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Important Plants of the Monarch Butterfly

Midwest Region

Staff Guide

Natural Resources Conservation Service

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Preface

The Monarch Butterfly Wildlife Habitat Evaluation Guide (WHEG) and Decision Support Tool: Midwest Region is used by NRCS staffs as a planning tool to evaluate current habitat conditions at the assessment area scale, not at the farm or ranch scale. Following the assessment, a rating (poor, medium, good or excellent) is assigned to each assessment area within the farm or ranch.

These ratings (benchmark monarch habitat conditions rating) are used to recommend monarch habitat improvement alternatives for each assessment area, and to predict improvement of habitat following implementation of alternatives (planned monarch habitat conditions rating). The WHEG can also be applied to areas after conservation practice installation to determine improvement in habitat condition (applied monarch habitat condition rating).

An essential function of the Monarch WHEG is inventorying the current plant community. The proper identification of key monarch plant species is required when inventorying vegetation within the assessment area (belt transect). Another use of the WHEG transect protocol could be to determine planting success. To support the WHEG and assist in the development of planning, NRCS has developed this appendix to the WHEG. This appendix contains three different technical support documents to assist staff and partners working in the Midwest region (Fig. 1.). These documents are:

Monarch Planting List: Provides key plant species for establishing a quality monarch habitat planting mix.

Monarch WHEG Inventory List: Provides the plant species that will be identified and measured (percent cover) during the habitat evaluation (vegetative sampling effort within the belt transect).

Plant Identification Guide: Provides a plant identification sheet for each species from the planting and WHEG lists.

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Introduction

A proper understanding of the breeding and feeding behaviors of larval and adult monarch butterflies (*Danaus plexippus*) is essential to conducting an evaluation of the quality of monarch butterfly habitat. The data obtained from the application of the assessment portion (WHEG) of the *Monarch Butterfly Wildlife Habitat Evaluation Guide and Decision Support Tool*: Midwest Region (Fig. 1) is used to identify habitat deficiencies. Those identified habitat deficiencies provide targets for habitat improvements (Fig. 2). The information offered in this appendix to the monarch WHEG will assist the conservation planner in plant identification and the selection of species to consider in a monarch butterfly habitat planting mix. This information is critical to implementation of steps 3-6 of the NRCS Conservation Planning process (USDA, NRCS 2014).

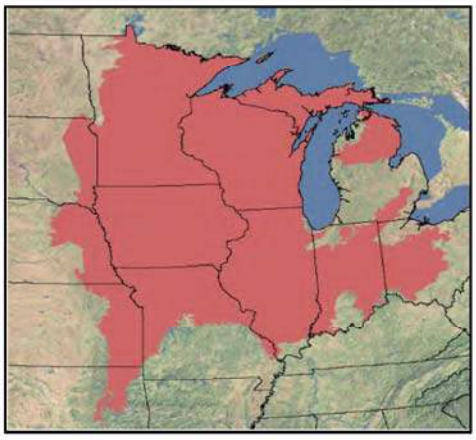


Fig. 1. Midwest Monarch Region.

- Step 3: Inventory Resources
- Step 4: Analyze Resource Data
- Step 5: Formulate Alternatives
- Step 6: Evaluate Alternatives



Fig. 2. Monarch butterfly nectaring on a blazing star (*Liatris scariosa*) near Princeton, IL.

Host Plant Selection and Monarch Survival: Gravid monarch females are selective, preferring younger and more nutrient rich plants to lay their 300–400+ eggs over a 2–5 week period (Fischer et al. 2015). Seldom does a single female lay more than 1–2 eggs on a single plant. Additionally, gravid females appear to prefer plants without existing eggs or larva, and plants with few aphids (Agrawal 2017 and Borkin 1982). There appears to be preferences towards some species over others. For example, gravid females do not utilize butterfly milkweed (*Asclepias tuberosa*) as often as common milkweed (*Asclepias syriaca*). Conversely, the non-native species, tropical milkweed (*Asclepias curassavica*) is highly preferred by gravid females for egg laying[1]. Most monarch butterfly scientists and monarch conservation groups have raised disease concerns associated with tropical milkweed. These concerns primarily target lands adjacent to the Gulf of Mexico where tropical milkweed does not dieback in the winter. Regardless, NRCS does not support the use of non-native milkweeds for monarch habitat plantings.

Gravid female behavior of selecting plants without other monarch eggs or larva and limiting oviposition (egg laying) to 1–2 eggs per plant, assures enough plant biomass for each offspring to complete the larval stage[2]. Some suggest that observation of multiple eggs and larva on a single plant is an ecological indicator that the site (and adjacent habitats) is

[1] Some suggest that this preference is related to the high levels of cardenolides (toxins) found in tropical milkweed.

[2] The behavior of typically limiting egg laying to 1-2 eggs per plant may also serve to minimize predation, disease, and inadvertent cannibalism (monarch larva will consume their eggshell and other eggs if nearby).

deficient in adequate milkweeds[3]. Predation of eggs and larva, primarily by predatory insects, is significant. Survival rate to the 5th instar has been documented to be as high as 10% (Borkin 1982; Prysby and Oberhauser 2004), but is more commonly less than 5%. Survival is also compromised by parasites, and tachinid flies (*Lespesia archippivora*) in particular (Mueller and Baum 2014; Oberhauser et al. 2006). Although widely variable, percent of milkweed plants utilized by gravid females in monarch habitat is typically from 5–25% of available plants (Kasten et al. 2016). It is estimated that approximately 30 milkweed plants are needed to produce an adult participating in the fall migration to Mexico (Nail et al. 2015).

Most studies agree that the loss of breeding habitat (milkweed) in the corn-belt region of the U.S. has affected the eastern monarch population (Pleasants and Oberhauser 2013). Questions remain regarding the significance of other population stressors. There is growing evidence suggesting that in addition to loss of breeding habitat in the Midwest, losses of nectaring habitat throughout the eastern U.S. needed to support the fall migration, and the loss of wintering habitat in Mexico may be significant limiting factors (Agrawal 2017; Inamine et al. 2016).

Monarch Larval Feeding Behavior: Immature, free-living instars (larvae or caterpillars) of the monarch butterfly are obligate specialists on the leaves of milkweeds, primarily within the genus *Asclepias*, but also on milkweed vines in the genera of *Cynanchum*, *Funastrum*, and *Matelea*. The larval stage includes 5 instars (molts) and requires from 8–15 days to complete. It is through the consumption of milkweed foliage as larvae that monarch butterflies gain the toxic cardenolides, which deter predation (Roeske et al. 1976) by birds and mammals[4]. However, too much cardenolide consumption affects growth and survival of larvae. For this reason, gravid females tend to select individual plants with a moderate level of cardenolides (Zalucki et al. 1990)[5]. First instars consume their egg casing, then begin to feed on the surface of the leaf or flower. This feeding activity by the 1st instars is evidenced by shallow feeding grooves, often in small circular patterns. As the larva grows (facilitated by molting) the grooves become deeper, until the larva creates a hole in the leaf that is often arc-shaped but may be circular or oval. Older larvae (3rd- 5th instars) feed by consuming the entire leaf, often the newer (upper most) leaves, presumed of higher forage quality. Additionally, floral parts are commonly consumed. The latex (white sap) in the milkweed plants can be deadly to monarch larvae. Larvae often sever leaf veins, slowing or inhibiting the supply of latex. It is proposed that this feeding behavior reduces the supply of latex to the leaf; thereby improving foraging efficiencies and increasing survival (Zalucki et al. 2001). In addition to leaf damage, the accumulation of frass (excrement) on lower leaves and the ground provides evidence of a feeding monarch larva.

