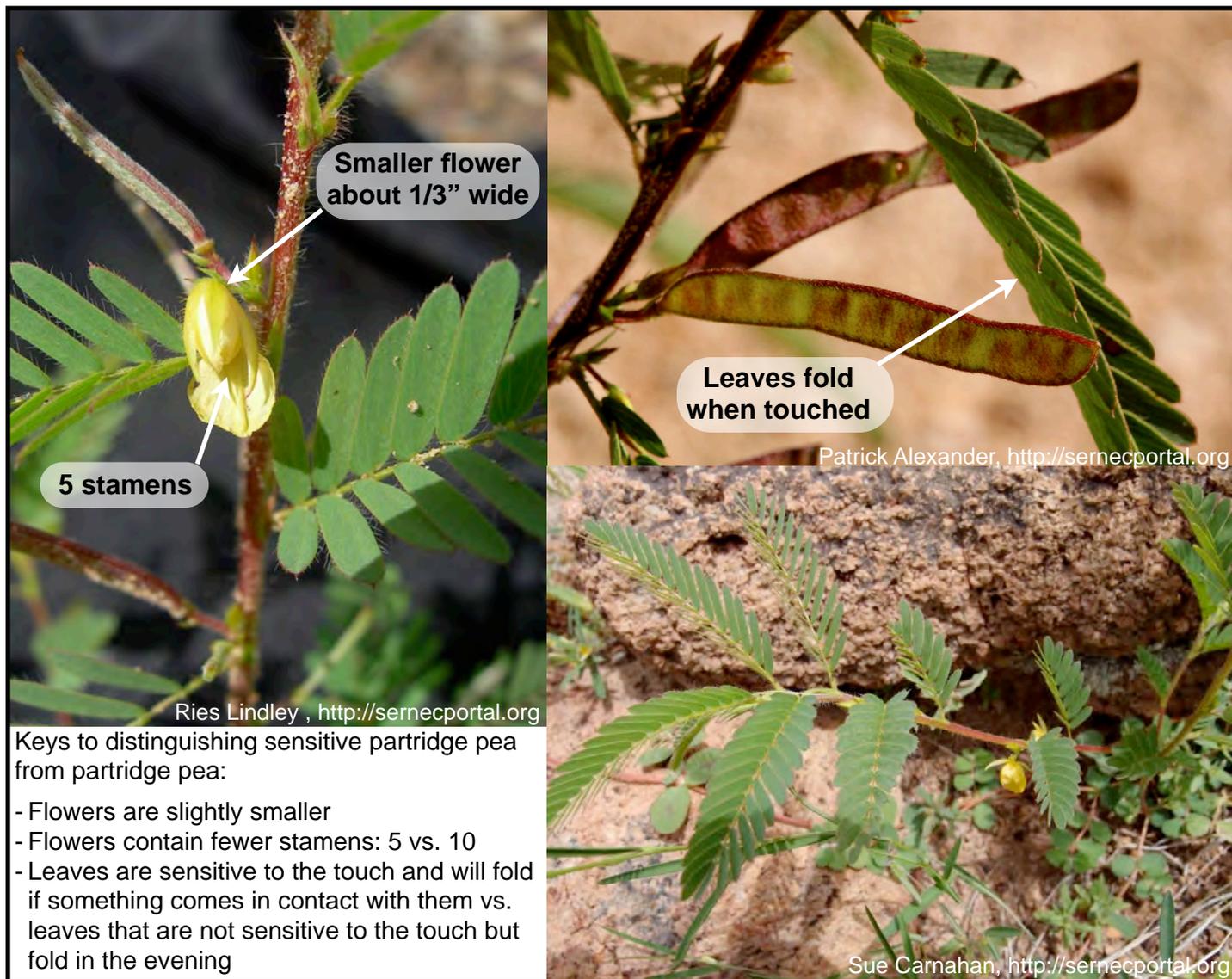


Chamaecrista fasciculata

partridge pea

PARTRIDGE PEA COULD BE CONFUSED WITH:

Chamaecrista nictitans - sensitive partridge pea



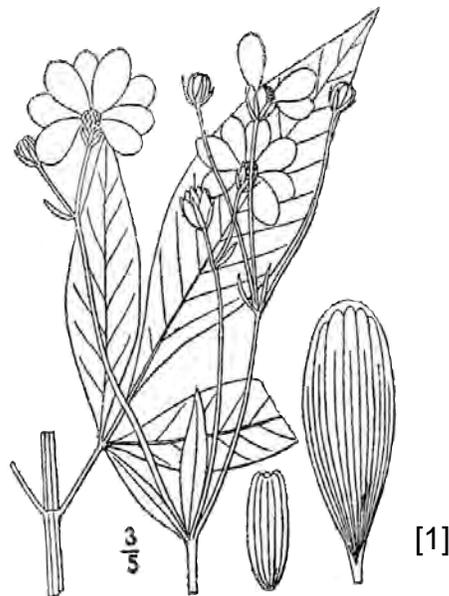
Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Coreopsis tripteris

tall coreopsis

Other common names include: tall tickseed and Atlantic coreopsis

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						X	X	X	X		

Plant Characteristics:Duration: PerennialType: HerbSize: 3 - 8' tall

Leaf: Opposite, may occur alternately along uppermost stems; up to 5" long and $\frac{3}{4}$ " wide; compound leaf with 3 or 5 leaflets, smooth leaf margins with small hairs; lateral leaflets are sessile (no leaf stem), while terminal leaflets have petioles (leaf stem). Upper leaf surfaces are medium green, and hairless; lower leaf surfaces are light green, slightly pubescent. Petioles are up to 1½" long.

Stem: Light green, hairless, and sometimes glaucous (a whitish film that rubs off).

Flower: Upper stems terminate in solitary clusters of flowerheads up to 1½-2" wide. Flowering stalks may develop from axils of upper leaves. Each flower consists of 8 ray florets (outer petals) surrounding a head of disk florets. Ray flowers are yellow; Disk florets are 4-5 lobed (petaled), and dark purple to maroon.

Seed collection**: Late September - Mid October

What it can be confused with:

Tall coreopsis' greater height, later bloom period, and flowerheads with dark purple or maroon centers make it readily distinguishable from other *Coreopsis* spp. Most *Coreopsis* spp. flowerheads have yellow centers. Its height can sometimes cause it to be confused with sunflowers (*Helianthus* spp.). Sunflowers, however, have simple leaves as opposed to the tall coreopsis' odd-pinnate leaves. [2]

Known Pollinators:

Bumblebees, native bees, wasps, flies, butterflies, skippers, and the goldenrod soldier beetle. [2,3]

Larval Host: Dimorphic gray wave moth, wavy-lined emerald moth, and common tan wave moth. [2]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

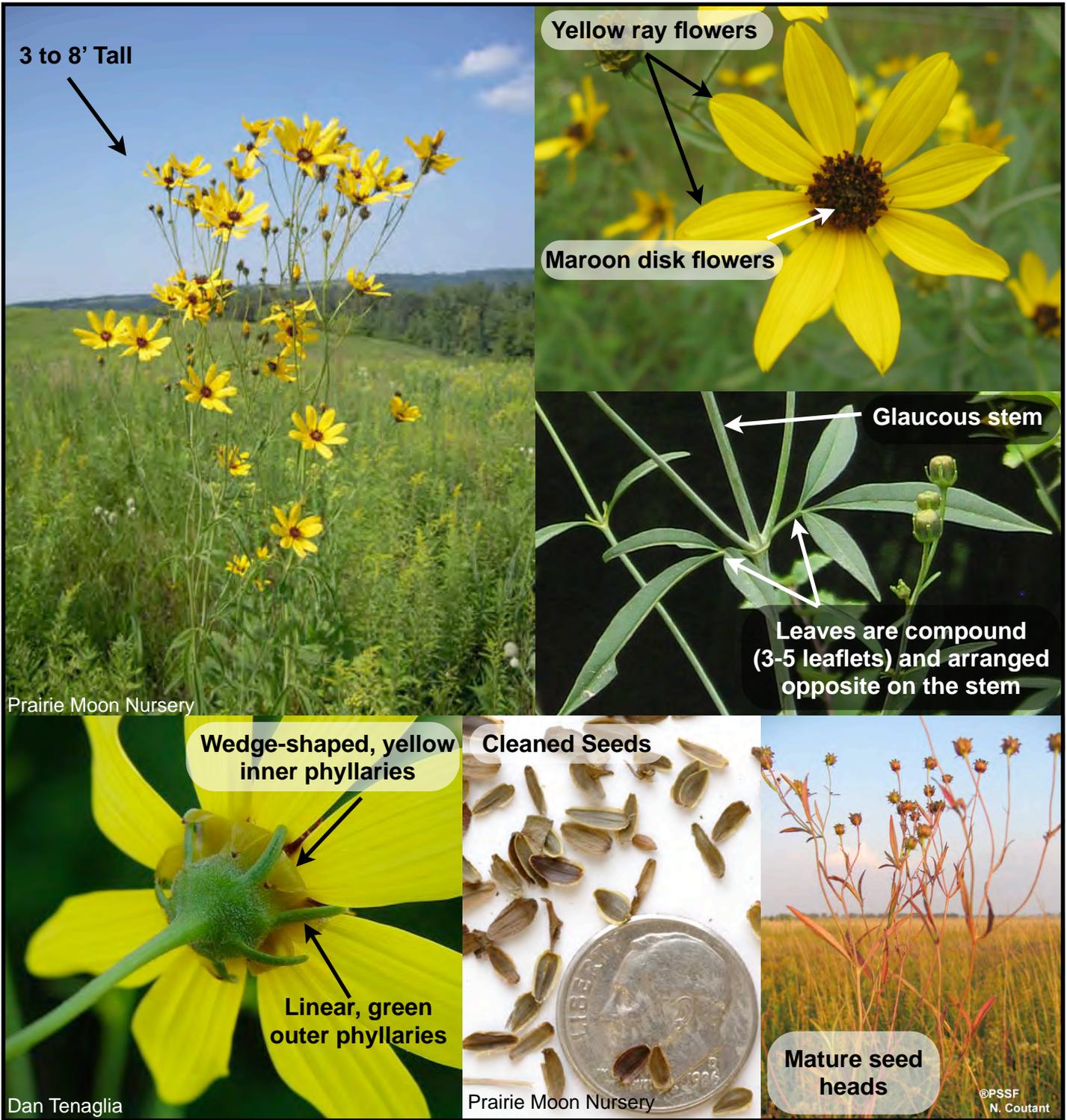
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 491.

[2] http://www.illinoiswildflowers.info/prairie/plantx/tl_coreopsisx.htm

[3] http://www.wildflower.org/plants/result.php?id_plant=COTR4

Coreopsis tripteris

tall coreopsis



Coreopsis tripteris

tall coreopsis

TALL COREOPSIS COULD BE CONFUSED WITH:

Helianthus spp. - sunflowers



The phyllaries can also be helpful, as sunflowers often have many rows of overlapping green phyllaries



The best feature to differentiate between tall coreopsis and sunflower species is their leaves: Sunflowers have simple (non-compound leaves)



Coreopsis palmata - prairie coreopsis



The disk flowers of prairie coreopsis (and many other coreopsis species) are yellow, opposed to the deep purple-maroon disk flowers of the tall coreopsis



Prairie coreopsis is much shorter (1-2.5' tall) and the leaves are lobed rather than compound



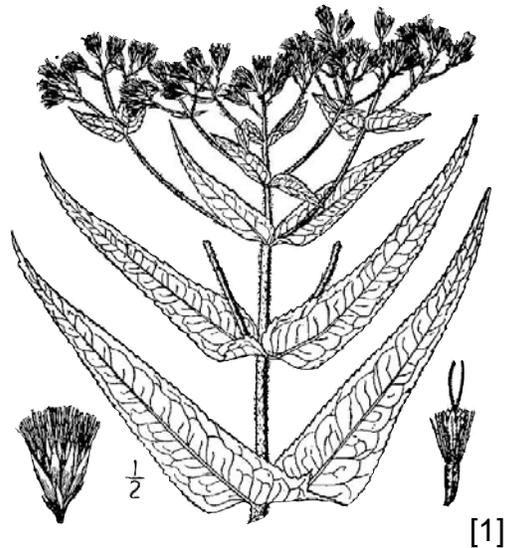
Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Eupatorium perfoliatum

common boneset

Other common names include: boneset



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						X	X	X			

Plant Characteristics:

Duration: Perennial

Type: Herb

Size: 2-4' tall

Leaf: Opposite, serrate, pubescent, light or yellowish green, up to 8" long and 2" across, the leaf bases surround the central stem and merge together.

Stem: Covered in long, white hairs.

Flower: White, upper stems terminate in clusters of white flower heads, spanning about 2-8" across, each flowerhead is about 1/6" across and consists of about 15 disk florets with no ray florets (outer petals).

Seed collection**: Early September - Early October [2]

What it can be confused with:

Common boneset tolerates flooded conditions better than many other boneset species. It can be distinguished from these other species by the perfoliate leaves that surround the central stem. The other species have opposite leaves that are sessile (no leaf stem) or have distinct petioles (leaf stem). All of these species have spreading clusters of white flowers with a similar appearance. [3]

Known Pollinators:

Bees, flies, wasps, butterflies, and beetles. [3,4]

Larval Host: Many species of moth feed on various parts of the plant. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 361.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/prairie/plantx/cm_boneset.htm

[4] https://www.wildflower.org/plants/result.php?id_plant=EUPE3

Eupatorium perfoliatum

common boneset



Dan Tenaglia

Stems are covered in long, white hairs



Dan Tenaglia

Leaves are opposite and perfoliate, making stem appear to grow through one big leaf



Dan Tenaglia

Seeds are wind dispersed



The Native Plant Nursery

Dan Tenaglia



Composite flower heads are made up of many white disk flowers with no ray flowers (outer petals)

Eupatorium perfoliatum

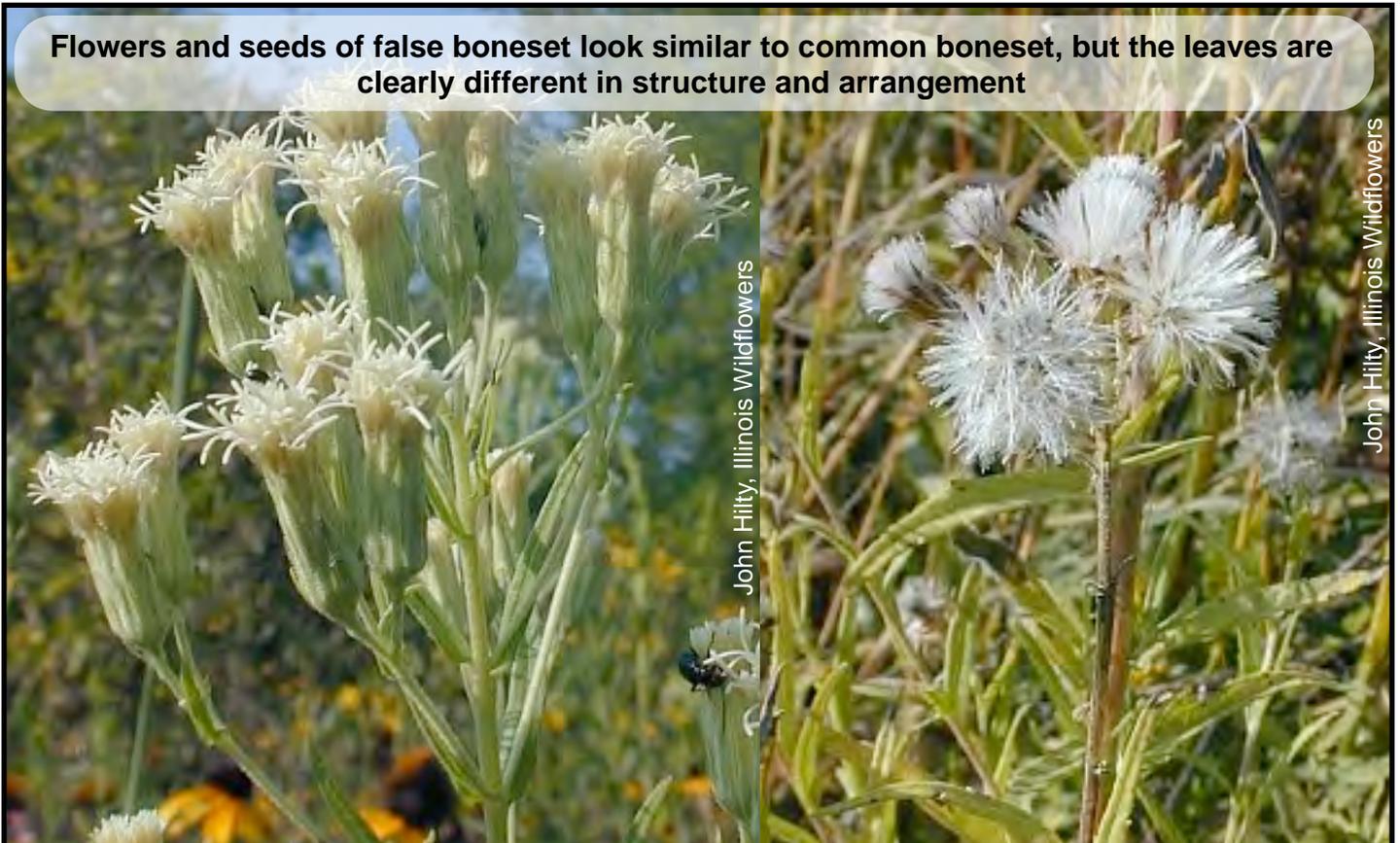
common boneset

COMMON BONESET COULD BE CONFUSED WITH:

Eupatorium serotinum - late boneset (see separate plant profile for key features)

Brickellia eupatorioides - false boneset

Flowers and seeds of false boneset look similar to common boneset, but the leaves are clearly different in structure and arrangement



Leaves are not perfoliate, but sessile (attaching directly to stem with no petiole) and alternate along the stem