Adult Monarch Feeding Behavior: Adult monarchs rely on high-quality floral nectar to meet their energy requirements. Monarchs feed by rolling out their proboscis (long flexible straw) to extract nectar from the flower (Krenn 2010)[6]. Thus, a feeding monarch perches on a flower and then moves their proboscis around, finding nectar from different locations. For this reason, monarchs prefer sturdy plants that have relatively flat surfaces (sunflowers, asters) or

[3] On occasion, "egg dumping" from females under extreme stress does occur, resulting in plants/leaves with several (10+) eggs. Thus, egg dumping is not always an indication of inadequate milkweed availability.
[4] These cardenolides do not affect most predatory invertebrates. Monarch larvae experience very large losses to predation from other arthropods (e.g. insects, spiders, centipedes).
[5] Cardenolide levels can vary significantly, among individual plants within the same species.
[6] Monarch butterflies are ineffective pollinators of milkweed (Agrawal 2017), and only incidental pollinators of other species.

long multi-flowering inflorescences (gayfeather), where the nectar is easily accessed. In reviewing the two plant lists provided in this document, the user will find many species in the Asteraceae family (sunflower family). Common characteristics of this family include clusters of flowers with shallow, easily accessed nectar. Milkweeds, which also have easily accessed nectar, are excellent nectar sources. Despite their somewhat long proboscises, monarchs rarely visit deep tubular flowers such as honeysuckles (*Lonicera* spp.).

Migration: Tagging data and observations documented in Journey North provide information about fall migration, but little about spring and summer movements. Isotope technology provides additional understanding of monarch natal origins and migration patterns. Stable isotopes in the bodies of adults identify (predict) the milkweed species (and even local ecotypes) that an adult monarch fed upon as a larva. As new isotopes data is collected, monarch scientists are gaining an improved understanding of movement patterns in North America. It was once suspected most all monarch adults in the northeastern U.S. moved along the Gulf, then northward to Maine. Recent isotope data suggests that most of the 2nd generation adults in the Northeast came from the Midwest by crossing the Appalachian Mountains (Miller et al. 2017). Using isotope and tagging data, Flockhart et al. (2013) suggested most of the 2nd generation adults that originated from the Midwest moved horizontally to populate the northern and eastern regions of the eastern U.S. This isotope work, coupled with other data (Miller et al. 2012), suggests a two-generational distribution pattern for the northern migration, rather than multi-generational (where each successive generation moves further north). The 1st generation adults migrate from the southern U.S. primarily, but far from exclusively, to the Midwest and Great Lakes region. The 2nd generation then spreads out across the U.S. and southern Canada, with many of the 3rd and 4th generation adults remaining in proximity to their natal origin. This approach results in rapid access to the cooler summer milkweed regions of the U.S., then provides for 2 generations to increase the overall population (migration is a very high morality event), maximizing numbers in preparation for the long and often fatal migration to the wintering grounds (Agrawal 2017).

Regardless of the northern migration patterns, monarchs emerging as adults in late summer migrate south to Mexico to repeat the cycle. Non-migrating adults live from 2-5 weeks, whereas migrating adults live through the fall and winter for 6-9 months. Most theorize they accomplish long distance travel by catching air currents and riding thermals using the soaring/gliding approach common to many other long distance migrants (Gibo and Pallet 1979). Brower et al. (2006) suggest that monarchs do not prepare for this long migration by storing energy (lipids) immediately, as these lipids would increase body mass and reduce flight efficiency. Rather, they consume nectar periodically during migration. As they near the overwintering locations in Mexico, they increase lipid consumption to build the energy reserves essential for the winter dormant period (November-March)[7]. Agrawal (2017) and Inamine et al. (2016) suggest that the availability of fall nectar resources, particularly in Texas and northern Mexico, may be an important variable in the success of the monarch wintering population in Mexico.

The fall migration patterns observed by journey north and tagging data (Monarch Watch) demonstrates many of the monarchs raised in the mid-west migrate in a southwesterly direction. Some tagging data finds movement of some individuals in a primarily westerly direction from the upper Midwest to Northern Great Plains when low-pressure systems are centered in the Midwest. When this occurs, large numbers of fall migrants can occur in south

[7] Monarchs do not feed at the wintering grounds, but do move to access water during warmer days. Thus, the stored lipids are critical to winter survival.

eastern North Dakota, eastern South Dakota and east-central Nebraska. In some years (2015), strong easterly winds move fall migrants even further west (Fig. 3). During such years, the northern Great Plains plays a critical role in providing fall nectaring resources for migrating monarchs. In response to elevated grain prices, recent land use conversion from grasslands to cropland (Wright and Wimberly 2013), may rival losses of "in-field" milkweed from glyphosate resistant seed technology. In addition to milkweed, losses of nectar plants from land use changes in central portions of the northern Great Plains remain a concern to monarch butterfly biologists.

Milkweeds of the Midwest: There are many milkweeds (*Asclepias* spp.) native to the Midwest. The most common species are common milkweed (*Asclepias syriaca*), swamp milkweed (*Asclepias incarnata*), and butterfly milkweed (*Asclepias tuberosa*). Seeds for each of these species are commercially available. Common and swamp milkweed are rhizomatous, while butterfly milkweed is a tap-rooted species. There are obvious advantages to the establishment of rhizomatous species in conservation plantings, and for those reasons, these two species should be considered a priority in all planting efforts.

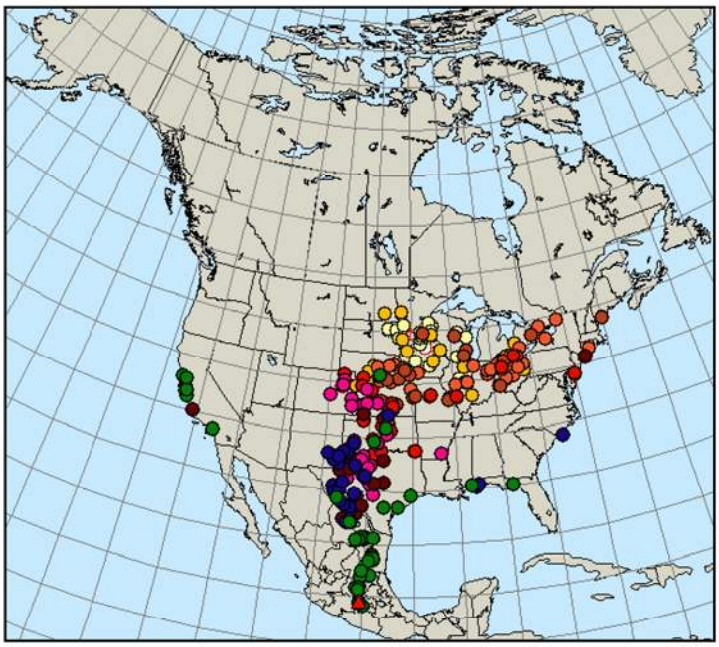


Fig. 3. Fall Monarch Butterfly "Roost Sightings" map for 2015 (Journey North). The strong easterly and southeasterly winds pushed the migration well west of the normal patterns. Fall nectaring habitats, particularly in central NE and western KS are critical to the health of migrating monarchs during such years.

Trees and Shrubs: Narrow bands of woody vegetation and edges of forested areas, provided important fall resting sites (microclimates) for migrating monarchs. Some trees (*Cercis canadensis*) and shrubs (*Cephalanthus occidentalis, Baccharis* spp., and *Rhus* spp.) provide excellent nectar sources to the monarch. However, because the primary opportunity for habitat improvement occurs on grasslands in this region, the lists provided in this document are limited to herbaceous species.

Plant Lists and Plant Identification Guide

To assist with the application of the NRCS *Monarch Butterfly WHEG Wildlife Habitat Evaluation Guide and Planning Tool*: Midwest Region, this document provides two plant species lists, and a plant identification guide for use by conservation planners.

Monarch Planting List: The *Monarch Planting List* provides planting recommendations for improvement of monarch habitat with the use of an array of national conservation practices (e.g. Conservation Cover (327) and Field Borders (386)). Lists of larval host plants and nectar plants suitable for monarch butterfly habitat plantings are provided in the NRCS Field Office Technical Guide (FOTG). The following national minimum planting criteria shall be followed for all monarch butterfly habitat plantings. Nationally approved variances to these requirements may be provided by the FOTG.

- To provide food for monarch butterfly larvae, plantings shall include at least one species of milkweed (*Asclepias* spp.) from the FOTG monarch butterfly planting list. All milkweed species used in the mix must be from this list and shall represent at least 1.5% of the total seeds in the mix. The total seeds include pure live seed from both grass and forbs.
- A grass component in a monarch habitat planting is commonly needed for ecological stability, weed control, and fuel for prescribed burning. The FOTG provides information on the grass/forb ratio for monarch habitat plantings.
- To provide food for adults, at least 60% of the forb seeds (pure live seed) in the mix shall be from the monarch butterfly planting list (FOTG). Milkweed seeds are included in meeting the 60% minimum because milkweeds are excellent nectar plants. The FOTG provides information on the required number of forb species per bloom period (early, mid, or late season) for monarch habitat plantings. Bloom period consideration shall coincide with monarch presence in the area.

Monarch WHEG Habitat Inventory List: The *Monarch WHEG Habitat Inventory List* is for use by conservation planners in the application of the herbaceous vegetation sampling portion of the *Monarch Butterfly Wildlife Habitat Evaluation Guide*: Midwest Region. This process requires identifying and inventorying vegetation in assessment areas that support an herbaceous plant community with a forb component. Some species on this list are grouped to facilitate a more rapid assessment. For example, there are many species of blazing star, also commonly referred to as gayfeather. These are all in the genus *Liatris*. Identification of *Liatris* to species adds little value to the habitat assessment process. As such, they are combined into the *Liatris* spp. group.

Plant Identification Guide: The *Monarch Habitat Plant Identification Guide* contains plant identification sheets of species provided in the WHEG and planting lists for the Midwest Region. The guides are organized alphabetically by common name used by the USDA-NRCS PLANTS Database (USDA, NRCS 2007). Plant species which were reported to be of superlative use to the monarch were rated as "Very High" value, as were plants mentioned in multiple sources as providing nectar to monarchs. Other plant species, which were also cited as attractive to monarchs, but with less frequency, were given the rating of "High" value.

Acknowledgements

The species in these plant lists were developed from a review of the literature, in combination with monarch adult nectaring observations data compiled by the Xerces Society for Invertebrate Conservation (Xerces). Biologists from Xerces, USDA-NRCS, U.S. Fish and Wildlife Service, state resource management agencies, universities and conservations organizations contributed their observations.

Monarch Planting List

					Bloom Period			States						
Species name	Plant symbol	Common name	Growth habit	Monarch Value	Early	Mid	Late	IA	IL	IN	MI	MN	OH	WI
Agastache nepetoides	AGNE2	yellow giant hyssop	forb/herb, subshrub	High		x	x							
Amorpha canescens	AMCA6	leadplant	shrub, subshrub	High		x								
Amsonia tabernaemontana	AMTA2	eastern bluestar	forb/herb	High	x									
Apocynum cannabinum	APCA	Indianhemp	forb/herb	High	x	x								
Asclepias incarnata	ASIN	swamp milkweed	forb/herb	Very High		x	x							
Asclepias ovalifolia	ASOV	oval-leaf milkweed	forb/herb	High	x	x								
Asclepias purpurascens	ASPU2	purple milkweed	forb/herb	High	x	x								
Asclepias speciosa	ASSP	showy milkweed	forb/herb	High	x	x	x							
Asclepias sullivantii	ASSU3	prairie milkweed	forb/herb	High		x								
Asclepias syriaca	ASSY	common milkweed	forb/herb	Very High		x								
Asclepias tuberosa	ASTU	butterfly weed	forb/herb	Very High	x	x								
Asclepias verticillata	ASVE	whorled milkweed	forb/herb	Very High	x	x	x							
Bidens aristosa	BIAR	bearded beggarticks	forb/herb	Very High		x								
Bidens laevis	BILA	smooth beggartick	forb/herb	High		x	x							
Blephilia ciliata	BECI	downy pagoda-plant	forb/herb	High	x	x								
Blephilia hirsuta	BLHI	hairy pagoda-plant	forb/herb	High	x	x	x							
Boltonia asteroides	BOAS	white doll's daisy	forb/herb	High		x	x							
Brickellia eupatorioides	BREU	false boneset	forb/herb, subshrub	High		x	x							
Cirsium discolor	CIDI	field thistle	forb/herb	High		x	x							
Cirsium flodmanii	CIFL	Flodman's thistle	forb/herb	High		x	x							
Cirsium muticum	CIMI	swamp thistle	forb/herb	High		x	x							
Conoclinium coelestinum	COCO13	blue mistflower	forb/herb	High		x	x							
Coreopsis palmata	COPA10	stiff tickseed	forb/herb	High		x								
Coreopsis tripteris	COTR4	tall tickseed	forb/herb	High		x	x							
Dalea candida	DACA7	white prairie clover	forb/herb, subshrub	High	x	x								
Delphinium tricorne	DETR	dwarf larkspur	forb/herb	High										
Dicentra cucullaria	DICU	dutchman's breeches	forb/herb	High	x									