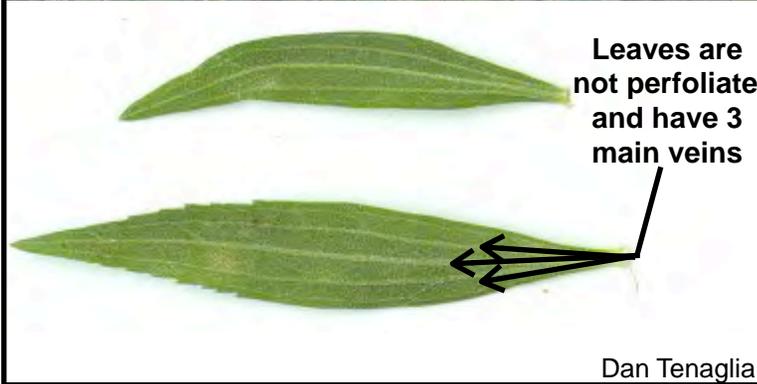
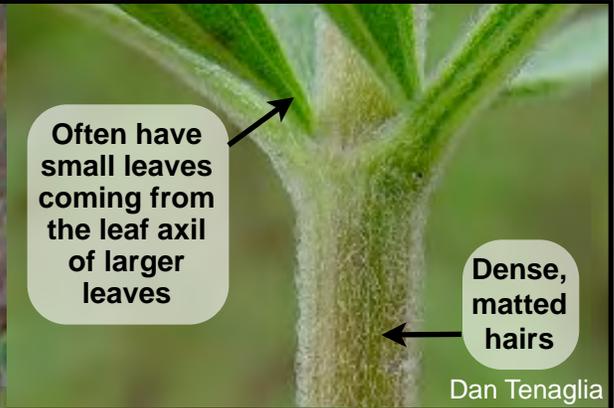
Stem has fine, small hairs

Eupatorium perfoliatum

common boneset

COMMON BONESET COULD BE CONFUSED WITH:

Eupatorium altissimum - tall boneset



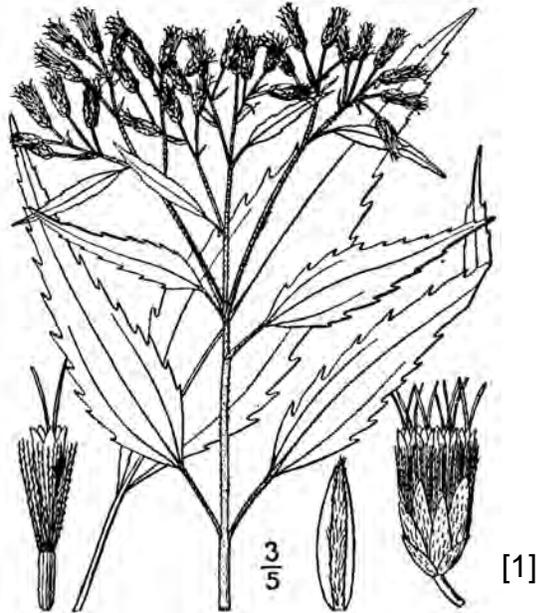
Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Eupatorium serotinum

late boneset

Other common names include: late flowering thoroughwort, white boneset, late-flowering boneset



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						X	X	X	X		

Plant Characteristics:

Duration: Perennial

Type: Herb

Size: 3-6' tall

Leaf: The leaves are primarily opposite, although the upper leaves near the flowerheads sometimes alternate. These leaves are up to 7" long and 2½" across, with petioles up to 1" long. They are lanceolate, largely hairless, with coarse serration along the margins, and there are 5 veins that diverge from the base.

Stem: It is largely unbranched below, but forms occasional side stems toward the apex. The stems have indistinct lines of white hairs, and are generally pubescent.

Flower: White, upper stems terminate in clusters of white flowerheads which consist of about 12 disk florets with no ray florets (outer petals). Each disk floret is narrow and tubular, with 5 small triangular lobes (petals) at the top and a long white style that clearly protrudes from each floret.

Seed collection**: Mid October - Early November [2]

What it can be confused with:

The flowers of late boneset closely resemble those of other bonesets, such as *Eupatorium altissimum* (tall boneset) and *Eupatorium perfoliatum* (common boneset), in both color and structure. These bonesets can be distinguished readily from each other by looking at and comparing their leaves. Tall boneset has leaves that are pubescent, more narrow, and less coarsely serrated than late boneset, while common boneset has leaves that wrap around the stem and are without petioles. [3]

Known Pollinators:

Honey bees, native bees, flies, wasps, butterflies, moths, skippers, and beetles [3,4]

Larval Host: Many species of moth feed on various parts of the plant. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 357.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/prairie/plantx/late_bonesetx.htm

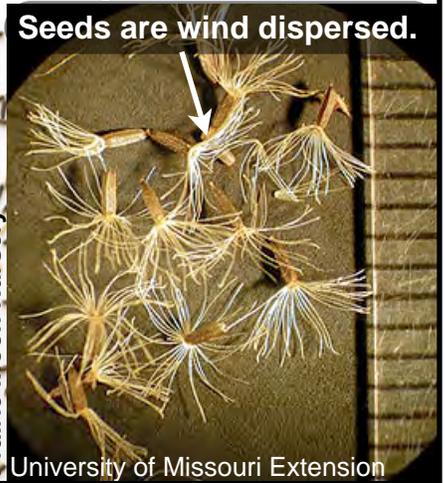
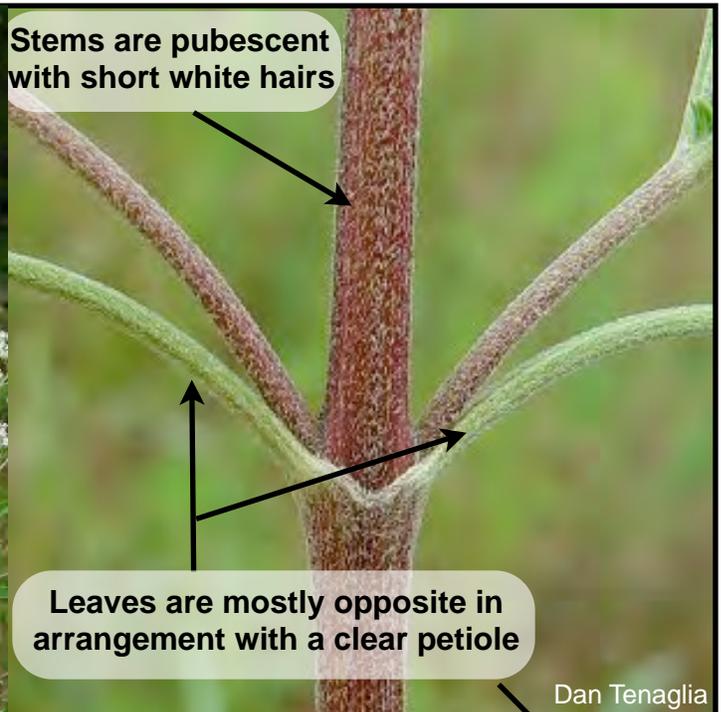
[4] https://www.wildflower.org/plants/result.php?id_plant=EUSE2

Eupatorium serotinum

late boneset



Composite flower heads are made up of many white disk flowers with no ray flowers (outer petals)



Eupatorium serotinum

late boneset

LATE BONESET COULD BE CONFUSED WITH:

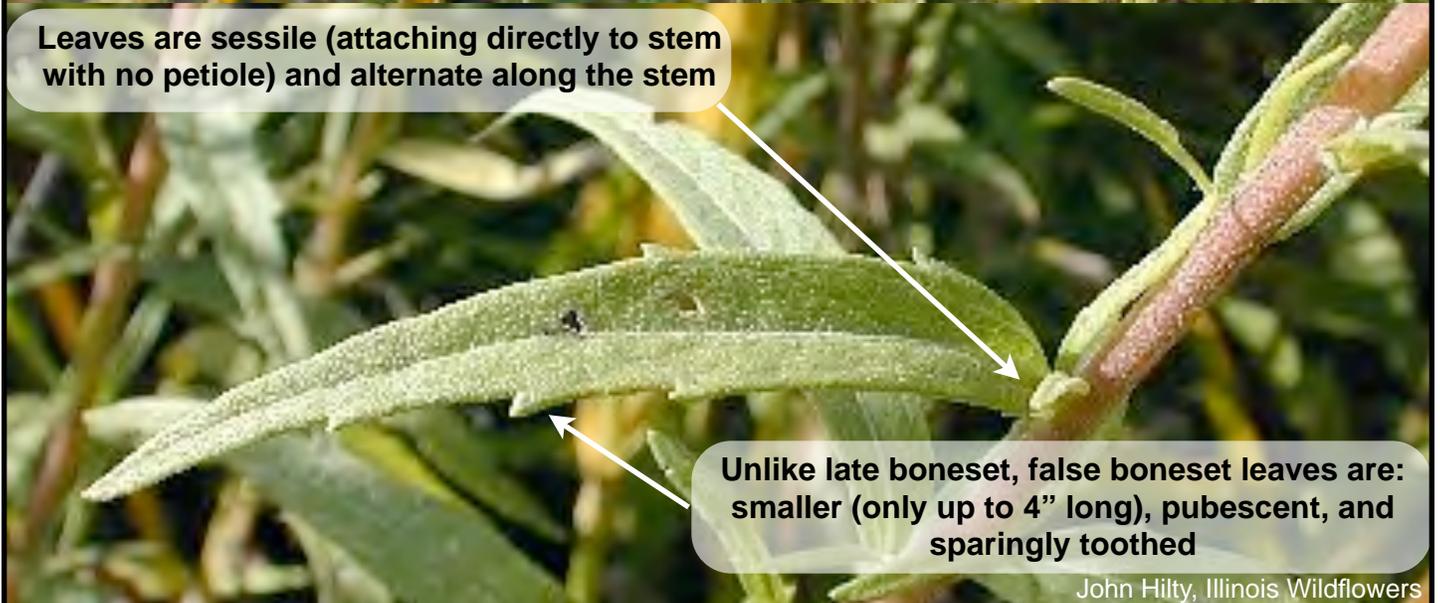
Eupatorium perfoliatum - common boneset (see separate plant profile for key features)

Brickellia eupatorioides - false boneset

Flowers and seeds of false boneset look similar to late boneset, but the leaves are clearly different in structure and arrangement



Leaves are sessile (attaching directly to stem with no petiole) and alternate along the stem



Unlike late boneset, false boneset leaves are: smaller (only up to 4" long), pubescent, and sparingly toothed

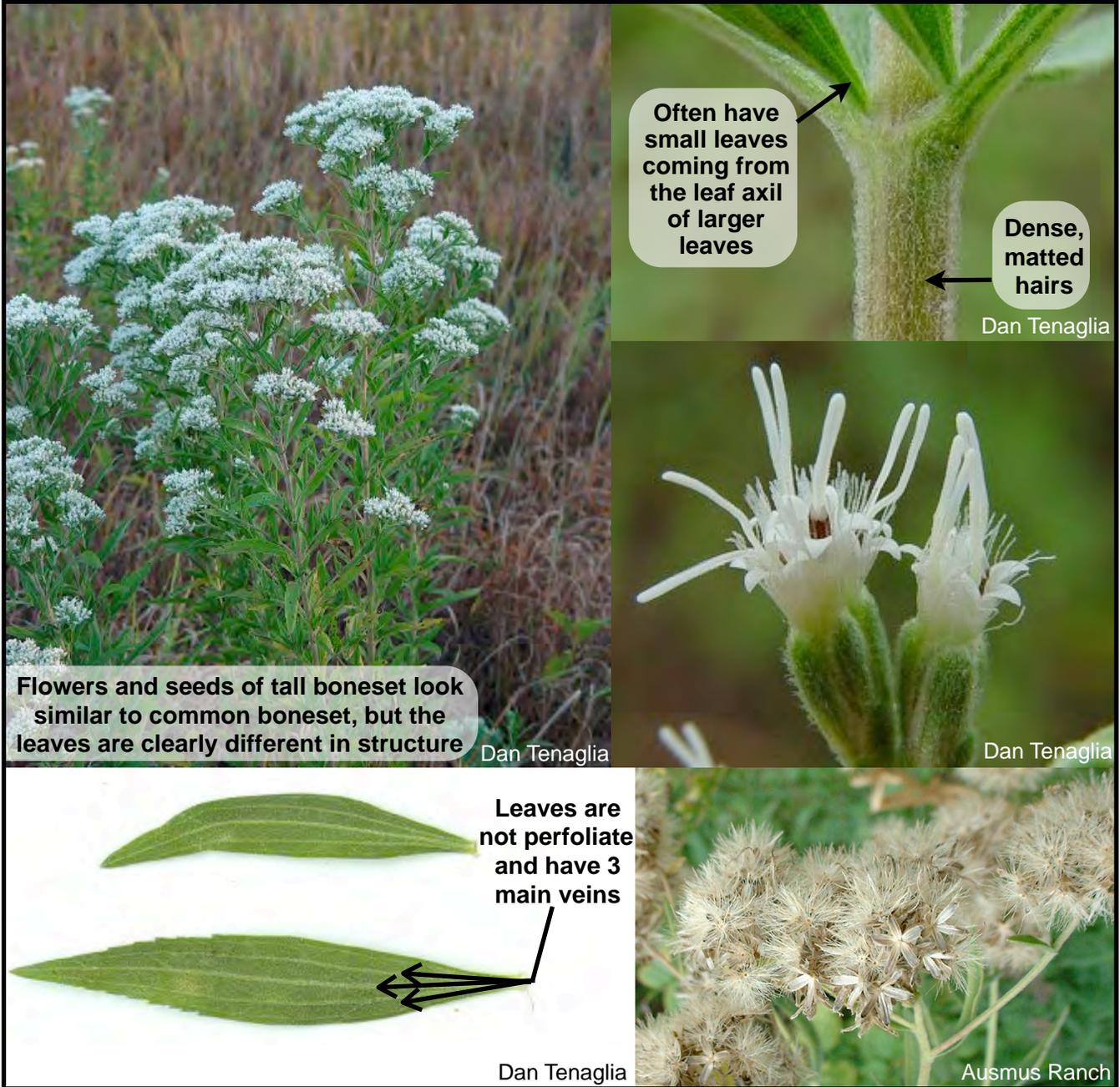
John Hilty, Illinois Wildflowers

Eupatorium serotinum

late boneset

LATE BONESET COULD BE CONFUSED WITH:

Eupatorium altissimum - tall boneset



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Heliopsis helianthoides

oxeye sunflower

Other common names include: smooth oxeye, common oxeye, sunflower heliopsis, & false sunflower

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X			

Plant Characteristics:Duration: PerennialType: HerbSize: 3-5' tallLeaf: Opposite, toothed, 2½-5" long and 1-3½" across, medium to dark green, pubescent.Stem: Light green to reddish green, variably pubescent or hairy, and terete to slightly angular.Flower: Yellow, 1½-3" across, 8-20 ray florets surround numerous disk florets.Seed collection**: Late September - October**What it can be confused with:**

Heliopsis helianthoides is not considered a true sunflower (*Helianthus* spp.) because both the ray and disk florets of its flowerheads can produce seeds. In contrast, only the disk florets of true sunflowers can produce seeds. Both of these species are relatively large and robust plants that produce showy flowerheads with yellow rays, and they prefer habitats that are at least partly sunny. Oxeye sunflower resembles many sunflower species, particularly those that are found in and around woodlands. In addition to the difference in the fertility of their florets, oxeye sunflower can be distinguished by its more erect flowerheads, by the rather stout and blunt-tipped phyllaries (sepal-like bracts) on its flowerheads, and by the arrangement of its outer phyllaries in a single series. In contrast, most sunflower species have flowerheads that nod sideways, their phyllaries are either more slender (linear-lanceolate in shape) or they are triangular with acute tips, and they have several overlapping series of outer phyllaries. [2]

Known Pollinators:

Hummingbirds, honey bees, native bees, flies, wasps, butterflies, and beetles. [2,3]

Larval Host: Rigid sunflower borer moth and tischeriid moth. [2]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

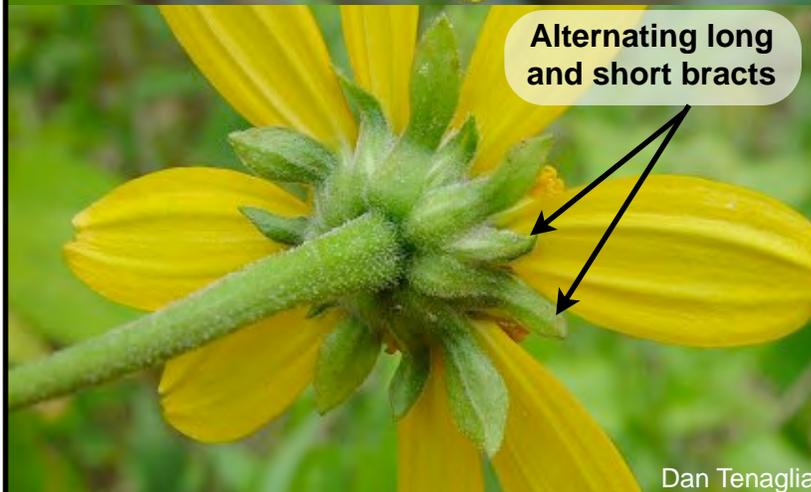
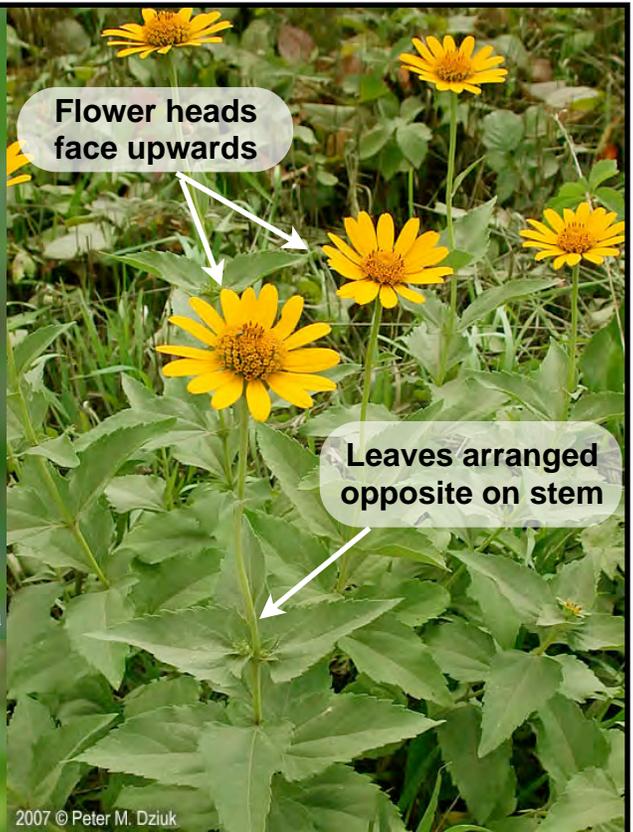
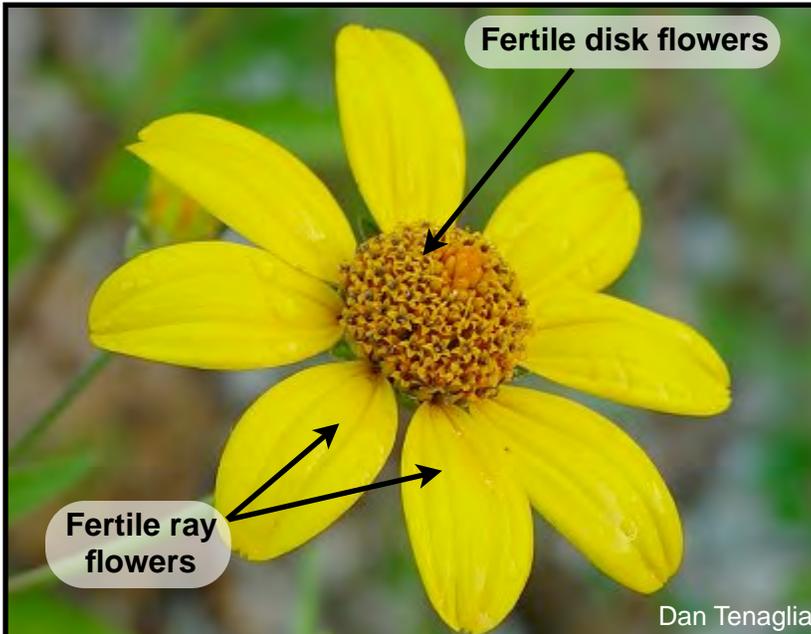
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 467.

[2] http://www.illinoiswildflowers.info/prairie/plantx/fs_sunflowerx.htm

[3] https://www.wildflower.org/plants/result.php?id_plant=HEHE5

Heliopsis helianthoides

oxeye sunflower



Heliopsis helianthoides

oxeye sunflower

OXEYE SUNFLOWER COULD BE CONFUSED WITH:

Helianthus grosseserratus - sawtooth sunflower



Dan Tenaglia

Dan Tenaglia

Dan Tenaglia

- Glaucous stem
- Long, slender, multilayered phyllaries (bracts)
- Longer, thinner, coarsely toothed leaves
- Flower heads tend to nod to the side



Dan Tenaglia

Helianthus hirsutus - hairy sunflower



Dan Tenaglia

Dan Tenaglia

John Hilty, Illinois Wildflowers

- Stem is green to reddish purple with small hairs
- Lanceolate, multilayered phyllaries (bracts)
- Lanceolate, lightly toothed leaves
- Flower heads tend to nod to the side

Heliopsis helianthoides

oxeye sunflower

OXEYE SUNFLOWER COULD BE CONFUSED WITH:

Helianthus tuberosus - Jerusalem artichoke



- The stem is green or reddish and covered with stiff hairs, giving it a rough feel
- Wider, wedge-shaped, multilayered phyllaries (bracts)
- Leaf edges are serrated to nearly toothless
- Attachment is opposite but may be alternate near the top of the plant
- Flower heads tend to nod to the side



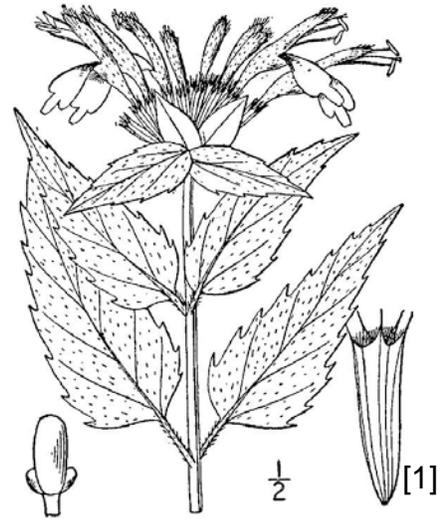
Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Monarda fistulosa

wild bergamot

Other common names include: beebalm, horsemint, and mint-leaf bea-balm

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						X	X	X			

Plant Characteristics:Duration: PerennialType: HerbSize: 2-5' tallLeaf: Opposite, toothed, up to 4" long and 2" across, vary in color from light green to dark green-sometimes with yellow or red tints.Stem: The light green stems are square-shaped and hairless.Flower: Lilac or pink, flower heads are 1-3" across, each flower is about 1" long, with an irregular shape.Seed Collection**: Mid September - October**What it can be confused with:**

Wild bergamot can be distinguished from other *Monarda* spp. by the color of its flowers – the petals of its flowers are solid pink or lavender. Other species have flowers with red, purple, or white petals, or they have dark purple dots on the lower lips of their petals. [2]

Known Pollinators:

Bees, hummingbirds, butterflies, and moths. [3]

Larval Hosts:*Sphinx eremitus* (hermit sphinx moth) and *Agriopodes teratophora* (gray marvel moth) feed on the foliage. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

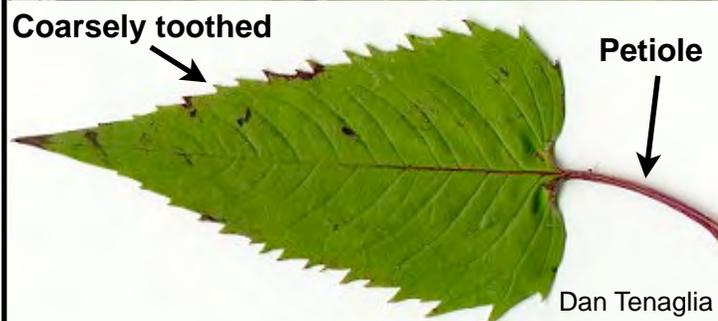
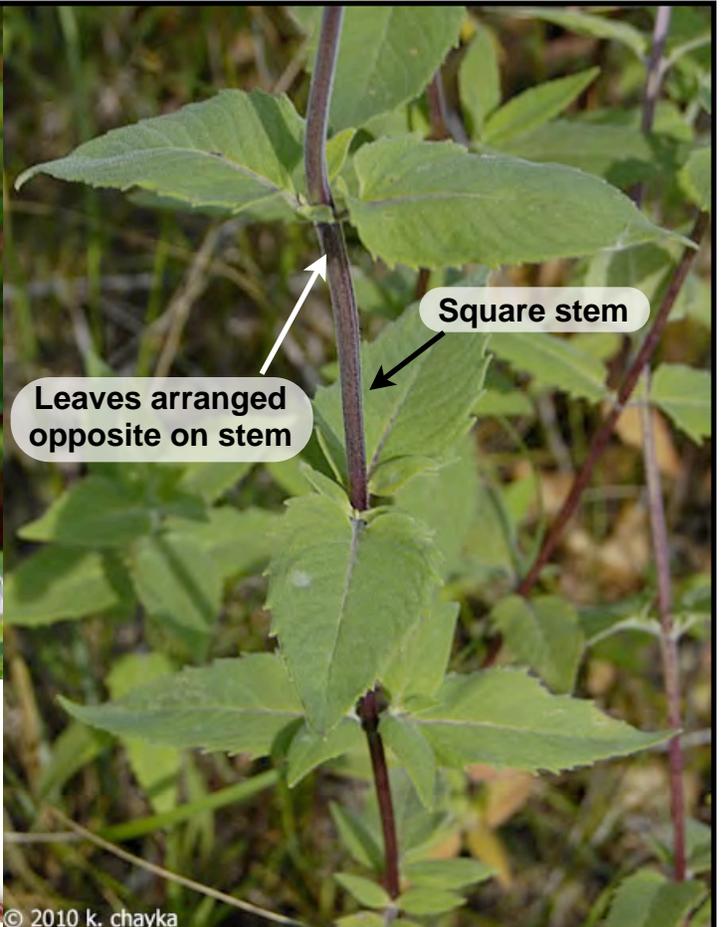
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 132.

[2] http://www.illinoiswildflowers.info/prairie/plantx/wld_bergamotx.htm

[3] https://www.wildflower.org/plants/result.php?id_plant=MOFI

Monarda fistulosa

wild bergamot



Monarda fistulosa

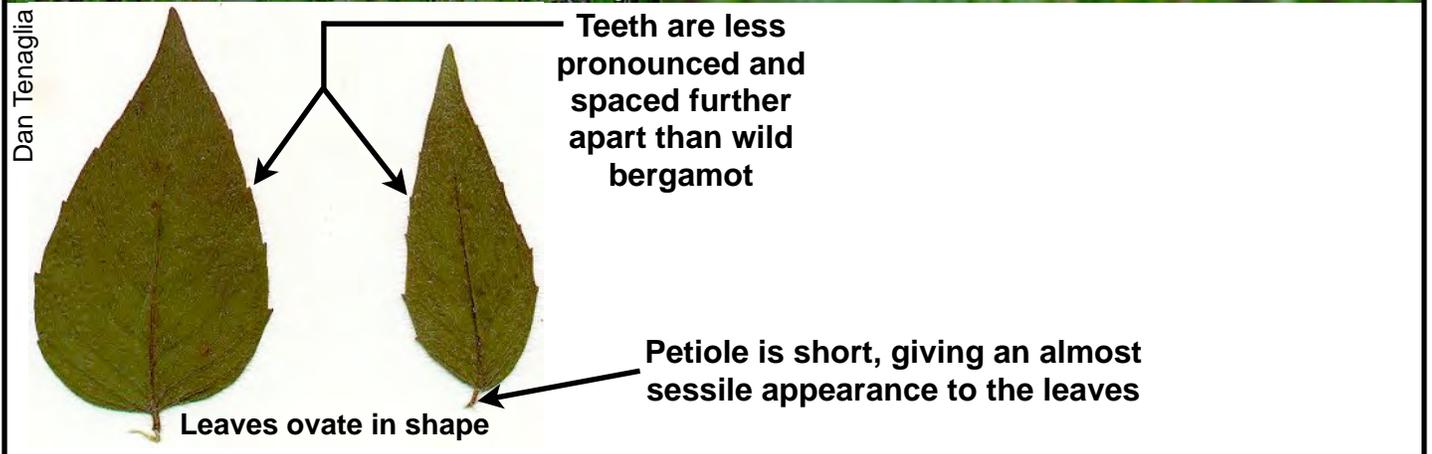
wild bergamot

WILD BERGAMOT COULD BE CONFUSED WITH:

Monarda bradburiana - eastern beebalm



Spots on petals



Dan Tenaglia

Dan Tenaglia

Dan Tenaglia

Teeth are less pronounced and spaced further apart than wild bergamot

Petiole is short, giving an almost sessile appearance to the leaves

Leaves ovate in shape



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

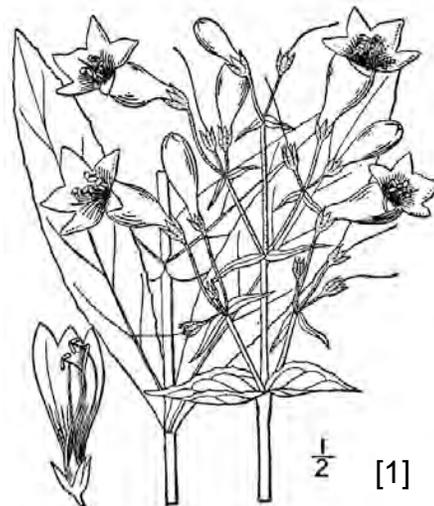
Penstemon digitalis

foxglove beardtongue

Other common names include: foxglove penstemon, Mississippi penstemon/beardtongue, smooth white penstemon/beardtongue, and talus slope penstemon/beardtongue



2014 © Peter Dziuk

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				X	X	X					

Plant Characteristics:Duration: PerennialType: HerbSize: 3' tallLeaf: Rosettes of basal leaves; 6" long and 2 1/2" wide; smooth margins; medium green with reddish tints. Stalk leaves opposite; up to 6" long and 2 1/2" wide; edges with tiny teeth and surface shiny.Stem: Light green, hairlessFlower: Upper stems terminate in panicles (branching cluster) of white flowers. Each flower is tubular and about 1" long, consisting of a white corolla (petals) with a lower lip of 3 lobes and an upper lip of 2 lobes. Occasionally thin, violet lines within the corolla; outer surface is hairy. The flower, calyx and flower stalks are all densely covered in short, sticky, glandular hairs.Seed collection**: September**What it can be confused with:**

Foxglove beardtongue is distinguishable from other penstemons (*Penstemon* spp.) by its hairless leaves and stems, primarily white corolla, tiny hairs on anthers, and absence of ridges inside the corolla. [3]

Known Pollinators:

Honeybees, bumblebees, native bees, butterflies, Sphinx moths, and hummingbirds. [3]

Larval Host: Chalcedony midget moth and baltimore butterfly. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 184.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/prairie/plantx/fx_penstemonx.htm

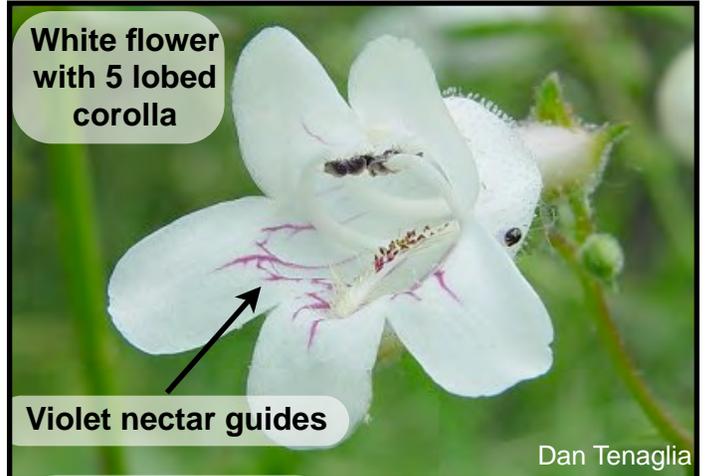
[4] http://www.wildflower.org/plants/result.php?id_plant=PED1

Penstemon digitalis

foxglove beardtongue



John Hilty, Illinois Wildflowers



White flower with 5 lobed corolla

Violet nectar guides

Dan Tenaglia



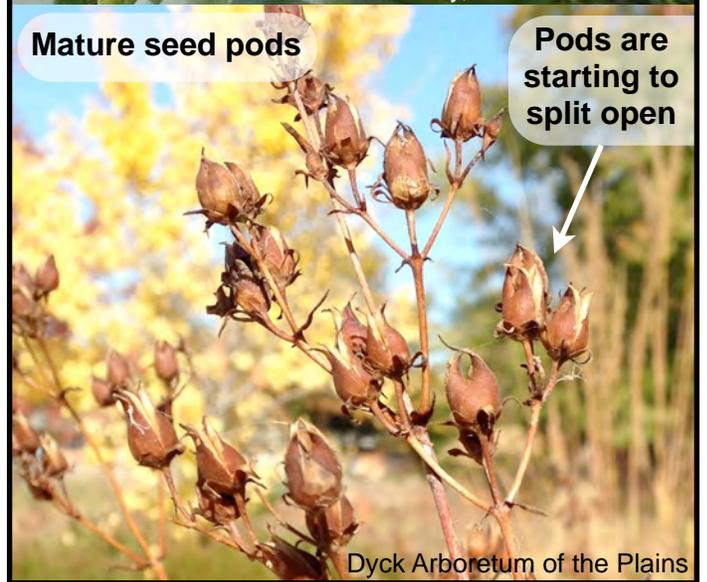
Hairless, opposite, slightly toothed leaves

John Hilty, Illinois Wildflowers



Glandular hairs on flower, flower stem and calyx

Dan Tenaglia



Mature seed pods

Pods are starting to split open

Dyck Arboretum of the Plains



Cleaned Seeds

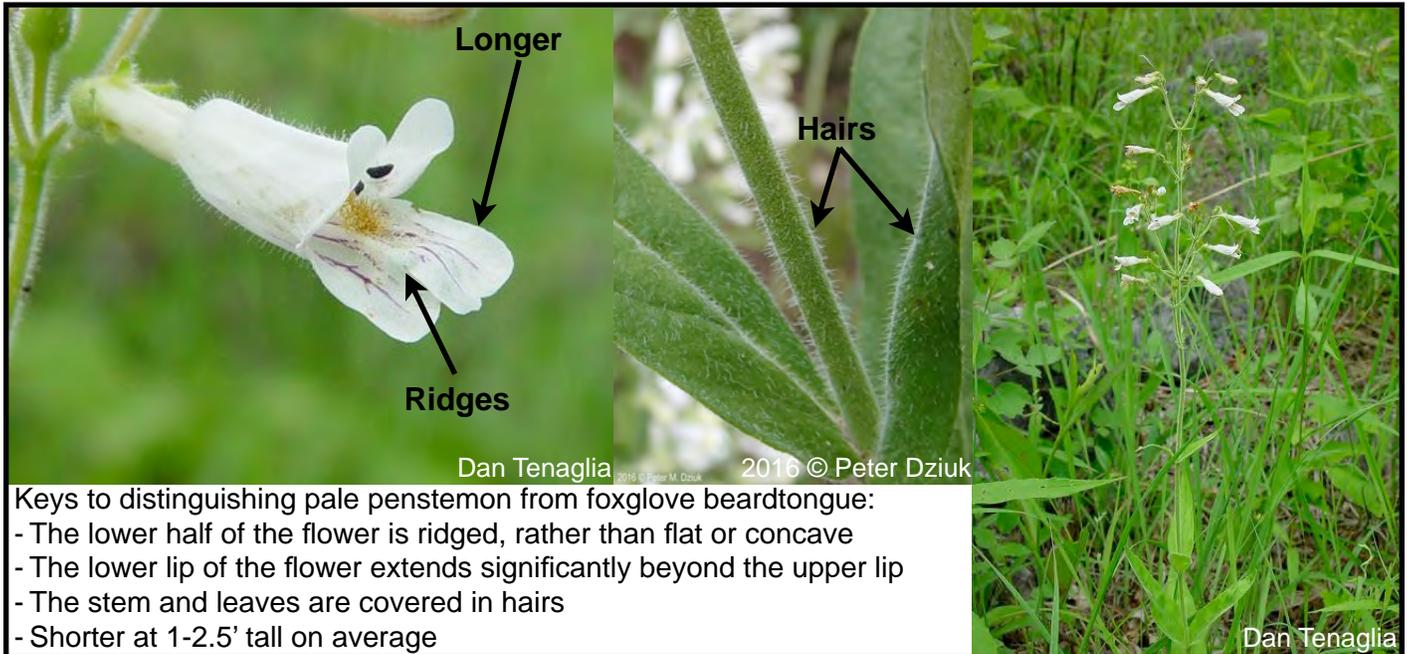
Prairie Moon Nursery

Penstemon digitalis

foxglove beardtongue

FOXGLOVE BEARDTONGUE COULD BE CONFUSED WITH:

Penstemon pallidus - pale penstemon



Keys to distinguishing pale penstemon from foxglove beardtongue:

- The lower half of the flower is ridged, rather than flat or concave
- The lower lip of the flower extends significantly beyond the upper lip
- The stem and leaves are covered in hairs
- Shorter at 1-2.5' tall on average

Penstemon calycosus - long-sepal penstemon



Keys to distinguishing long-sepal penstemon from foxglove beardtongue:

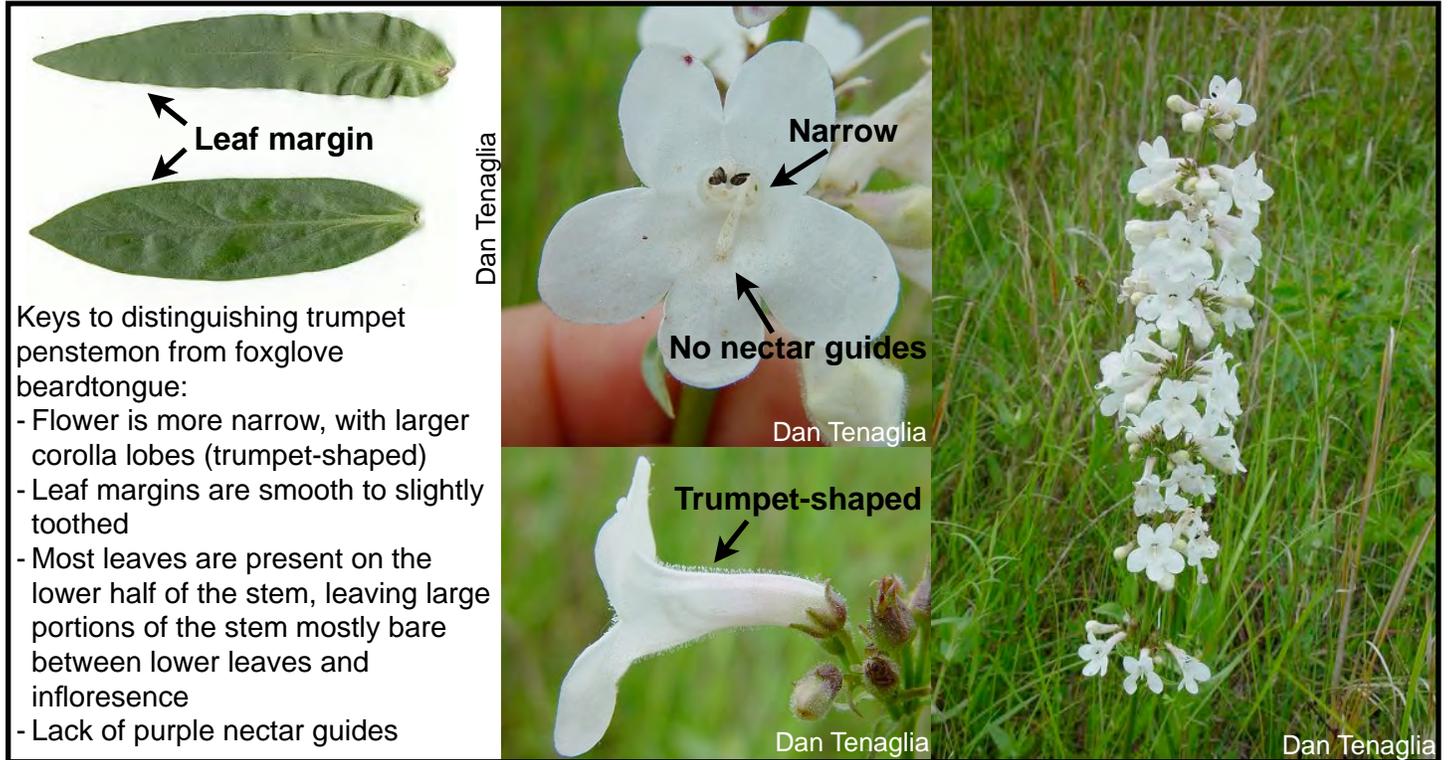
- The sepals are longer
- Has light violet or purple flowers
- The stem sometimes has fine white hairs
- Leaves have more widely spaced teeth

Penstemon digitalis

foxglove beardtongue

FOXGLOVE BEARDTONGUE COULD BE CONFUSED WITH:

Penstemon tubaeflorus - trumpet penstemon



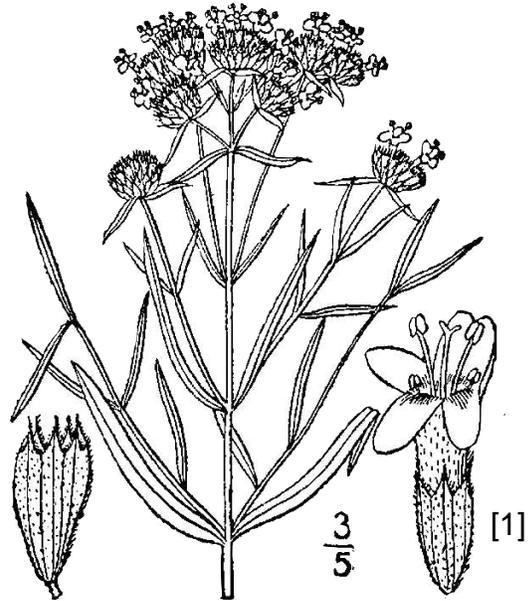
Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Pycnanthemum tenuifolium

narrowleaf mountainmint

Other common names include: slender mountain mint and common horsemint

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X			

Plant Characteristics:Duration: PerennialType: HerbSize: 2-3' tallLeaf: Opposite; up to 3" long and ¼" across. Leaves have no petiole (leaf stem), are linear, and hairless, with a prominent central vein and smooth edges. Leaves smell minty when crushed.Stem: Stiff, smooth, slender, square stem, with no hairs.Flower: The short tubular flowers are white, often with scattered purple dots, and individually about ¼" long. The flower petals have an upper lip, and three-lobed lower lip.Seed collection**: Late September - Late October [2]**What it can be confused with:**

This plant has a delicate, somewhat airy appearance. *P. tenuifolium* closely resembles *Pycnanthemum virginianum* (Virginia mountainmint), except that the *P. tenuifolium* has hairless stems and leaves that never exceed ¼" across. *P. virginianum*, on the other hand, has lines of white hairs on its stems, and some of the larger leaves will exceed ¼" across. *P. virginianum* tends to be taller, stouter, and less branched in appearance; it also blooms a little later in the year. [3]

Known Pollinators:

Honey bees, native bees, flies, wasps, butterflies, skippers, and beetles. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

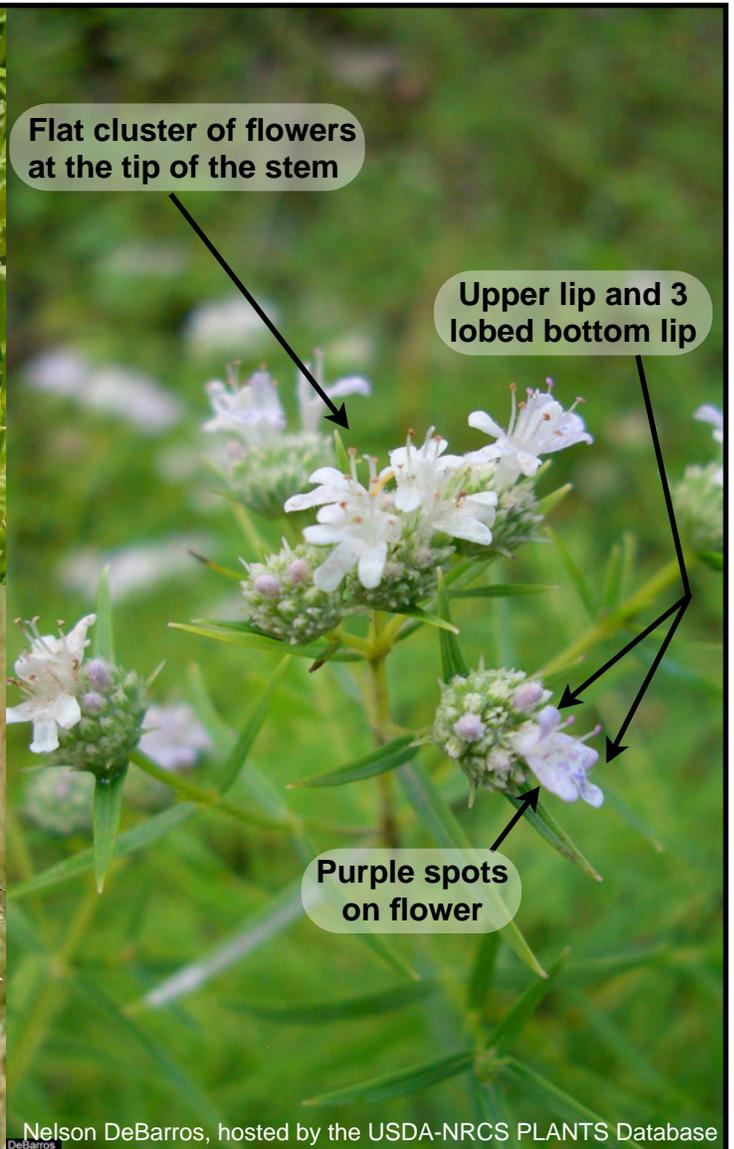
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 142.

[2] http://plants.usda.gov/plantguide/pdf/pg_pyte.pdf

[3] http://www.illinoiswildflowers.info/prairie/plantx/slm_mintx.htm

Pycnanthemum tenuifolium

narrowleaf mountainmint

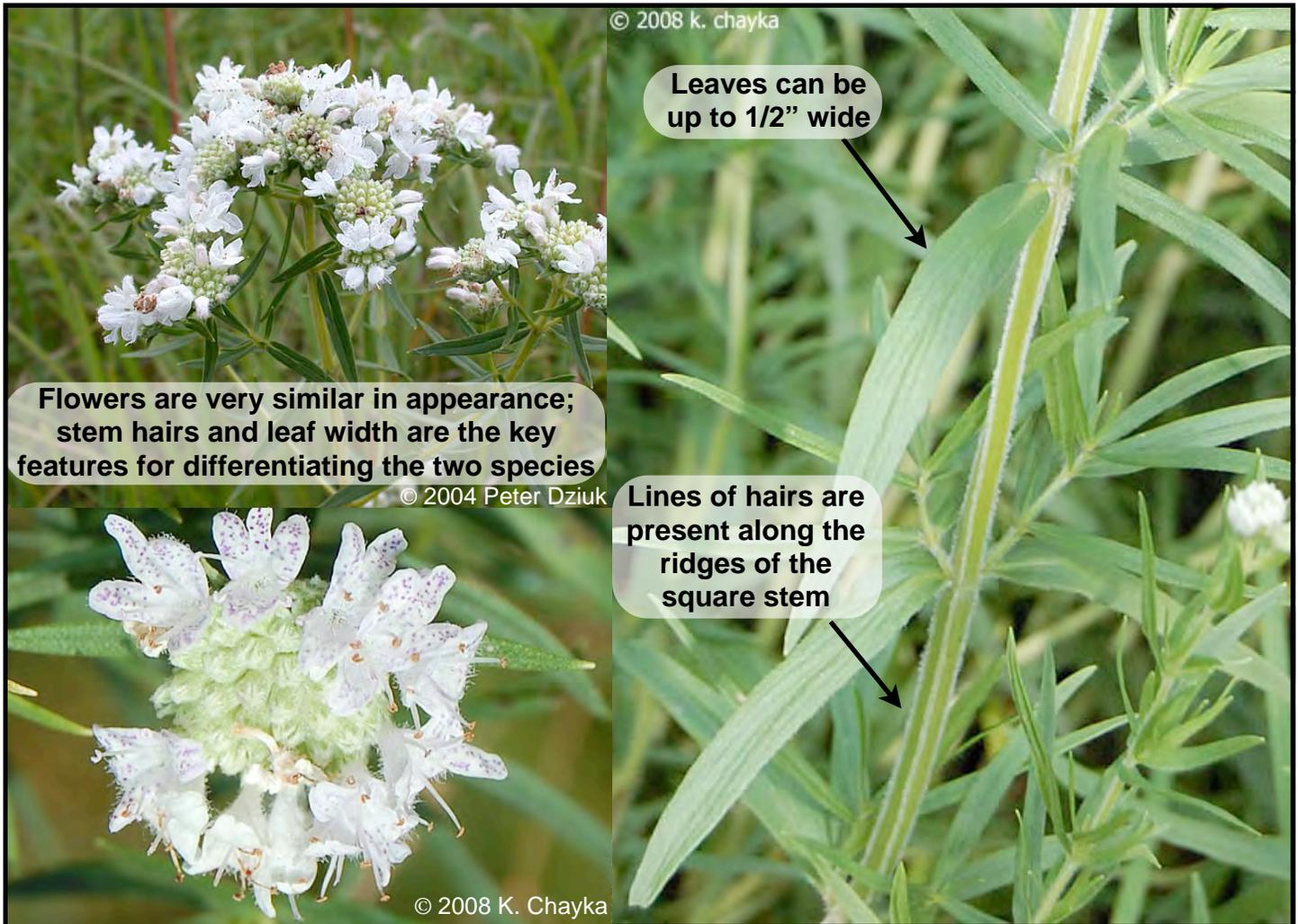


Pycnanthemum tenuifolium

narrowleaf mountainmint

NARROWLEAF MOUNTAINMINT COULD BE CONFUSED WITH:

Pycnanthemum virginianum - Virginia mountainmint



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Ratibida pinnata

yellow coneflower

Other common names include: gray-headed coneflower, grayhead coneflower, gray-headed Mexican hat, grayhead Mexican hat, and pinnate prairie coneflower



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X			

Plant Characteristics:

Duration: Perennial

Type: Herb

Size: 3-5' tall

Leaf: Alternate; irregularly shaped; up to 8" long and 5" wide; basal leaves are compound with 3-7 lobes, sometimes with 1-2 secondary lobes; small, stiff hairs and bumps, smooth or sparsely toothed.

Stem: Long, slender, hairy, and slightly ridged.

Flower: Composite flower occurs at the tip of the stem; up to 13 yellow ray florets (outer petals) up to 1-2½" wide, disk floret head ½-¾" tall; little to no floral scent.

Seed collection**: September - Early October [2]

What it can be confused with:

Yellow coneflower can be distinguished from other yellow colored coneflowers like *Rudbeckia hirta* (black-eyed Susan) and *Rudbeckia laciniata* (cutleaf coneflower) by the drooping ray florets, grayish central cone, ridged stem, height, and complex structure of the basal leaves. [3]

Known Pollinators:

Native bees, wasps, flies, small butterflies, and beetles. [3]

Larval Host: Silvery checkerspot butterfly, wavy-lined emerald moth, and common eupithecia moth. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 474.