					Bloom Period			States						
Species name	Plant symbol	Common name	Growth habit	Monarch Value	Early	Mid	Late	IA	IL	IN	MI	MN	OH	WI
Doellingeria umbellata	DOUM2	parasol whitetop	forb/herb	High		x	x							
Echinacea angustifolia	ECAN2	blacksamson echinacea	forb/herb	High	x	x								
Echinacea pallida	ECPA	pale purple coneflower	forb/herb	High	x	x								
Echinacea purpurea	ECPU	eastern purple coneflower	forb/herb	Very High	x	x	x							
Eryngium yuccifolium	ERYU	rattlesnake master	forb/herb	High	x	x								
Eupatorium altissimum	EUAL3	tall thoroughwort	forb/herb	Very High		x	x							
Eupatorium perfoliatum	EUPE3	common boneset	forb/herb	High		x	x							
Eupatorium serotinum	EUSE2	late-flowering thoroughwort	forb/herb	Very High		x	x							
Euthamia graminifolia	EUGR5	grass-leaved goldentop	forb/herb	Very High	x	x	x							
Eutrochium fistulosum	EUFI14	trumpetweed	forb/herb	High		x	x							
Eutrochium maculatum	EUMA9	spotted joe pye weed	forb/herb	Very High		x	x							
Eutrochium purpureum	EUPU21	sweetscented joe pye weed	forb/herb	High		x	x							
Helianthus annuus	HEAN3	common sunflower	forb/herb	Very High		x	x							
Helianthus giganteus	HEGI	giant sunflower	forb/herb	High		x	x							
Helianthus grosseserratus	HEGR4	sawtooth sunflower	forb/herb	Very High		x	x							
Helianthus maximiliani	HEMA2	Maximilian sunflower	forb/herb	High		x	x							
Helianthus pauciflorus	HEPA19	stiff sunflower	forb/herb	High		x	x							
Helianthus strumosus	HEST	Paleleaf woodland sunflower	forb/herb	High		x	x							
Helianthus tuberosus	HETU	Jerusalem artichoke	forb/herb	High		x	x							
Helianthus ×laetiflorus	HELA	cheerful sunflower	forb/herb	High		x	x							
Heliopsis helianthoides	HEHE5	smooth oxeye	forb/herb	High		x	x							
Krigia biflora	KRBI	twoflower dwarfdandelion	forb/herb	High	x	x								
Liatris aspera	LIAS	tall blazing star	forb/herb	Very High			x							
Liatris cylindracea	LICY	Ontario blazing star	forb/herb	Very High		x								
Liatris ligulistylis	LILI	Rocky Mountain blazing star	forb/herb	Very High		x	x							
Liatris punctata	LIPU	dotted blazing star	forb/herb	High		x	x							

					Bloom Period			States						
Species name	Plant symbol	Common name	Growth habit	Monarch Value	Early	Mid	Late	IA	IL	IN	MI	MN	OH	WI
Liatris pycnostachya	LIPY	prairie blazing star	forb/herb	High		x	x							
Liatris scariosa	LISC2	devil's bite	forb/herb	High		x	x							
Liatris spicata	LISP	dense blazing star	forb/herb	High		x	x							
Lilium superbum	LISU	turk's-cap lily	forb/herb	High		x	x							
Lithospermum canescens	LICA12	hoary puccoon	forb/herb	High	x	x								
Lobelia siphilitica	LOSI	great blue lobelia	forb/herb	High		x	x							
Mertensia virginica	MEVI3	Virginia bluebells	forb/herb	High	x	x								
Monarda fistulosa	MOFI	wild bergamot	forb/herb, subshrub	High	x	x	x							
Monarda punctata	MOPU	spotted beebalm	forb/herb, subshrub	High	x	x								
Oligoneuron rigidum	OLRI	stiff goldenrod	forb/herb	High		x	x							
Onosmodium bejariense	ONBE	western marbleseed	forb/herb	High		x								
Phlox divaricata	PHDI5	wild blue phlox	forb/herb	High	x									
Phlox glaberrima	PHGL4	smooth phlox	forb/herb	High	x	x								
Phlox paniculata	PHPA6	fall phlox	forb/herb	High		x								
Physostegia virginiana	PHVI8	obedient plant	forb/herb	High		x	x							
Rubus flagellaris	RUFL	northern dewberry	subshrub	High	x	x								
Rudbeckia hirta	RUHI2	blackeyed Susan	forb/herb	High		x	x							
Silphium integrifolium	SIIN2	wholeleaf rosinweed	forb/herb	High		x	x							
Silphium laciniatum	SILA3	compassplant	forb/herb	High		x	x							
Silphium perfoliatum	SIPE2	cup plant	forb/herb	High		x	x							
Sium suave	SISU2	hemlock waterparsnip	forb/herb	High		x	x							
Solidago canadensis	SOCA6	Canada goldenrod	forb/herb	High			x							
Solidago nemoralis	SONE	gray goldenrod	forb/herb	High		x	x							
Solidago speciosa	SOSP2	showy goldenrod	forb/herb	Very High			x							
Symphyotrichum cordifolium	SYCO4	common blue wood aster	forb/herb	High		x	x							
Symphyotrichum laeve	SYLA3	smooth aster	forb/herb	High		x	x							
Symphyotrichum novae-angliae	SYNO2	New England aster	forb/herb	Very High		x	x							
Symphyotrichum oolentangiense	SYOO	skyblue aster	forb/herb, subshrub	High		x	x							

					Bloom Period			States						
Species name	Plant symbol	Common name	Growth habit	Monarch Value	Early	Mid	Late	IA	IL	IN	MI	MN	OH	WI
Symphyotrichum pilosum	SYPI2	hairy white oldfield aster	forb/herb	High		x	x							
Verbena stricta	VEST	hoary verbena	forb/herb	High		x								
Vernonia baldwinii	VEBA	Baldwin's ironweed	forb/herb	High		x	x							
Vernonia fasciculata	VEFA2	prairie ironweed	forb/herb	High		x	x							
Veronicastrum virginicum	VEVI4	Culver's root	forb/herb	High		x	x							

USDA, NRCS. 2017. PLANTS Database (http://plants.usda.gov). National Plant Data Team, Greensboro, NC 27401-4901 USA.

Monarch WHEG Habitat Inventory List

					Bloom Period				States					
Species name	Plant symbol	Common name	Growth habit	Monarch Value	Early	Mid	Late	IA	IL	IN	MI	MN	OH	WI
Agastache nepetoides	AGNE2	yellow giant hyssop	forb/herb, subshrub	High		x	x							
Amorpha canescens	AMCA6	leadplant	shrub, subshrub	High		x								
Amsonia tabernaemontana	AMTA2	eastern bluestar	forb/herb	High	x									
Apocynum cannabinum	APCA	Indianhemp	forb/herb	High	x	x								
Asclepias spp.	ASCLE	milkweed	forb/herb	Very High	x	x	x							
Bidens spp.	BIDENS	beggarticks	forb/herb	Very High	x	x	x							
Blephilia spp.	BLEPH5	pagoda-plant	forb/herb	High	x	x	x							
Boltonia asteroids	BOAS	white doll's daisy	forb/herb	High		x	x							
Brickellia eupatorioides	BREU	false boneset	forb/herb, subshrub	High		x	x							
Cirsium spp.	CIRSI	field thistle	forb/herb	High		x	x							
Conoclinium coelestinum	COCO13	blue mistflower	forb/herb	High		x	x							
Coreopsis spp.	COREO2	tickseed	forb/herb	High		x	x							
Dalea candida	DACA7	white prairie clover	forb/herb, subshrub	High	x	x								
Delphinium tricorne	DETR	dwarf larkspur	forb/herb	High	x									
Dicentra cucullaria	DICU	dutchman's breeches	forb/herb	High	x									
Doellingeria umbellata	DOUM2	parasol whitetop	forb/herb	High		x	x							
Echinacea spp.	ECHIN	coneflower	forb/herb	High	x	x	x							
Eryngium yuccifolium	ERYU	rattlesnake master	forb/herb	High	x	x								
Eupatorium spp.	EUPAT	thoroughwort	forb/herb	Very High		x	x							
Euthamia graminifolia	EUGR5	grass-leaved goldentop	forb/herb	Very High	x	x	x							
Eutrochium spp.	EUTRO	Joe pye weed	forb/herb	High		x	x							
Helianthus spp.	HELIA3	sunflower	forb/herb	Very High		x	x							
Heliopsis helianthoides	HEHE5	smooth oxeye	forb/herb	High		x	x							
Krigia biflora	KRBI	twoflower dwarfdandelion	forb/herb	High	x	x								
Liatris spp.	LIATR	blazing star	forb/herb	Very High		x	x							
Lilium superbum	LISU	turk's-cap lily	forb/herb	High		x	x							
Lithospermum canescens	LICA12	hoary puccoon	forb/herb	High	x	x								
Lobelia siphilitica	LOSI	great blue lobelia	forb/herb	High		x	x							