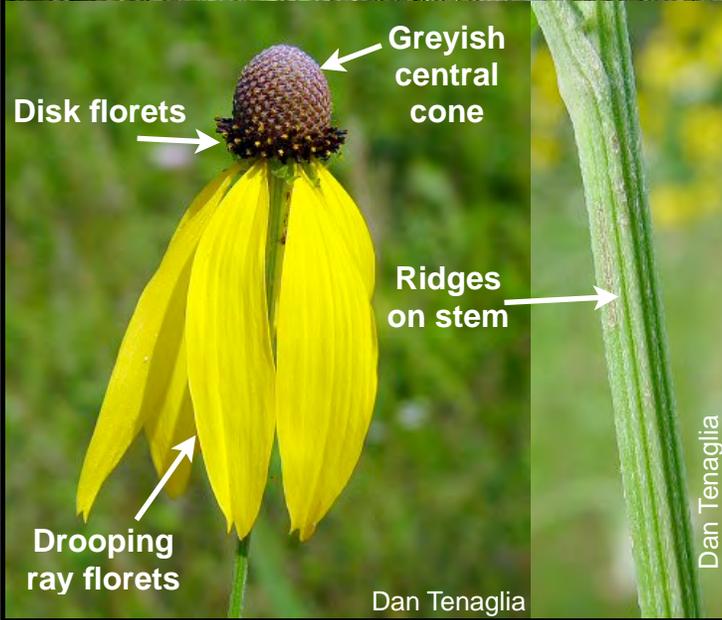
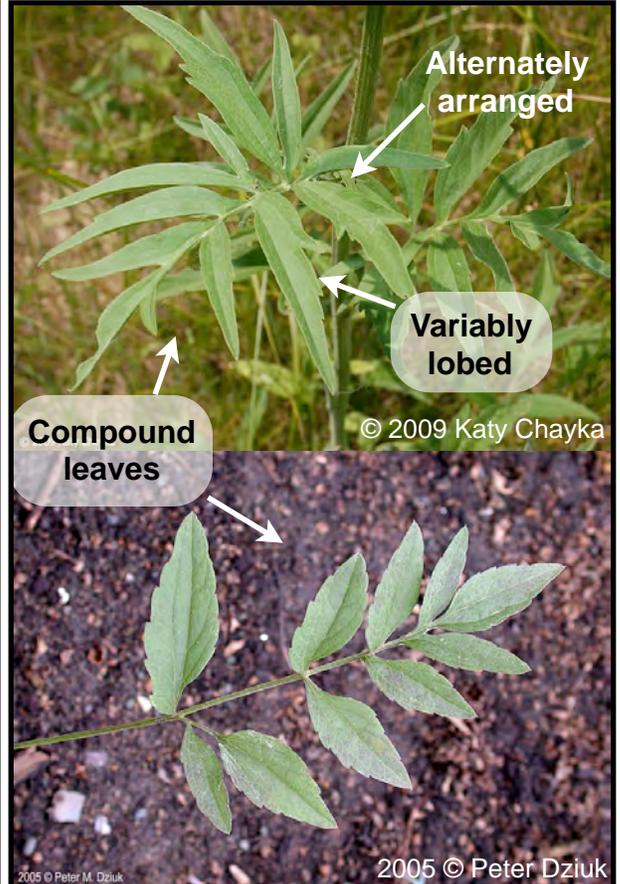
[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/prairie/plantx/yl_coneflowerx.htm

[4] http://www.wildflower.org/plants/result.php?id_plant=RAP1

Ratibida pinnata

yellow coneflower

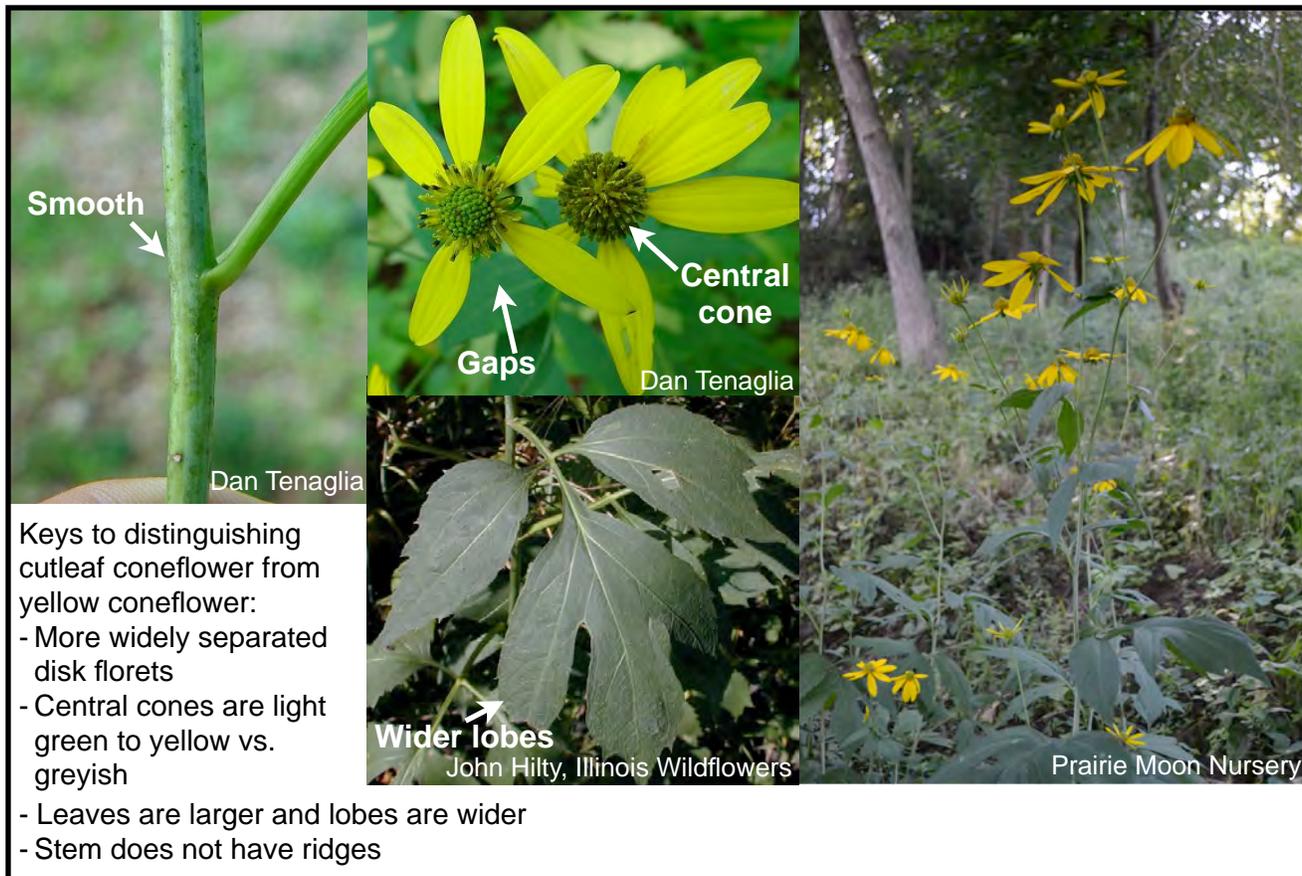


Ratibida pinnata

yellow coneflower

YELLOW CONEFLOWER COULD BE CONFUSED WITH:

Rudbeckia laciniata - cutleaf coneflower



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

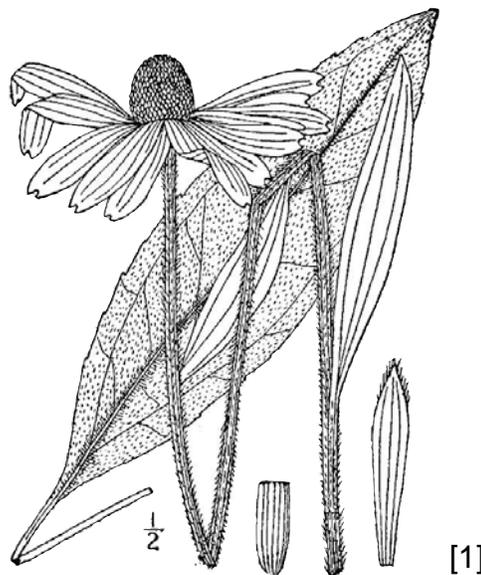
Rudbeckia hirta

black-eyed Susan

Other common names include: common black-eyed Susan and brown-eyed Susan



Amber Barnes



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X			

Plant Characteristics:

Duration: Biennial

Type: Forb

Size: 1-2.5' tall

Leaf: Alternate, greyish green, up to 7" long and 2" across, pubescent (covered in small hairs).

Stem: Upper stem is devoid of leaves and has long, white hairs.

Flower: Yellow, 2-3" across, 8-20 yellow ray florets surround a cone-shaped group of brown disk florets.

Seed collection**: Mid September - Mid October [2]

What it can be confused with:

Black-eyed Susan can be distinguished from other *Rudbeckia* spp. by its lanceolate hairy leaves and the long hairs on the stems; most of the leaves occur toward the base of each stem, and never have lobes. The species *Rudbeckia fulgida* (orange coneflower) is quite similar in appearance, but usually blooms later, and has style-tips that are shorter and more rounded. [3]

Known Pollinators:

Bees, flies, wasps, butterflies, and beetles. [3]

Larval Host:

Gorgone checkerspot, bordered patch butterfly. [4]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 470.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/prairie/plantx/be_susanx.htm

[4] https://www.wildflower.org/plants/result.php?id_plant=RUHI2

Rudbeckia hirta

black-eyed Susan

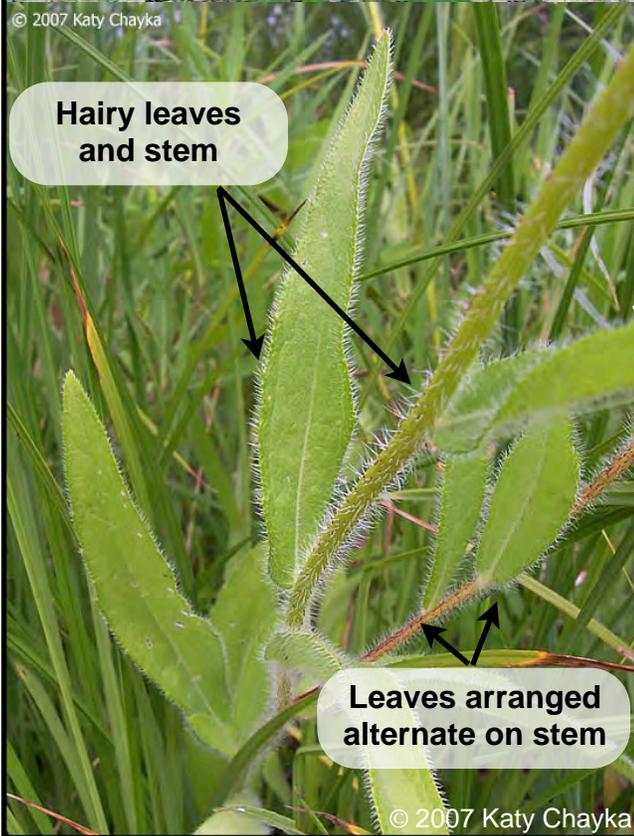


Dan Tenaglia



John Hilty, Illinois Wildflowers

© 2007 Katy Chayka



Hairy leaves and stem

Leaves arranged alternate on stem

© 2007 Katy Chayka



John Hilty, Illinois Wildflowers

Basal leaves are lanceolate with a longer petiole than the upper leaves



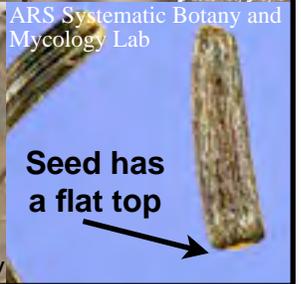
Mature seed heads

© 2013 Katy Chayka
ARS Systematic Botany and Mycology Lab

Cleaned Seeds



Prairie Moon Nursery



Seed has a flat top

Rudbeckia hirta

black-eyed Susan

BLACK-EYED SUSAN COULD BE CONFUSED WITH:

Rudbeckia fulgida - orange coneflower

Dan Tenaglia

The mid and basal leaves have a long thin petiole on an ovate leaf

While both varieties are still hairy, they are noticeably less hairy than the black-eyed Susan

Two varieties of orange coneflower can be found in the region, but each can be differentiated from black-eyed Susan based on their: leaves, seeds, and stems

John Hilty, Illinois Wildflowers

The *sullivantii* variety has a clearly winged petiole

The end of the orange coneflower seed has small teeth, while the black-eyed Susan seed does not

Dan Tenaglia

Dan Tenaglia

John Hilty, Illinois Wildflowers

John Hilty, Illinois Wildflowers



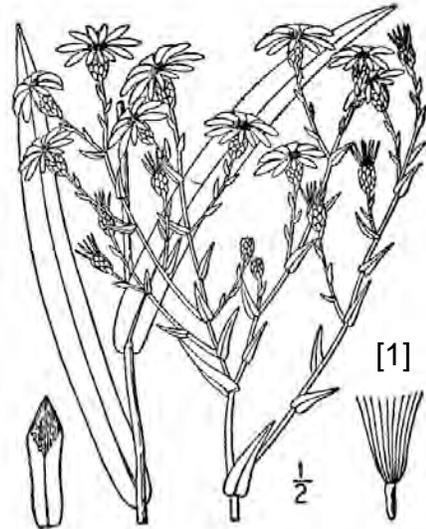
Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Symphotrichum laeve

smooth blue aster

Other common names include: smooth aster and smooth american aster

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
							X	X	X		

Plant Characteristics:Duration: PerennialType: HerbSize: 1½ - 3' tallLeaf: Alternate; up to 6" long and 1¼" wide; smooth or bluntly toothed margins. Upper leaf surfaces are medium to grayish blue, hairless, and sometimes glaucous (a whitish film that rubs off); lower leaf surfaces are light green or light grayish blue, hairless, and sometimes glaucous.Stem: Light green or light blue and hairlessFlower: Central stem terminates in a panicle (branching cluster) of flower heads and lateral upper stems and upper leaves may terminate in smaller panicles. Each flower is about ½-1" wide, consisting of 15-30 ray florets (outer petals) surrounding a head of disk florets. Ray flowers are light lavender or rarely white; disk florets are 5 lobed (petaled) and turn from whitish yellow to purplish red during blooming.Seed collection**: Early - Mid November.**What it can be confused with:**

Smooth blue aster is easily distinguished from other asters (*Symphotrichum* spp.) due to its bluish tint and smooth leaves and stem. Other asters typically have hair on either the leaves or stem. One species which is similar to smooth blue aster is the sky blue aster, which grows in similar habitat and blooms around the same time. The keys to distinguishing the two are the leaves and flowers. The leaves of smooth blue aster are sessile (no petiole) all along the stem. Sky blue aster, on the other hand, only has sessile leaves on the top half of the plant, the lower and basal leaves have clear petioles. Additionally, sky blue aster has smaller flowers, averaging about ½" across, while smooth blue aster is about ½-1" across. [2,3]

Known Pollinators:

Honeybees, bumblebees, native bees, sphecid wasps, flies, butterflies, and skippers. [2]

Larval Host: Leaf-mining fly, papery blister gall midge, pearl crescent butterfly. [2]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 420.

[2] http://www.illinoiswildflowers.info/prairie/plantx/sm_asterx.htm

[3] <https://www.minnesotawildflowers.info/flower/smooth-blue-aster>

Symphyotrichum laeve

smooth blue aster

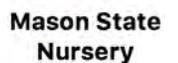
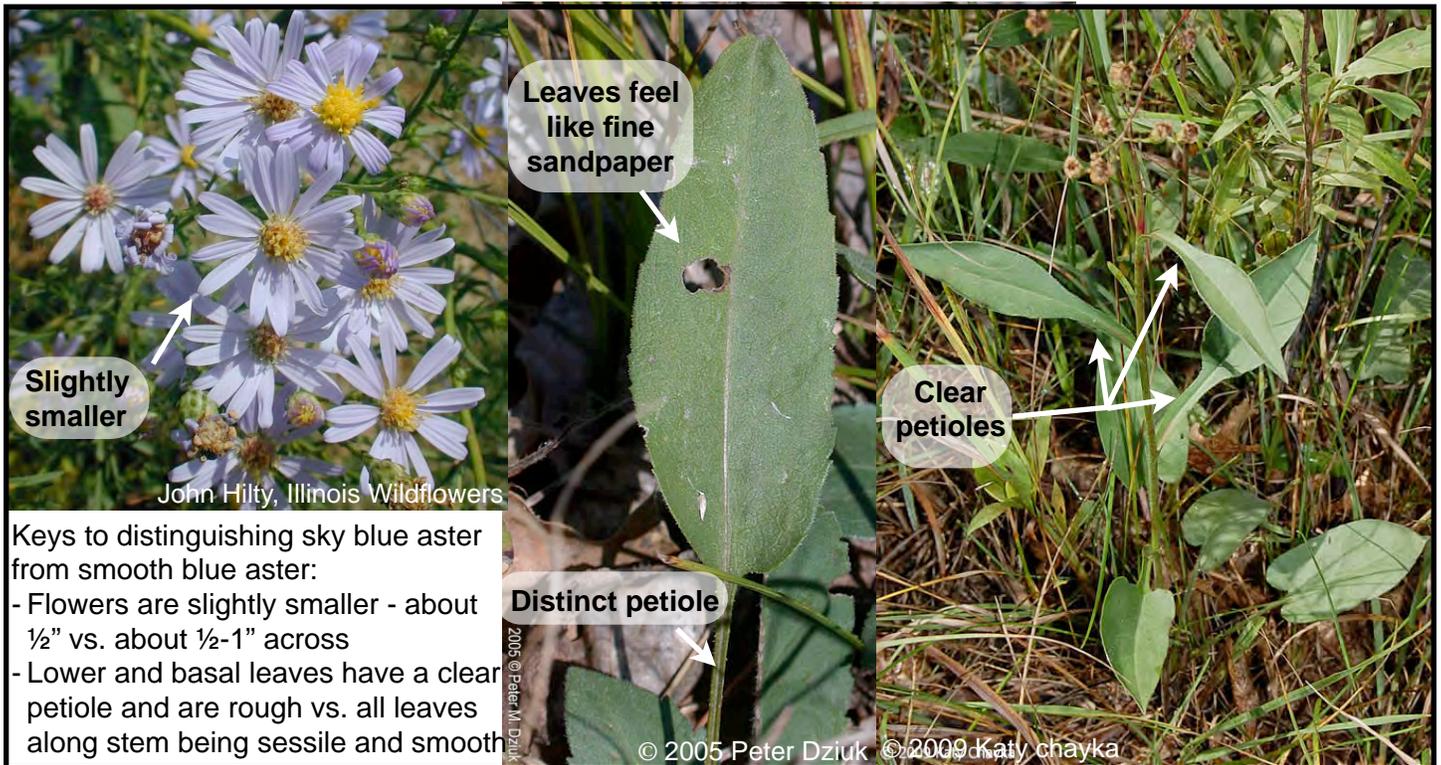


Symphotrichum laeve

smooth blue aster

SMOOTH BLUE ASTER COULD BE CONFUSED WITH:

Symphotrichum oolentangiense - sky blue aster



Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Symphotrichum novae-angliae

New England aster

Other common names include: New England American aster and Michaelmas daisy



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						X	X	X			

Plant Characteristics:

Duration: Perennial

Type: Herb

Size: 4' tall

Leaf: Alternate; up to 4" long and 1" wide; pubescent with smooth, but ciliate margins (lined with small hairs), clasping, becoming smaller as they ascend the stems.

Stem: Single or multiple from the base, mostly erect, brown to reddish, and covered in short, spreading hairs.

Flower: Upper stems terminate in clusters of composite flowers. Each flower is about 1½" wide, consisting of yellow or gold disk florets, surrounded by 30-100 purple, lavender, or light pink ray florets (outer petals); no floral scent.

Seed collection:** Early - Mid November

What it can be confused with:

New England aster is easily distinguished from other asters (*Symphotrichum* spp.) because of its more numerous ray florets, larger flowers, and hairy spreading phyllaries. Another large-flowered aster it could potentially be mistaken for is the purple-stemmed aster (*Symphotrichum puniceum*). The two species can be distinguished by a few key features observed on the leaves and phyllaries. New England aster can be differentiated from purple-stemmed aster by: the smooth leaf margin vs. widely toothed leaf margin, the variably pubescent leaves vs. glabrous leaves with hairs along the central veins of their underside, and the hairy spreading phyllaries vs. smooth spreading phyllaries. [2,3]

Known Pollinators:

Honeybees, bumblebees, native bees, bee flies, butterflies, and skippers. [2]

Larval Host: Many species of moths. [2]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

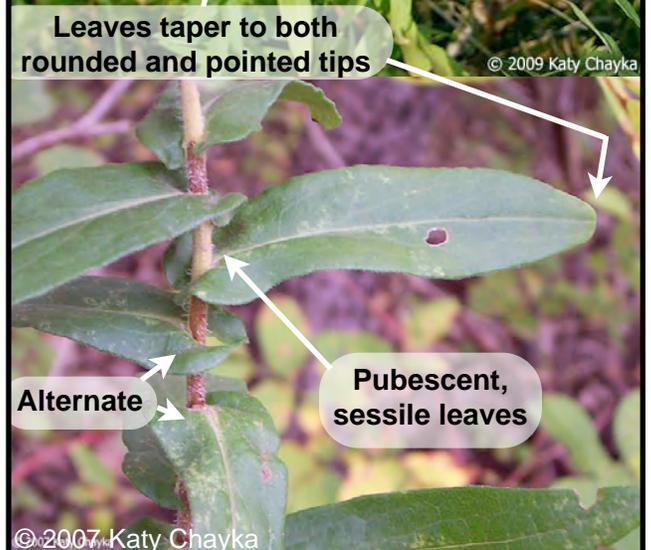
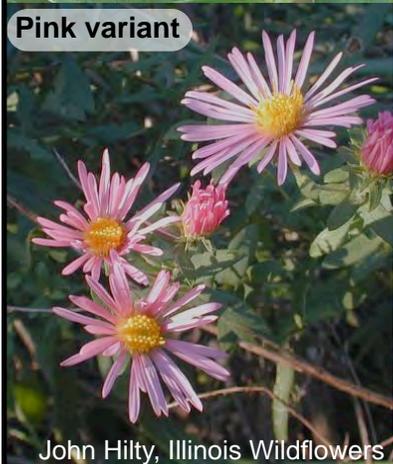
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 417.

[2] http://www.illinoiswildflowers.info/prairie/plantx/ne_asterx.htm

[3] <https://www.minnesotawildflowers.info/flower/new-england-aster>

Symphotrichum novae-angliae

New England aster

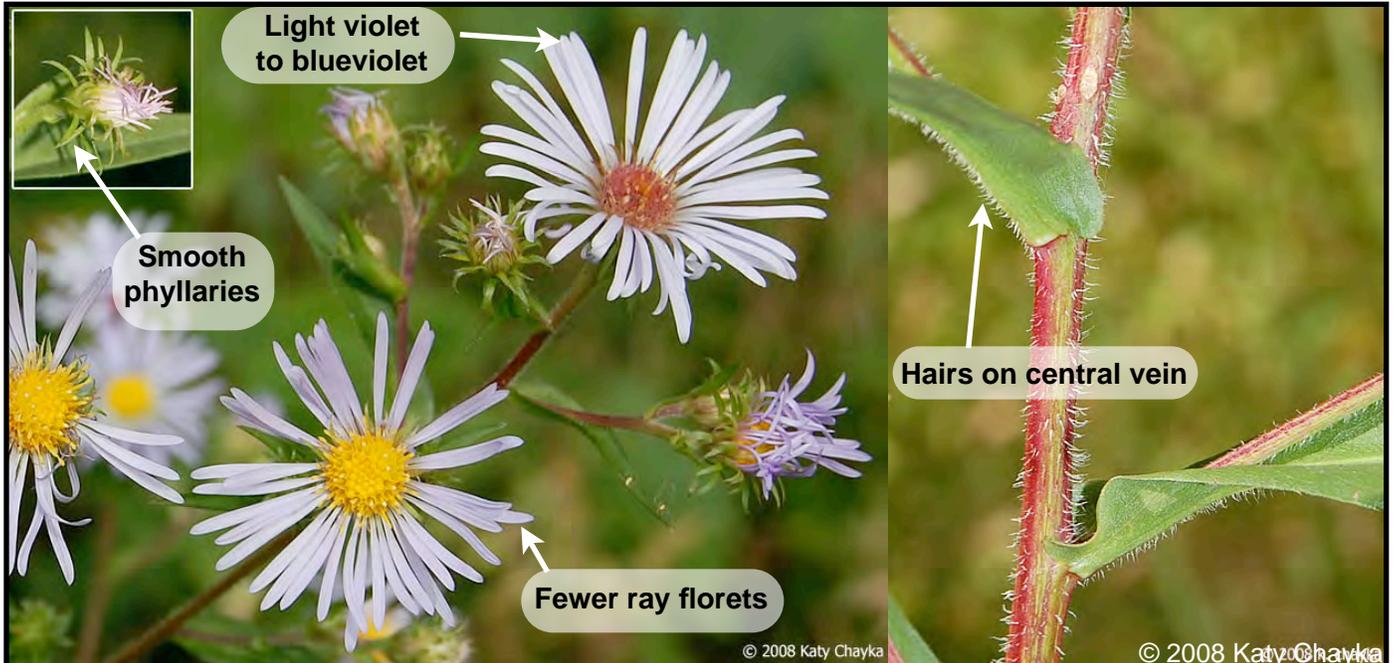


Symphotrichum novae-angliae

New England aster

NEW ENGLAND ASTER COULD BE CONFUSED WITH:

Symphotrichum puniceum - purple-stemmed aster



Keys to distinguishing purple-stemmed aster from New England aster:

- Ray petals are light violet to blue-violet vs. purple, lavender, or light pink
- Less ray petals (30-60) vs (30-100)
- Leaves are fairly hairless except along the central vein of the underside of the leaf vs. a variably pubescent leaf
- Leaf margin is widely toothed vs. smooth and ciliated
- Leaves taper to a sharp point vs. tapering to a pointed or rounded tip
- Phyllaries are hairless vs. covered in small hairs
- Flowers are slightly smaller: $\frac{3}{4}$ – $1\frac{1}{4}$ " across vs. $1\frac{1}{2}$ "



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Symphotrichum pilosum

frost aster

Other common names include: hairy white oldfield aster and awl aster

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						X	X	X	X		

Plant Characteristics:Duration: PerennialType: HerbSize: 1-5' tall

Leaf: Alternate. Leaves are mostly lance shaped, sometimes widest above the middle, 1-4" long, up to 1" wide, toothless or shallowly toothed, pointed at the tip, stalkless or nearly so, typically with clusters of secondary leaves developing from the primary leaf axils. Basal leaves are more spatula-shaped, rounded at the tip, with winged, sheathing stalks; basal and the lowest stem leaves wither away by flowering time. Leaf surfaces are sparsely to densely covered in long, spreading hairs, with shorter hairs all around the leaf edge.

Stem: Stems are single or multiple from the base, ascending to erect, light green, densely covered in long, spreading hairs. Lower stems can turn reddish brown and lose hair with age.

Flower: Ray color is white, rarely pinkish or pale violet. Branching clusters of stalked flowers at the top of the stem and arising from upper leaf axils. Branches are widely spreading, arching or ascending, with flowers usually all on one side of the branch. Flowers are 1/2-3/4" across with 15-35 petals (ray flowers) and a yellow center disk that turns reddish with age. Ray color is white, rarely pinkish or pale violet. [2]

Seed collection**: Mid-Late October [3]

What it can be confused with:

The appearance of frost aster is similar to several other asters with small white flowerheads. It is often larger in size than these other species, although small specimens of frost aster also occur. Compared to the common panicled aster (*Symphotrichum lanceolatum*), the frost aster has more hairy foliage and it prefers drier habitats. Another similar species, the calico aster (*Symphotrichum lateriflorum*), has smaller flowerheads with fewer petaloid rays than those of the frost aster. The calico aster also prefers shadier habitats, such as woodland borders and woodland openings. Yet another species, the heath aster (*Symphotrichum ericoides*), also has smaller flowerheads with fewer petaloid rays, and its leaves are smaller in size. This latter species is typically found in prairies. [4]

Known Pollinators:

Bees, flies, wasps, butterflies, skippers, moths, and beetles. [4]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / USDA NRCS. Wetland flora: Field office illustrated guide to plant species. USDA Natural Resources Conservation Service..

[2] <https://www.minnesotawildflowers.info/flower/awl-aster>, [3] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

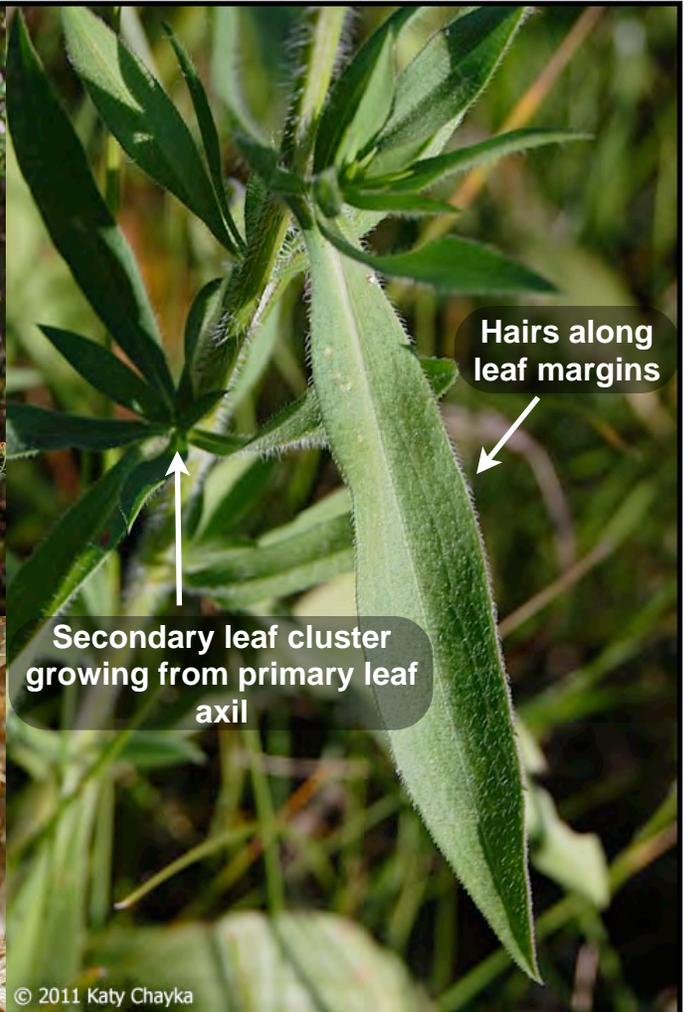
[4] http://www.illinoiswildflowers.info/weeds/plants/fr_aster.htm

Symphiotrichum pilosum frost aster



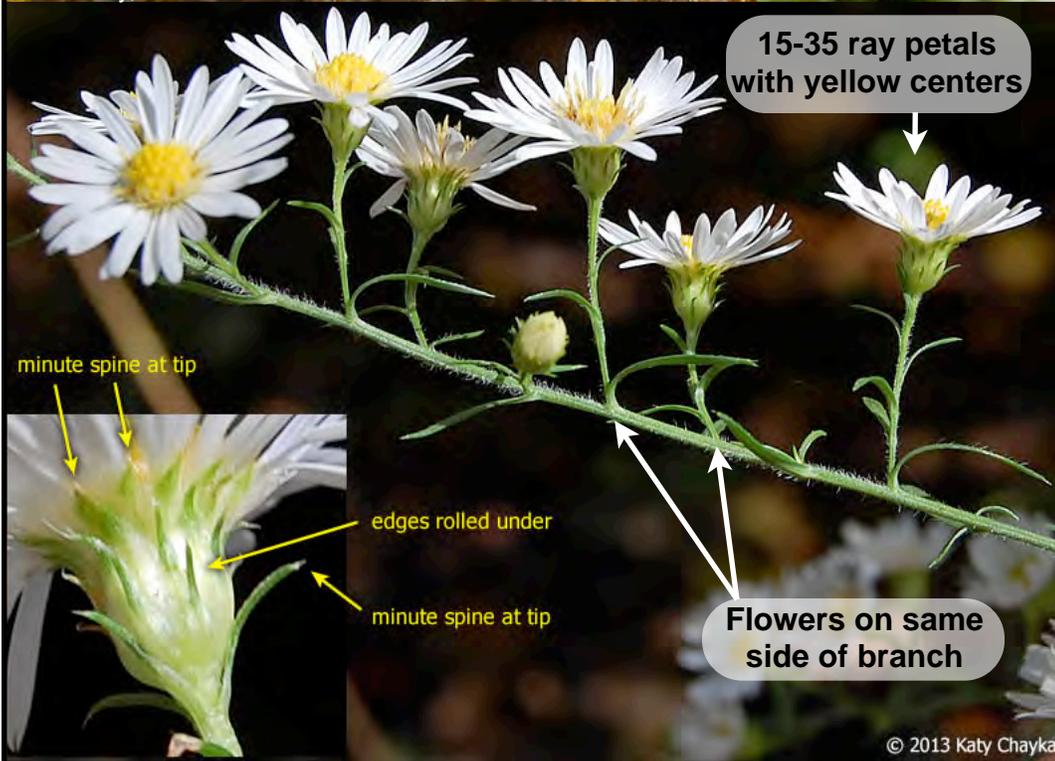
Alternate leaves

Flower heads going to seed



Hairs along leaf margins

Secondary leaf cluster growing from primary leaf axil



15-35 ray petals with yellow centers

Hairy stem

minute spine at tip

edges rolled under

minute spine at tip

Flowers on same side of branch



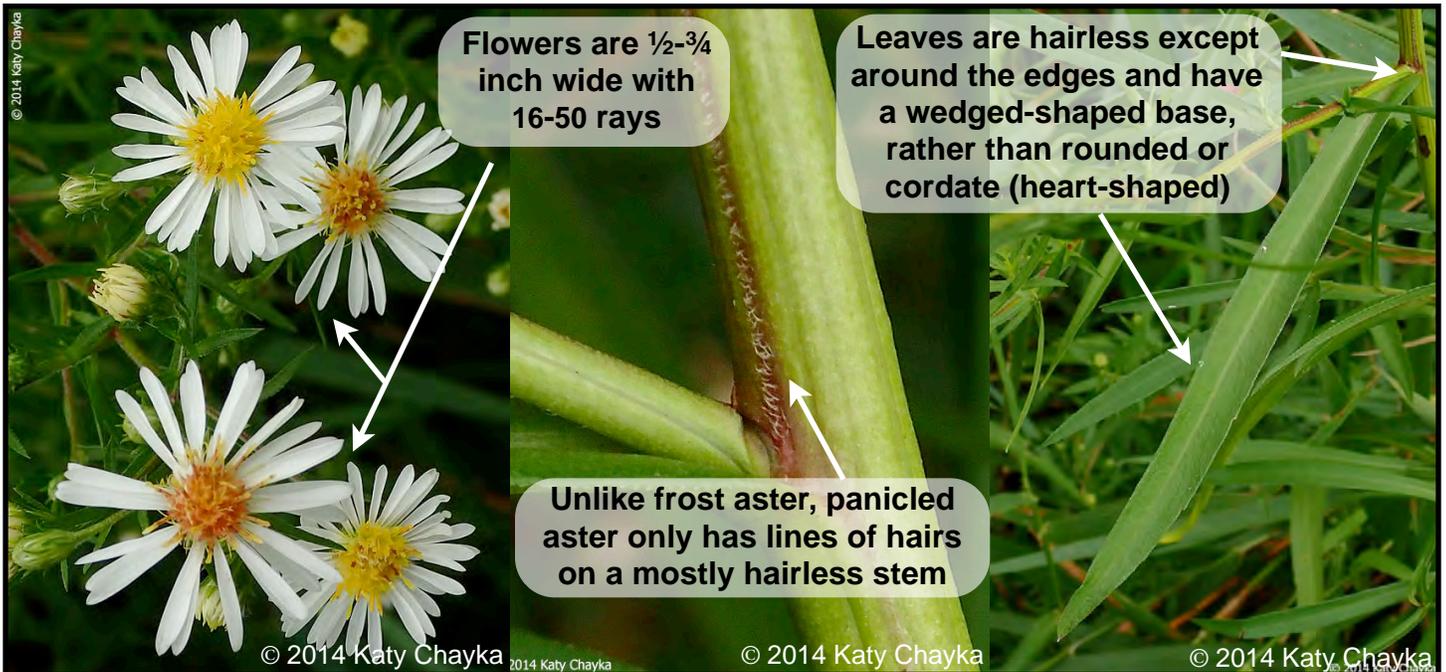
2013 © Peter M. Dziuk

Symphyotrichum pilosum

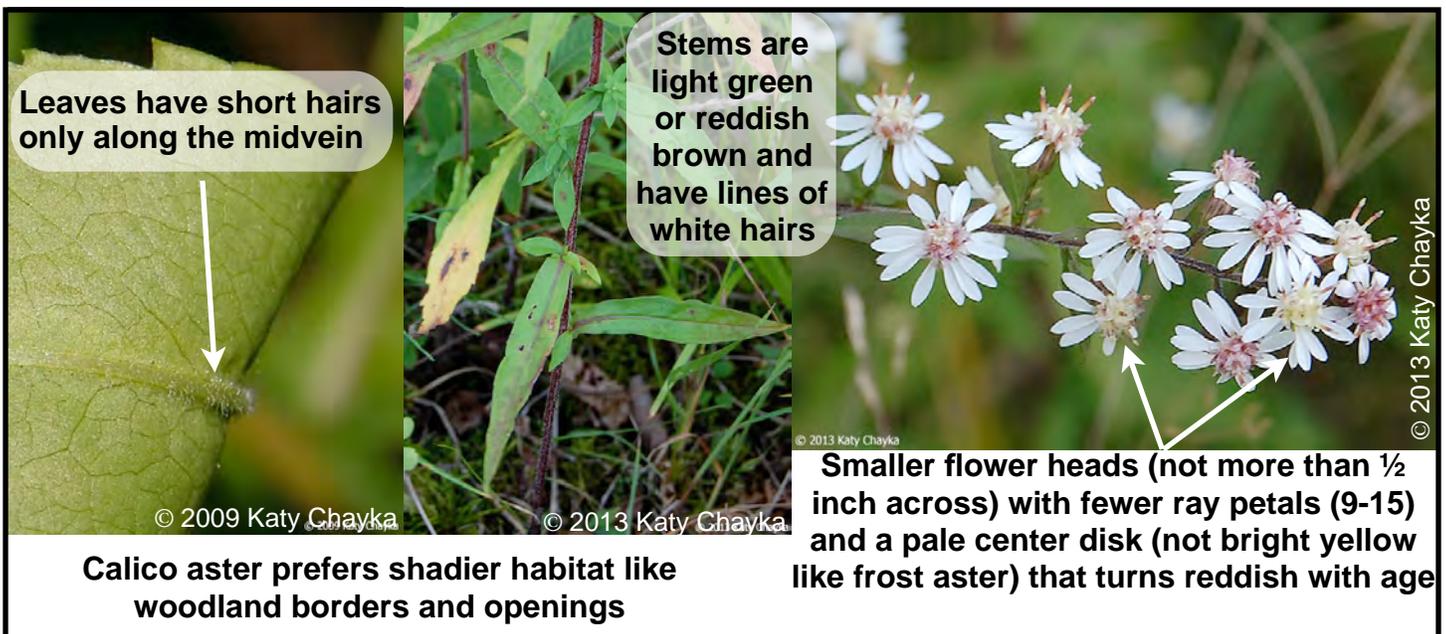
frost aster

FROST ASTER COULD BE CONFUSED WITH:

Symphyotrichum lanceolatum - paniced aster



Symphyotrichum lateriflorum - calico aster

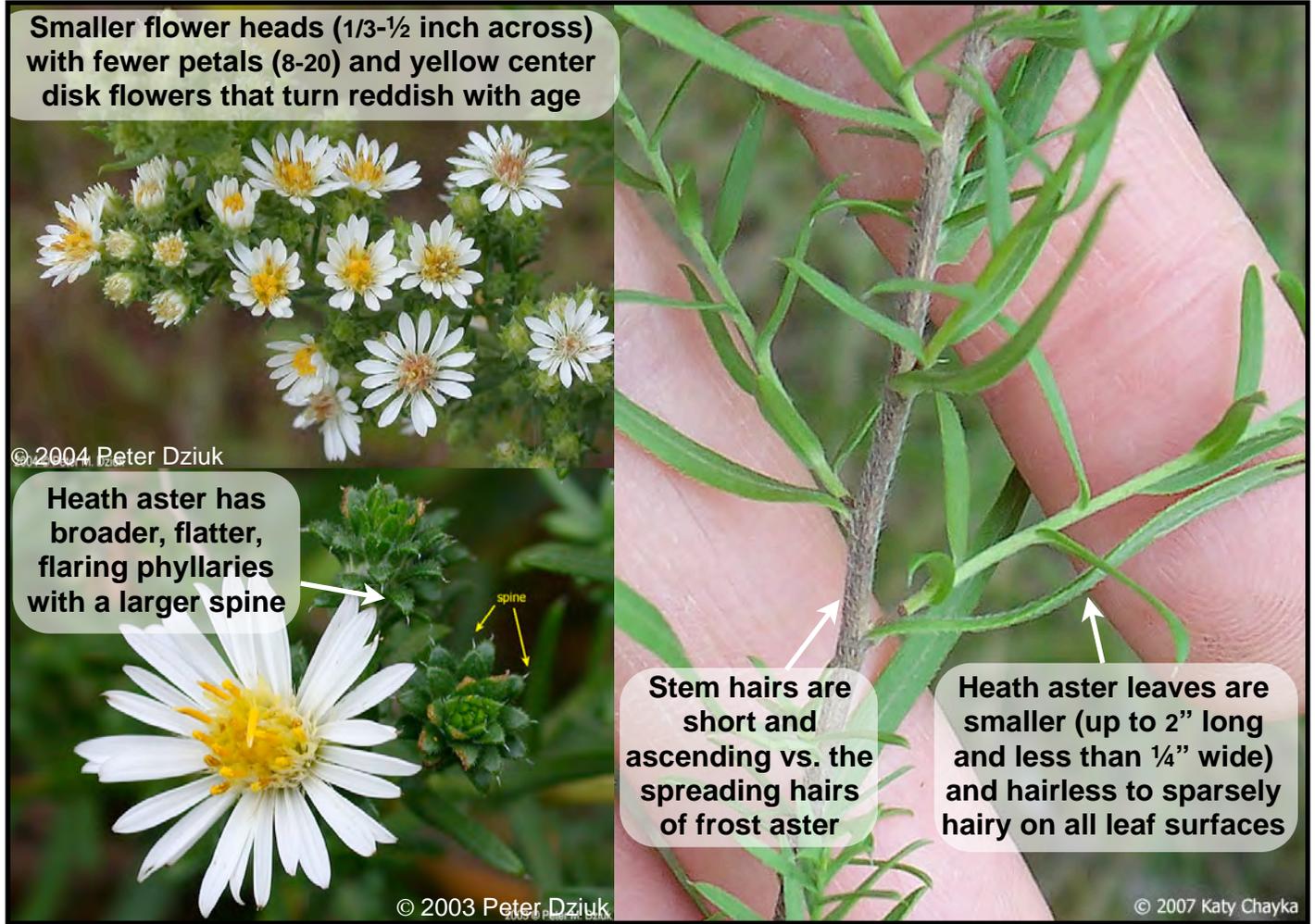


Symphyotrichum pilosum

frost aster

FROST ASTER COULD BE CONFUSED WITH:

Symphyotrichum ericoides - heath aster



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Tradescantia ohiensis

Ohio spiderwort

Other common names include: bluejacket

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			X	X	X	X					

Plant Characteristics:Duration: PerennialType: ForbSize: 2-4' tall

Leaf: The grass-like leaves are grey- or blue-green, alternate, up to 15" long and 1" across. They are linear, although wider at the base (where the leaves wrap around the stem in sheaths), than at the tip. They are also hairless, with parallel venation, and smooth margins.

Stem: Central stem is round, hairless, and occasionally glaucous (a whitish film that can be rubbed off).

Flower: The light violet to blue-violet flowers occur in small clusters on hairless flowering stems at the top of the plant. Underneath each inflorescence are 2 small bracts, each up to 3" long and less than ½" across. Each flower is about 1" across, with 3 rounded petals, 6 bright yellow anthers, and fine spidery violet hairs near the base. The flowers open up during the morning and close by the afternoon in sunny weather, but remain open longer on cloudy days.

Seed collection**: Early - Mid July.

What it can be confused with:

Ohio spiderwort can be readily distinguished from Virginia spiderwort and prairie spiderwort by the absence of conspicuous hairs on the flowering stems near the inflorescence, and the greyish or bluish appearance of the thin leaves. It also tends to be taller and more spindly in appearance than other species of spiderwort, and has smaller bracts below the inflorescence. Another species, zigzag spiderwort, prefers shaded woody areas, has a stem that slightly zig-zags between its broader leaves (up to 2" across), which are typically dark green, and the flower stems are covered in hairs. [2]

Known Pollinators:

Native bees and flies. [2,3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

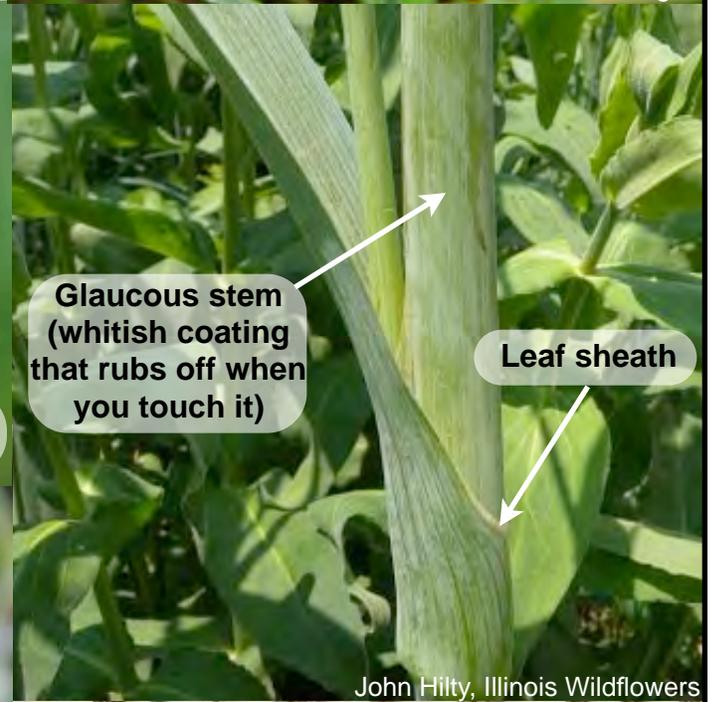
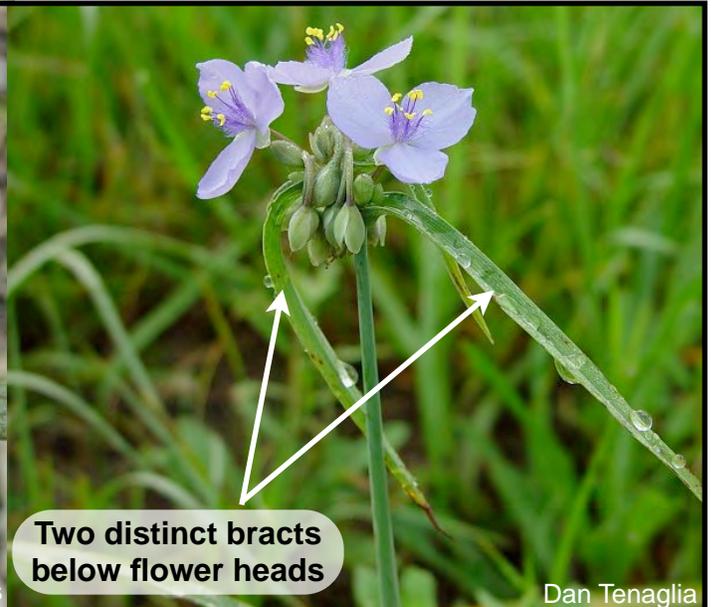
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 1: 461.

[2] http://www.illinoiswildflowers.info/prairie/plantx/oh_spiderwortx.htm

[3] https://www.wildflower.org/plants/result.php?id_plant=TROH

Tradescantia ohiensis

Ohio spiderwort



Tradescantia ohioensis

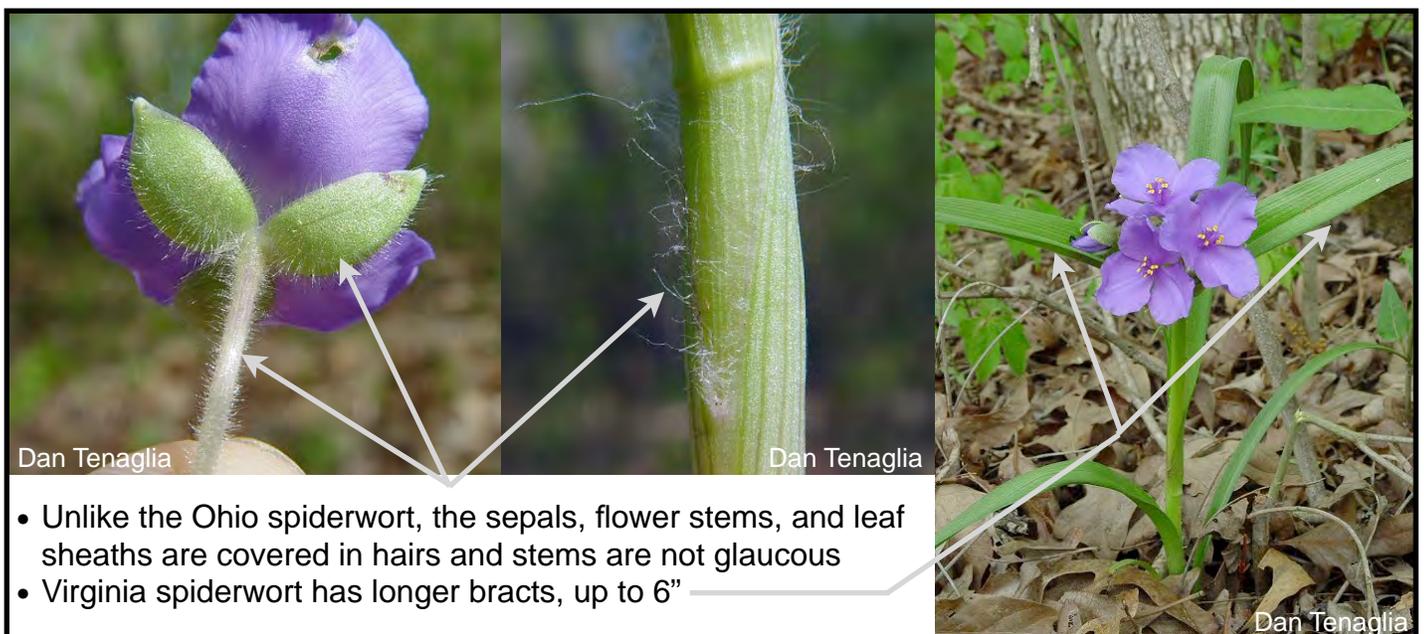
Ohio spiderwort

OHIO SPIDERWORT COULD BE CONFUSED WITH:

Tradescantia bracteata - prairie spiderwort



Tradescantia virginiana - Virginia spiderwort



Tradescantia ohiensis

Ohio spiderwort

OHIO SPIDERWORT COULD BE CONFUSED WITH:

Tradescantia subaspera - zigzag spiderwort



- Unlike Ohio spiderwort, the sepals and flower stems are covered in hairs
- The stem has a tendency to zigzag slightly between the alternate leaves and is not glaucous
- The leaves are up to twice as wide (2") as that of Ohio spiderwort



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Verbena urticifolia

white vervain

Other common names include: nettle-leaf vervain and white verbena

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X	X		

Plant Characteristics:Duration: PerennialType: HerbSize: 3-6' tallLeaf: Opposite; up to 6" long and 2½" wide; hairless to slightly hairy and coarsely toothed. Upper leaf surfaces are medium-dark green, shiny, and wrinkled along the veins; lower leaf surfaces are light green with more hair.Stem: Light green, 4-angled, densely covered in long hairsFlower: Upper stems terminate in a panicle (branching cluster) of floral spikes up to 2' long and 1' wide. Each flower is about 1/8" across, consisting of a white corolla (petals) with 5 rounded lobes and a tubular green calyx (sepals) with 5 teeth.Seed collection**: Late August - Late September [2]**What it can be confused with:**

The scientific name of this plant refers to the resemblance of its leaves to those of *Urtica* spp. (nettles). White vervain resembles *Verbena hastata* (blue vervain), but blue vervain has more narrow leaves and its flowers are conspicuously blue, rather than bright white. It is found in sunny wetland habitats more often than white vervain.

Known Pollinators:

Honeybees, bumblebees, native bees, flies, small butterflies, and wasps. [3]

Larval Host: Verbena moth and vervain leaf midge. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

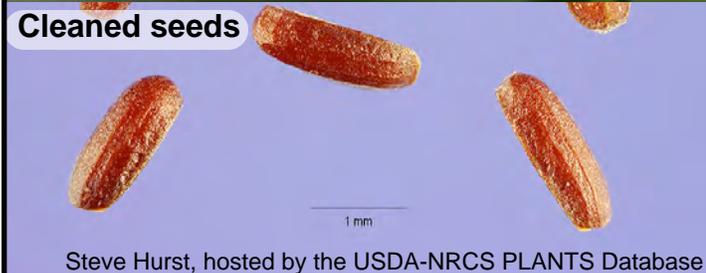
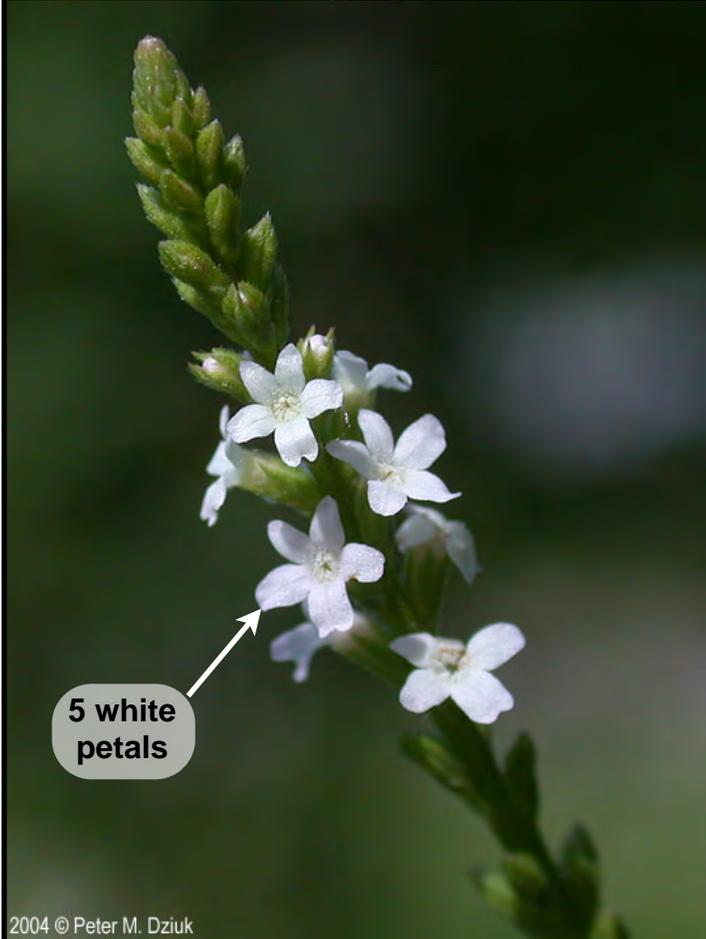
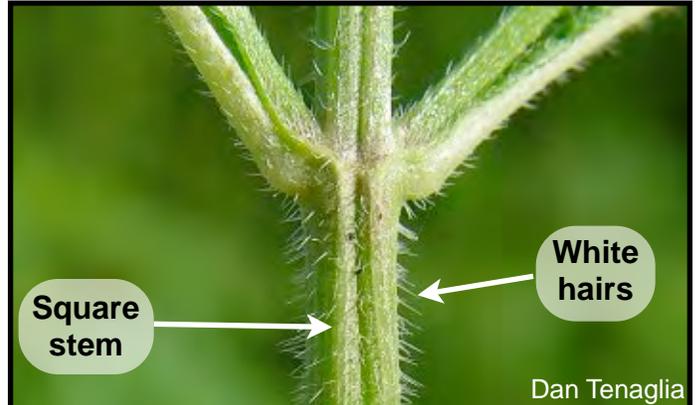
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 95.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/savanna/plants/wh_vervain.htm