					Bloom Period				States					
Species name	Plant symbol	Common name	Growth habit	Monarch Value	Early	Mid	Late	IA	IL	IN	MI	MN	OH	WI
Mertensia virginica	MEVI3	Virginia bluebells	forb/herb	High	x	x								
Monarda spp.	MONAR	Bergamot/beebalm	forb/herb, subshrub	High	x	x	x							
Oligoneuron rigidum	OLRI	stiff goldenrod	forb/herb	High		x	x							
Onosmodium bejariense	ONBE	western marbleseed	forb/herb	High		x								
Phlox spp.	PHLOX	phlox	forb/herb	High	x	x								
Physostegia virginiana	PHVI8	obedient plant	forb/herb	High		x	x							
Rubus flagellaris	RUFL	northern dewberry	subshrub	High	x	x								
Rudbeckia hirta	RUHI2	black-eyed Susan	forb/herb	High		x	x							
Silphium spp.	SILPH	rosinweed	forb/herb	High		x	x							
Sium suave	SISU2	hemlock waterparsnip	forb/herb	High		x	x							
Solidago spp.	SOLID	goldenrod	forb/herb	High		x	x							
Symphyotrichum spp.	SYMPH4	aster	forb/herb	High		x	x							
Verbena stricta	VEST	hoary verbena	forb/herb	High		x								
Vernonia spp.	VERNO	ironweed	forb/herb	High		x	x							
Veronicastrum virginicum	VEVI4	Culver's root	forb/herb	High		x	x							

USDA, NRCS. 2017. PLANTS Database (http://plants.usda.gov). National Plant Data Team, Greensboro, NC 27401-4901 USA.

Flower Color Chart

Common Name	Flower Color	Scientific Name	Flower Color
Baldwin's ironweed		*Agastache nepetoides*	
bearded beggarticks		*Amorpha canescens*	
blackeyed Susan		*Amsonia tabernaemontana*	
blacksamson echinacea		*Apocynum cannabinum*	
blue mistflower		*Asclepias incarnata*	
butterfly weed		*Asclepias ovalifolia*	
Canada goldenrod		*Asclepias purpurascens*	
cheerful sunflower		*Asclepias speciosa*	
common blue wood aster		*Asclepias sullivantii*	
common boneset		*Asclepias syriaca*	
common milkweed		*Asclepias tuberosa*	
common sunflower		*Asclepias verticillata*	
compassplant		*Bidens aristosa*	
Culver's root		*Bidens laevis*	
cup plant		*Blephilia ciliata*	
dense blazing star		*Blephilia hirsuta*	
devil's bite		*Boltonia asteroides*	
dotted blazing star		*Brickellia eupatorioides*	
downy pagoda-plant		*Cirsium discolor*	
dutchman's breeches		*Cirsium flodmanii*	
dwarf larkspur		*Cirsium muticum*	
eastern bluestar		*Conoclinium coelestinum*	
eastern purple coneflower		*Coreopsis palmata*	
fall phlox		*Coreopsis tripteris*	
false boneset		*Dalea candida*	
field thistle		*Delphinium tricorne*	
Flodman's thistle		*Dicentra cucullaria*	
giant sunflower		*Doellingeria umbellata*	
grass-leaved goldentop		*Echinacea angustifolia*	
gray goldenrod		*Echinacea pallida*	
great blue lobelia		*Echinacea purpurea*	
hairy pagoda-plant		*Eryngium yuccifolium*	
hairy white oldfield aster		*Eupatorium altissimum*	
hemlock waterparsnip		*Eupatorium perfoliatum*	
hoary puccoon		*Eupatorium serotinum*	
hoary verbena		*Euthamia graminifolia*	
Indianhemp		*Eutrochium fistulosum*	
Jerusalem artichoke		*Eutrochium maculatum*	
late-flowering thoroughwort		*Eutrochium purpureum*	
leadplant		*Helianthus annuus*	
Maximilian sunflower		*Helianthus giganteus*	
New England aster		*Helianthus grosseserratus*	

Common Name	Flower Color	Scientific Name	Flower Color
northern dewberry		*Helianthus maximiliani*	
obedient plant		*Helianthus pauciflorus*	
Ontario blazing star		*Helianthus strumosus*	
oval-leaf milkweed		*Helianthus tuberosus*	
pale purple coneflower		*Helianthus ×laetiflorus*	
Paleleaf woodland sunflower		*Heliopsis helianthoides*	
parasol whitetop		*Krigia biflora*	
prairie blazing star		*Liatris aspera*	
prairie ironweed		*Liatris cylindracea*	
prairie milkweed		*Liatris ligulistylis*	
purple milkweed		*Liatris punctata*	
rattlesnake master		*Liatris pycnostachya*	
Rocky Mountain blazing star		*Liatris scariosa*	
sawtooth sunflower		*Liatris spicata*	
showy goldenrod		*Lilium superbum*	
showy milkweed		*Lithospermum canescens*	
skyblue aster		*Lobelia siphilitica*	
smooth aster		*Mertensia virginica*	
smooth beggartick		*Monarda fistulosa*	
smooth oxeye		*Monarda punctata*	
smooth phlox		*Oligoneuron rigidum*	
spotted beebalm		*Onosmodium bejariense*	
spotted joe pye weed		*Phlox divaricata*	
stiff goldenrod		*Phlox glaberrima*	
stiff sunflower		*Phlox paniculata*	
stiff tickseed		*Physostegia virginiana*	
swamp milkweed		*Rubus flagellaris*	
swamp thistle		*Rudbeckia hirta*	
sweetscented joe pye weed		*Silphium integrifolium*	
tall blazing star		*Silphium laciniatum*	
tall thoroughwort		*Silphium perfoliatum*	
tall tickseed		*Sium suave*	
trumpetweed		*Solidago canadensis*	
turk's-cap lily		*Solidago nemoralis*	
twoflower dwarfdandelion		*Solidago speciosa*	
Virginia bluebells		*Symphyotrichum cordifolium*	
western marbleseed		*Symphyotrichum laeve*	
white doll's daisy		*Symphyotrichum novae-angliae*	
white prairie clover		*Symphyotrichum oolentangiense*	
wholeleaf rosinweed		*Symphyotrichum pilosum*	
whorled milkweed		*Verbena stricta*	
wild bergamot		*Vernonia baldwinii*	
wild blue phlox		*Vernonia fasciculata*	
yellow giant hyssop		*Veronicastrum virginicum*	

Common Name	Flower Color	Scientific Name	Flower Color

Baldwin's Ironweed (*Vernonia baldwinii*)

Aster Family

Other Common Names: ironweed, western ironweed

Scientific Name: *Vernonia baldwinii* Torr. **Plant Symbol:** VEBA

Distinguishing characteristics: Dark purple flower heads with dark green foliage; leaves narrowly lance shaped, uniformly hairy on the lower surfaces, upper surfaces with very fine hairs; tapering to both the tip and base of the leaf.

Plant Height: 3–5 ft. **Blooms/Fruits:** July–November

Duration: Perennial, herbaceous

Pollinator Value: The plant is known to attract bees and butterflies.

Habitat: Open pastures & woodlands, savannahs, fencerows, and overgrazed pastures.

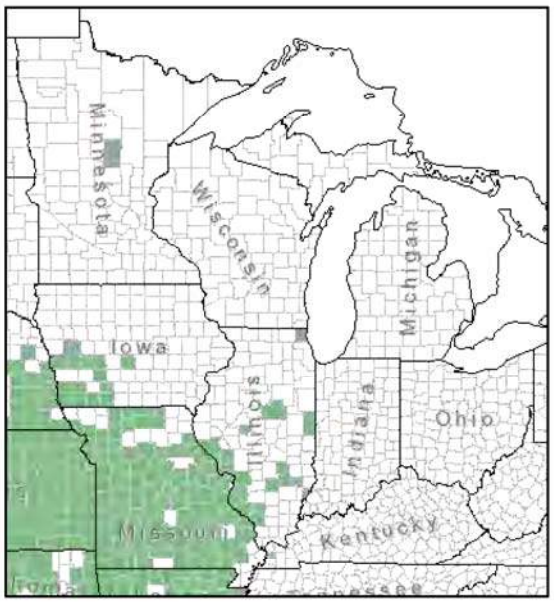



Photo: W.D. and Dolphia Bransford, Lady Bird Johnson Wildflower







Close-up of flower/flowering



Leaves



Close-up of flower buds



Senescence

Bearded Beggarticks (*Biden aristosa*)

Aster Family

Other Common Names: tickseed sunflower, awnless beggarticks

Scientific Name: *Biden aristosa* (Michx.) Britton **Plant Symbol:** BIAR

Distinguishing characteristics: Leaves opposite on the stem, 1–2 times dissected with multiple segments on each leaf; flower heads with bright to golden yellow rays and with a black and yellow center; seeds lack the characteristic awns on top of most beggartick species, but may have two pointed "bumps" or may just be rounded on the top of the seed.

Plant Height: variable, 1–5 ft. **Blooms/Fruits:** April–October

Duration: Annual or Biennial

Pollinator Value: Highly attractive to monarch butterflies and many other insects including diverse species of native bees.

Habitat: Low moist ground, wetlands, ditches, and low ground

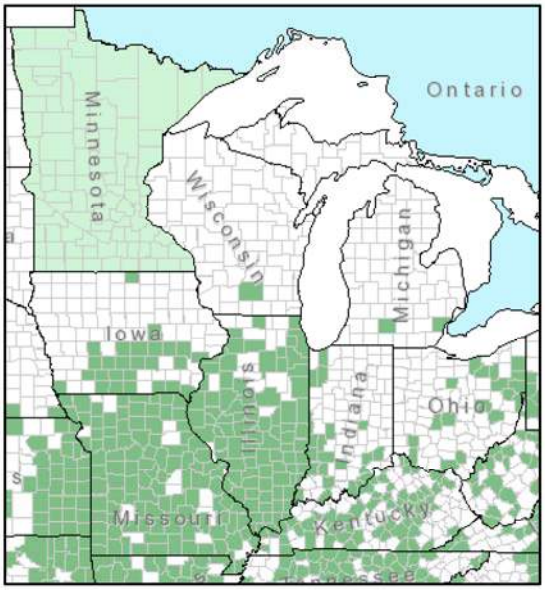



Photo: Mike Haddock





Stem and leaf



Seedling



Seed

Blackeyed Susan (*Rudbeckia hirta*)

Aster Family

Other Common Names: common black-eyed Susan, brown-eyed Susan, brown Betty, poor-land daisy, English bulls-eye

Scientific Name: *Rudbeckia hirta* L. **Plant Symbol:** RUHI2

Distinguishing characteristics: Flower heads daisy-like in overall appearance, but with yellow to orange-yellow rays and a dark purple to brown conical center, the rays may have a deep maroon to purple base; leaves are variable–larger and with a leaf stem towards the base, smaller and without a leaf stem towards the middle and top of the plant, all leaves with short, stiff hairs and have a raspy feel.

Plant Height: 2–3 ft., erect **Blooms/Fruits:** June–October

Duration: Annual, Biennial, to short lived Perennial, herbaceous (developing taproots)

Pollinator Value: The gorgone checkerspot and bordered patch butterflies use this plant as a larval food source. It may attract butterflies.

Habitat: Open dry woods, prairies, pastures, old fields, and roadsides.

Note: There are 4 botanical varieties within the US, all going by the common name blackeyed Susan. Only 2 of the varieties occur natively in the Midwest Region: *R. hirta* var. *hirta* and *R. hirta* var. *pulcherrima.* Blackeyed Susan is a commonly cultivated plant and cultivars available.

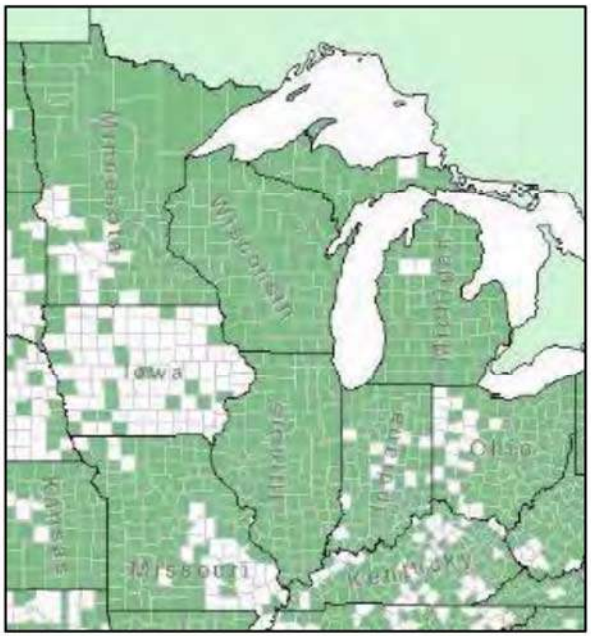



Photo: Sally and Andy Wasowski, Lady Bird Johnson



Seedlings





Full flowering/close-up of blooms



Stem and leaf



Mature plant

Blacksamson Echinacea (*Echinacea angustifolia*)

Aster Family

Other Common Names: blacksamson, narrow-leaf purple coneflower, narrow-leaf echinacea

Scientific Name: *Echinacea angustifolia* DC. **Plant Symbol:** ECAN2

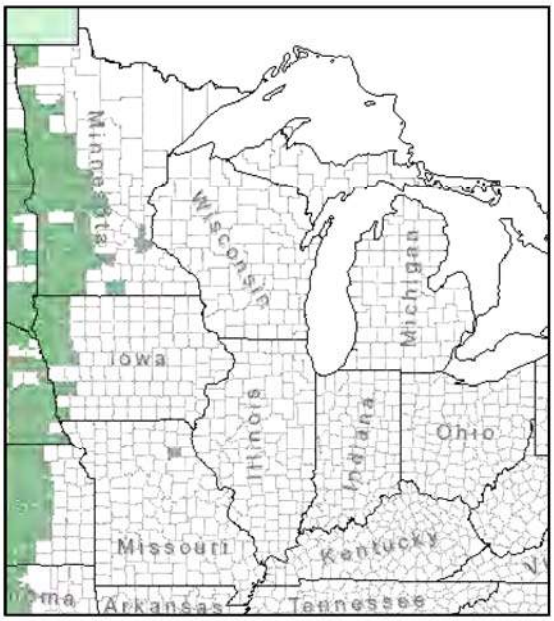
Distinguishing characteristics: Large flowering heads with pale pink to purple drooping ray petals and a dark, conical, center beset with strong, stout spine-like projections; stem leaves very narrow, covered with short, stiff hairs that have swollen pustular bases, very rough to the touch.