Verbena urticifolia

white vervain

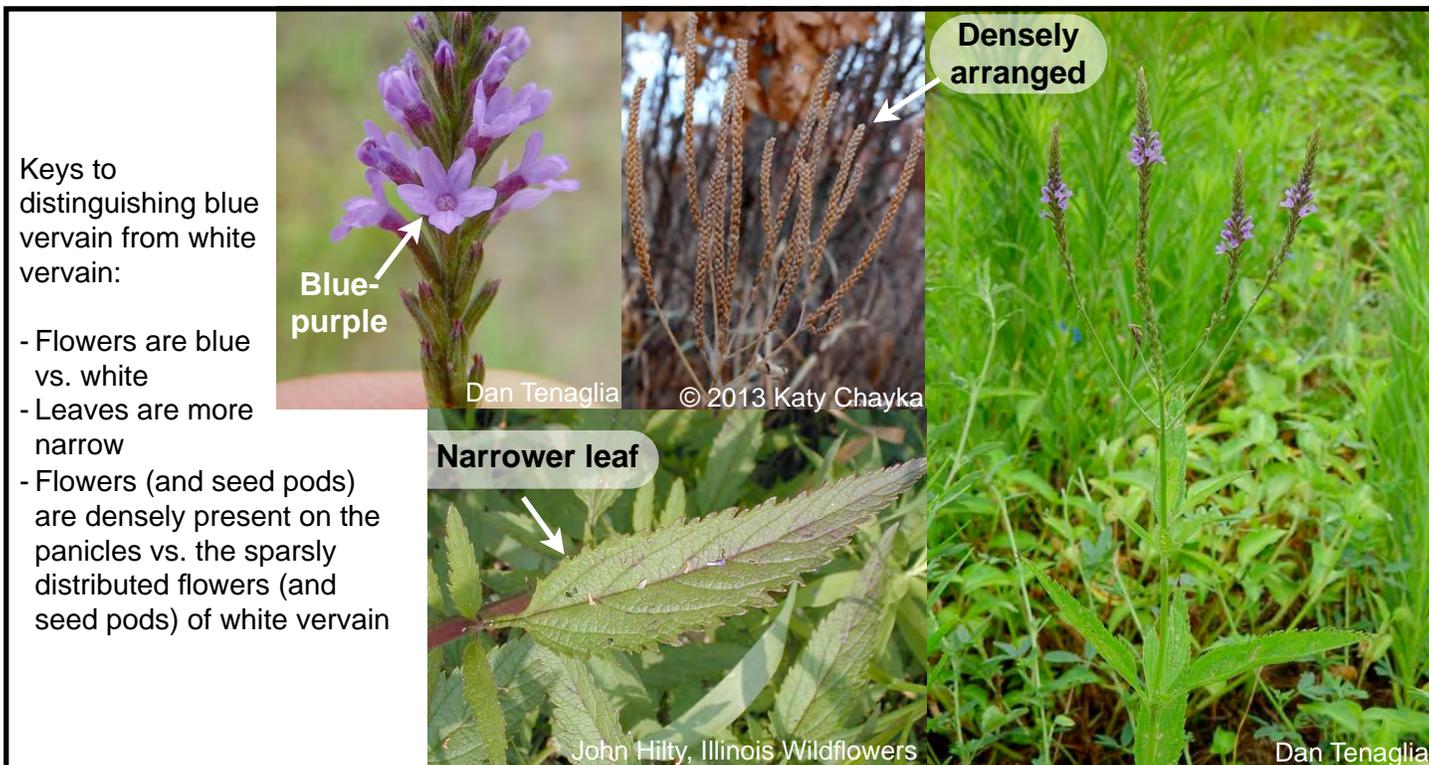


Verbena urticifolia

white vervain

WHITE VERVAIN COULD BE CONFUSED WITH:

Verbena hastata - blue vervain



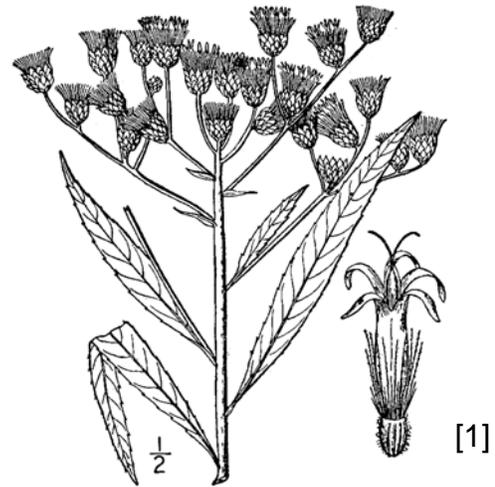
Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Vernonia gigantea

giant ironweed

Other common names include: tall ironweed

**Bloom Period:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						X	X	X	X		

Plant Characteristics:Duration: PerennialType: HerbSize: 3-7' tallLeaf: Alternate; up to 9" long and 2½" wide; toothed margins. Upper leaf surfaces are dark green and hairless; lower leaf surfaces are light green and sparsely pubescent. Each leaf has a short petiole (leaf stem) or is sessile (no leaf stem).Stem: Usually unbranched, light green or purplish green, and pubescent.Flower: Central stem terminates in a panicle (branched cluster) of flowerheads from 6-16" across. Each flowerhead consists of 10-30 disk florets and no ray florets (outer petals); tubular, magenta carolla (petals) with 5 recurved, narrow lobes; exerted style is bifurcated (2 branching) and strongly recurved. No floral scent.Seed collection**: October**What it can be confused with:**

Tall ironweed hybridizes with other *Vernonia* spp. (ironweeds), especially *Vernonia missurica* (Missouri ironweed). The latter hybrid is referred to as *Vernonia × illinoensis* (Illinois ironweed). Giant ironweed can be distinguished from its hybrid, because Illinois ironweed is more hairy and has flowerheads with 30-35 disk florets. Another species, Missouri ironweed, has flowerheads with 35-50 disk florets and it is more hairy than tall ironweed; both stems and leaf undersides of Missouri ironweed are often white-woolly from the abundance of these hairs. Smooth ironweed (*Vernonia fasciculata*) differs from giant ironweed in that it is smaller in size, has hairless stems and leaves, and sometimes has dark dots on the undersides of its leaves. [3]

Known Pollinators:

Native bees, bee flies, butterflies, and skippers. [3]

Larval Host: Eupatorium borer moth, ironweed borer moth, red groundling moth, pyralid moth, ironweed bud midge, and ironweed blossom midge [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

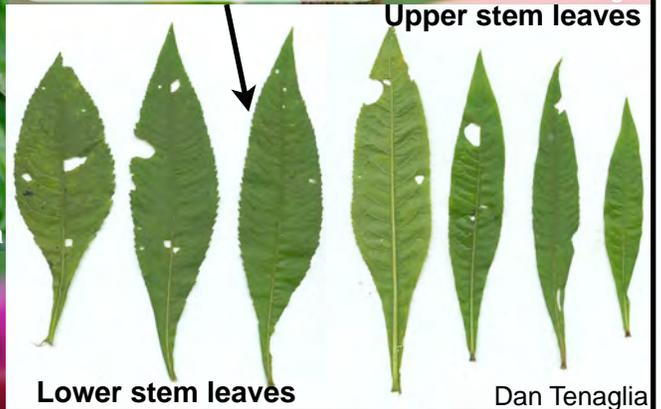
[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 352.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/savanna/plants/tl_ironweed.htm

Vernonia gigantea

giant ironweed

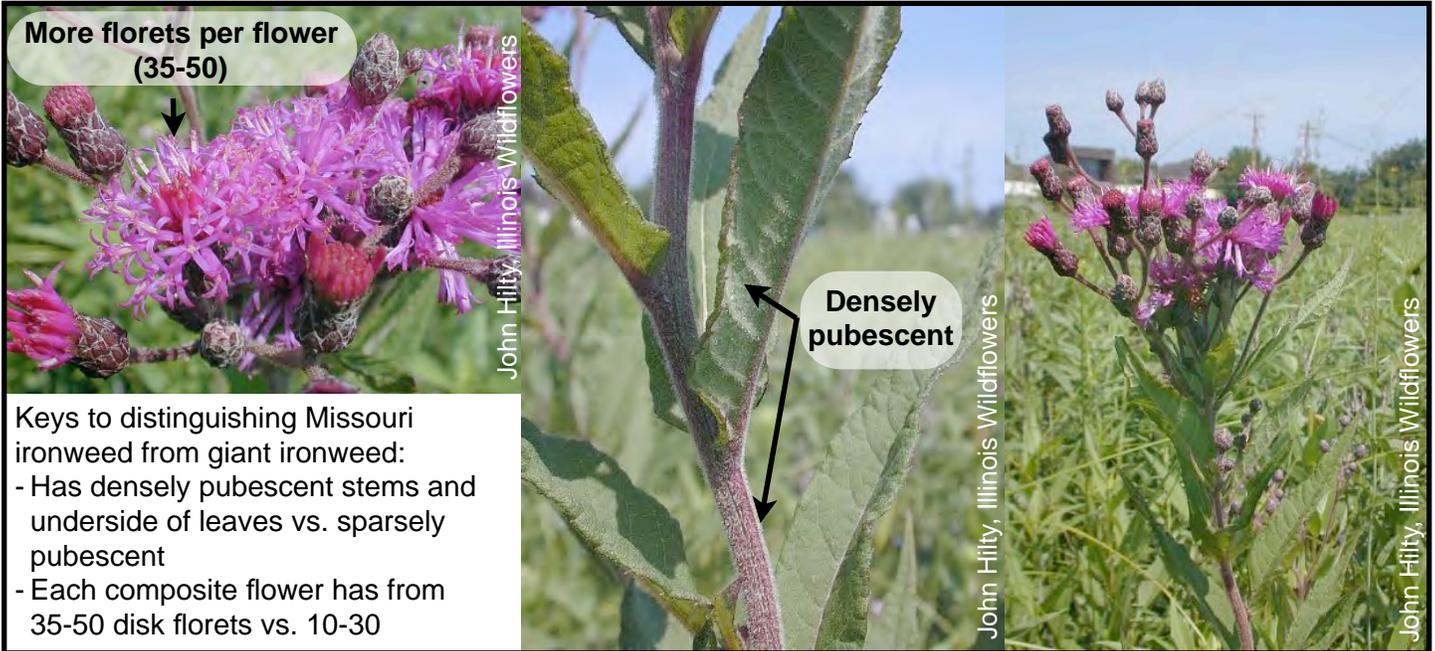


Vernonia gigantea

giant ironweed

GIANT IRONWEED COULD BE CONFUSED WITH:

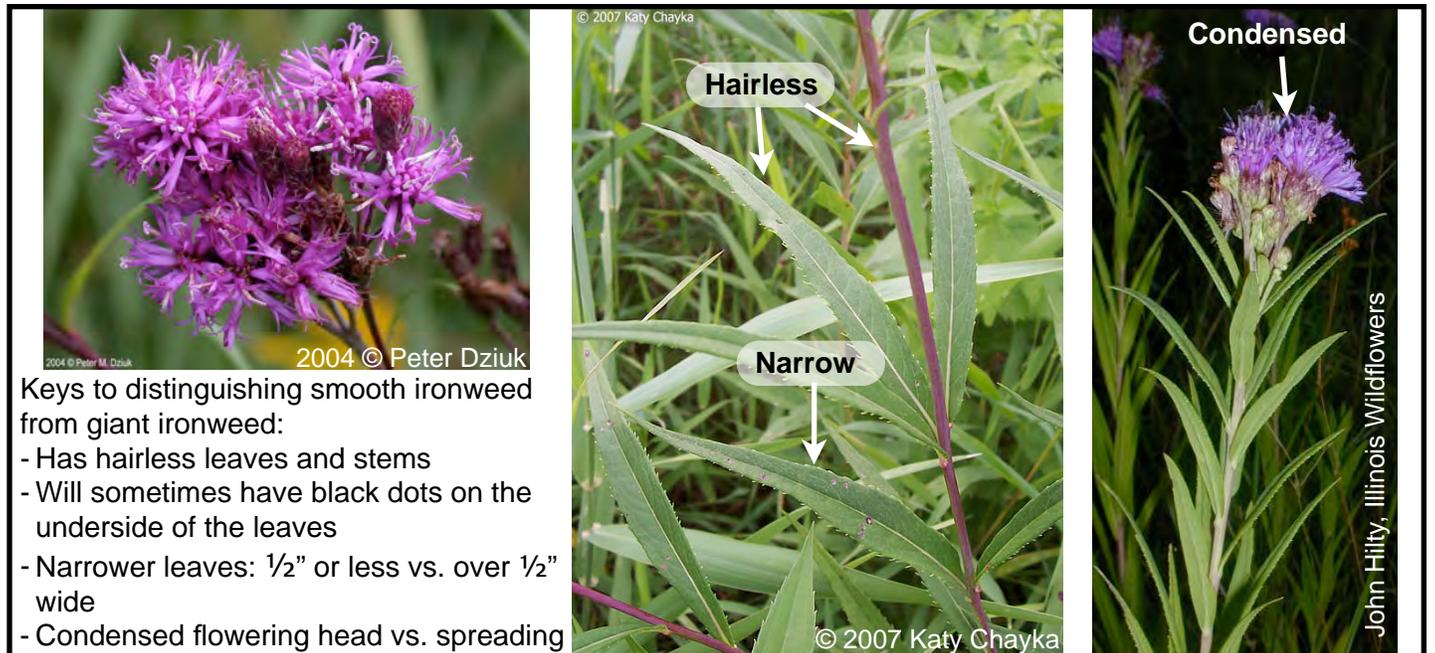
Vernonia missurica - Missouri ironweed



Keys to distinguishing Missouri ironweed from giant ironweed:

- Has densely pubescent stems and underside of leaves vs. sparsely pubescent
- Each composite flower has from 35-50 disk florets vs. 10-30

Vernonia fasciculata - smooth ironweed



Keys to distinguishing smooth ironweed from giant ironweed:

- Has hairless leaves and stems
- Will sometimes have black dots on the underside of the leaves
- Narrower leaves: 1/2" or less vs. over 1/2" wide
- Condensed flowering head vs. spreading



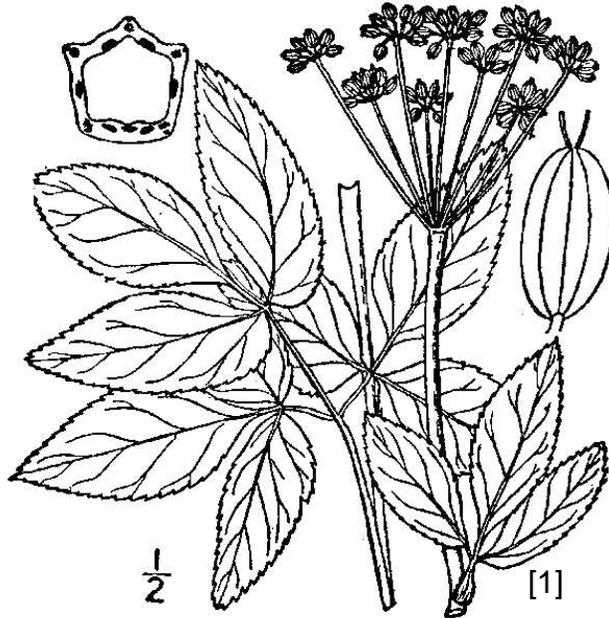
Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden

Zizia aurea

golden Alexander

Other common names include: golden zizia



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			X	X	X						

Plant Characteristics:

Duration: Perennial

Type: Herb

Size: 2 1/2' tall

Leaf: Alternate, compound leaves with 3 or 5 leaflets; hairless, shiny, and medium green; 3" long and 2" wide; toothed margins. Lower leaves with long petioles (leaf stem); larger leaflets with 1-2 cleft lobes.

Stem: Forming occasional, lateral stems; light green, hairless, and shiny

Flower: Upper stems terminate in compound umbels of yellow flowers, measuring 2-3" across and consisting of 12 umbellets of 21 flowers each. Each flower is about 1/8" wide, consisting of 5 incurved yellow petals, 5 stamens, and a pistil. No floral scent.

Seed collection**: Early August - Mid September [2]

What it can be confused with:

Golden Alexander is sometimes confused with wild parsnip (*Pastinaca sativa*) and yellow meadow parsnip (*Thaspium trifoliatum aureum*). Wild parsnip blooms later, is taller, and has more leaflets in each leaf than golden Alexander. It can be distinguished from yellow meadow parsnip due to the parsnip's short pedicel on the central flowers of each umbellet, the winged seeds, and simple rather than trifoliate basal leaves. [3]

Known Pollinators:

Native bees, wasps, bumblebees, butterflies, and true bugs. [3]

Larval Host: Black swallowtail butterfly, Ozark swallowtail butterfly, and rigid sunflower borer moth. [3]

** Seed collection times will vary due to location and weather conditions during the growing season. This is a general time seed may be ready, locations will need to be scouted to get a more accurate timetable for each location.

[1] USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 3: 641.

[2] <http://pleasantvalleyconservancy.org/seedcollectingtimes.html>

[3] http://www.illinoiswildflowers.info/prairie/plantx/gld_alexanderx.htm

Zizia aurea

Golden Alexander



Dan Tenaglia



Odd-pinnate compound leaves

3-5 leaflets

John Hilty, Illinois Wildflowers



Smooth, hairless stem

John Hilty, Illinois Wildflowers



Compound yellow umbels

2-3" wide

Dan Tenaglia



Mature seeds

Amber Barnes



Immature seeds

2008 © K. Chayka



Cleaned seeds

Prairie Moon Nursery

Zizia aurea

golden Alexander

GOLDEN ALEXANDER COULD BE CONFUSED WITH:

Thaspium trifoliatum aureum - yellow meadow parsnip



Pastinaca sativa - wild parsnip



Keys to distinguishing wild parsnip from golden Alexander:

- Furrowed stem
- Plant is larger at 2-5' tall vs. about 2.5'
- More leaflets: 9+ vs. 3-5
- Larger flower head 3-8" across vs. 2-3"



Mason State Nursery

Special thanks to: Holden Arboretum, Blue Heron Ministries, Illinois Department of Transportation, University of Arkansas CAST, and Chicago Botanic Garden