Plant Height: 2–3 ft., erect **Blooms/Fruits:** May–July

Duration: Perennial, herbaceous

Pollinator Value: Blacksamson echinacea is self-incompatible, and it is attractive to a variety of insect pollinators. It is especially popular with butterflies and long-tongued bees.

Habitat: Dry open prairies, barrens, rocky to sandy-clay soils











Seedlings



Full flowering



Early flower



Mature flower head



Leaf arrangement



Close-up of leaf



Habit of blacksamson Echinacea at flowering

Blue Mistflower (*Conoclinium coelestinum*)

Aster Family

Other Common Names: wild ageratum, blue boneset

Scientific Name: *Conoclinium coelestinum* (L.) DC. **Plant Symbol:** COCO13

Distinguishing Characteristics: Clusters of fluffy blue, blue-violet, or rosy-violet flower heads, rarely white; stems usually with short curly hairs; leaves fairly wide in shape, triangular or rounded; leaves opposite with margins toothed or scalloped.

Plant Height: Erect to 3 feet, sometimes sprawling over other vegetation

Blooms/Fruits: July–November

Duration: Perennial, herbaceous

Pollinator Value: Blue mistflower is a wonderful nectar source, favored by many bees and butterflies. Male Queen butterflies, another species of milkweed butterflies similar to the Monarch, collect alkaloids from the nectar of these flowers to use in their courtship of females. Males can be seen nectaring in huge aggregations on these plants.

Habitat: Streambanks, wet meadows, low woods, floodplains, ditches, and disturbed sites. May become weedy

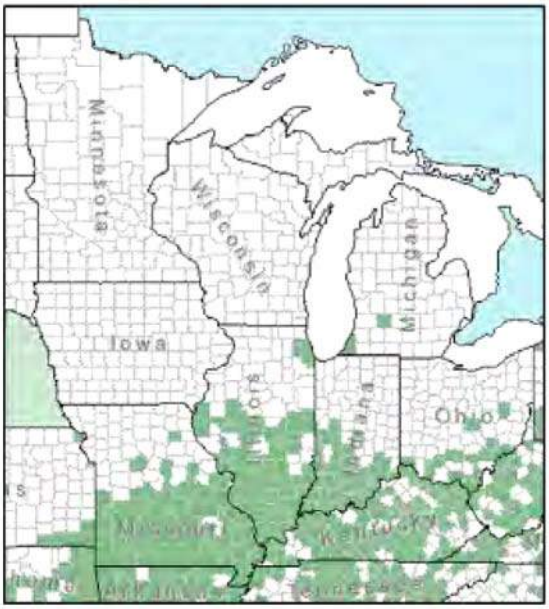



Photo: Mike



Early flower development



Flowering





Stem and leaf characteristics

Butterfly Milkweed (*Asclepias tuberosa*)

Milkweed Family

Other Common Names: orange milkweed, butterfly weed

Scientific Name: *Asclepias tuberosa* L. **Plant Symbol**: ASTU

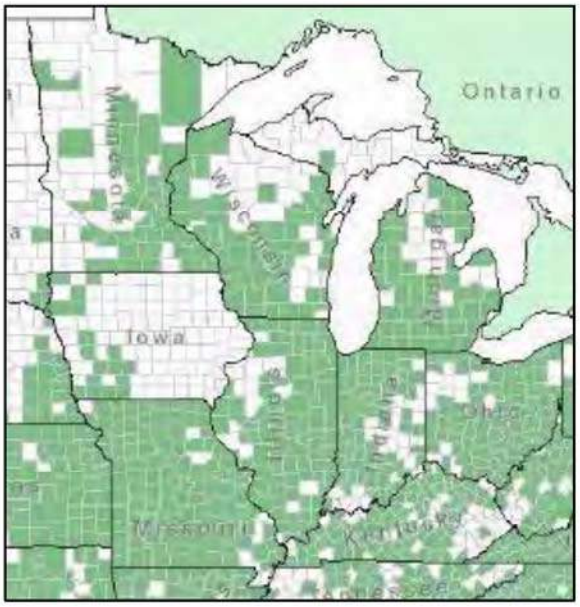
Distinguishing characteristics: brick red or orange flowers; hairy stem; long and narrow leaves with smooth leaf margins; sap not milky like other milkweed species.

Plant Height: up to 2.5 ft. **Blooms/Fruits**: May–October

Duration: Perennial, herbaceous

Pollinator Value: Larval host plant for monarch butterfly. The plant is very attractive to butterflies because it is a high quality nectar source.

Habitat: Upland; sandy, loamy, or rocky limestone soils




Edith Bettinger, Lady Bird Johnson Wildflower Center



Seedling



Early flowering/close-up view of



Full flowering



Fruit



Mature fruit with seed

Button Eryngo/Rattlesnake Master (*Eryngium yuccifolium*)

Carrot Family

Other Common Names: button snakeroot, bristle-leaf eryngo

Scientific Name: *Eryngium yuccifolium* Michx. **Plant Symbol:** ERYU

Distinguishing characteristics: Tall, erect, flowering stem with a basal rosette of linear, 2–3 ft. long leaves, leaves reduced up the flowering stem; leaves slightly toothed along the margin and are monocot in appearance with parallel veined (resembling *Yucca*); flowers grayish-white in compact, round, spiny heads.

Plant Height: Up to 3.5 ft. **Blooms/Fruits:** May–August

Duration: Perennial

Pollinator Value: Rattlesnake master is of special value to beneficial insects, such as wasps and syrphid flies. It is the only larval host plant for the rare Rattlesnake master borer moth. Rattlesnake master nectar is also attractive to many bees and butterflies.

Habitat: Prairies and open rocky woodlands

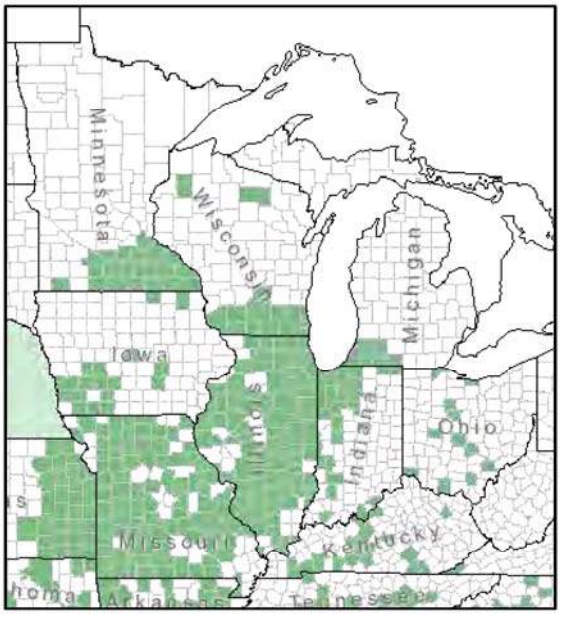



Photo: Carolyn Fannon Lady Bird Johnson Wildflower





Seedling (note the toothed leaf margin)



Mature





Flowering/close-up of



Early vegetative growth



Toothed leaf



Canada Goldenrod (*Solidago canadensis*)

Aster Family

Other Common

Names: Canadian goldenrod, tall goldenrod, giant goldenrod, verge d'or du Canada

Scientific Name: *Solidago canadensis* L. **Plant Symbol:** SOCA6

Distinguishing characteristics: Flowering heads small with yellow rays and yellow center; inflorescence terminal and shaped into a broad pyramid with branches bent backwards and the individual flowers oriented upward; leaves alternate on the stem, with 3 main veins, lance-shaped, the upper surface raspy to the touch from short, stiff hairs with bulbose bases; the basal and lower leaves withered at flowering; stems hairy except towards the base of the plant.

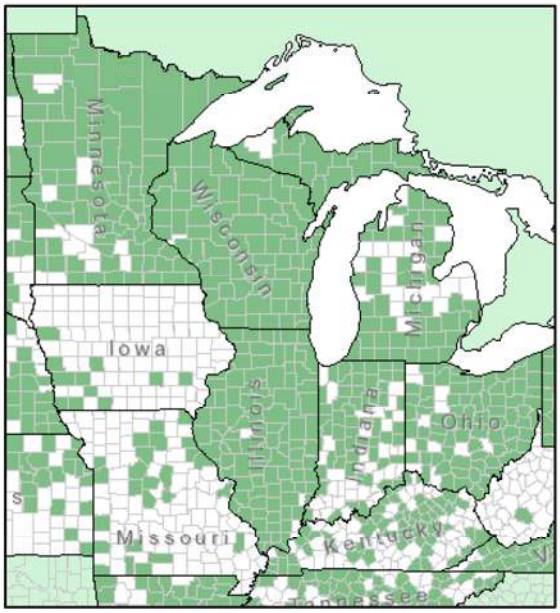
Plant Height: 3–6+ ft., erect (often with numerous stems) **Blooms/Fruits:** August–October

Duration: Perennial, herbaceous (from creeping rhizomes)

Pollinator Value: Goldenrods are very attractive to pollinators and other beneficial insects. They host a number of oligolege bees.

Habitat: Bottomland forests, mesic pastures and prairies, stream and river banks, and roadsides.

Note: There are many plants commonly called goldenrods that belong to different plant genera, *Solidago, Euthamia, and Oligoneuron,* and they are all fairly similar. They generally have yellow, clustered flowers, but some species are white. The flowering stems can be elongate and recurved or flat-topped.







Full flowering/close-up of flowers



Stem and leaf arrangement; close up of underside of leaf

Common Blue Wood Aster (*Symphyotrichum cordifolium*)

Aster Family

Other Common Names: heartleaf aster, broadleaf aster, aster cordifolié

Scientific Name: *Symphyotrichum cordifolium* (L.) G.L. Nesom **Plant Symbol:** SYCO4

Distinguishing characteristics: Flower heads many in loosely ascending, multi-branched inflorescence; floral rays blue to purple with yellow centers that become purple with age; leaves in basal rosettes and with smaller leaves up the stem, leaves of the basal rosette clearly heart shaped and with a long leaf stem, margins are saw-toothed.

Plant Height: 2–4 ft., erect to loosely ascending colonial **Blooms/Fruits:** August–October

Duration: Perennial, herbaceous (from slender woody rhizomes)

Pollinator Value: These flowers provide abundant nectar and pollen in the summer. They attract butterflies. There are a number of aster--oligolege bees that feed on the pollen.

Habitat: Rich, mostly mesic, rocky to loamy soils, open wooded slopes and bluffs, stream banks, moist ledges, swampy woods, clearings, roadsides, and along ditches.

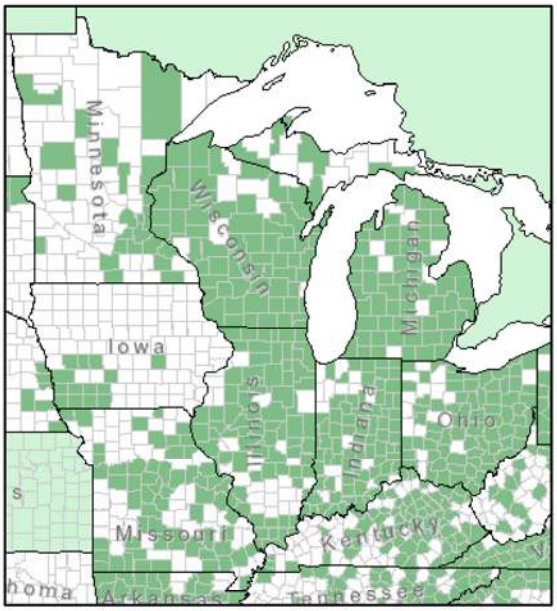



Photo: Sally and Andy Wasowski, Lady Bird Johnson Wildflower



Full flowering/close-up of blooms



Close-up vegetative growth and leaf

Common Boneset (*Eupatorium perfoliatum*)

Aster Family

Other Common Names: thoroughwort

Scientific Name: *Eupatorium perfoliatum* L. **Plant Symbol:** EUPE3

Distinguishing characteristics: Flower heads white in small fuzzy clusters on a many branched, flat-topped inflorescence; leaves are opposite one another (rarely whorled), hairy, with a pointed tip, and are very distinctive where the leaf bases wrap around the stem and appears as if the stem is growing through the middle of the leaf; stems are densely hairy.

Plant Height: 3–5 ft., erect **Blooms/Fruits:** August–October

Duration: Perennial, herbaceous

Pollinator Value: This summer through fall blooming flower is highly attractive to butterflies and native bees.

Habitat: Damp low ground, banks of ponds and streams, fens, sloughs, marshes, crop fields, and fallow fields.

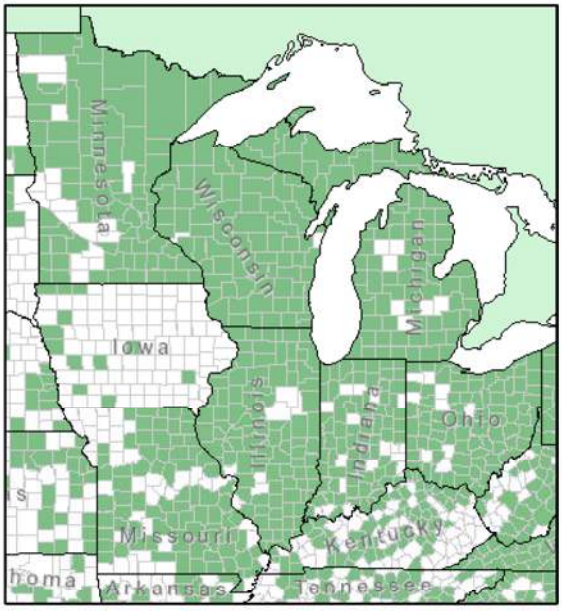



Photo: Sally and Andy Wasowski, Lady Bird Johnson Wildflower Cent







Full flowering/close-up of blooms



Close-up of leaf arrangement



Common Milkweed (*Asclepias syriaca*)

Milkweed Family

Other Common Names: none

Scientific Name: *Asclepias syriaca* L. **Plant Symbol:** ASSY

Distinguishing characteristics: Flowers in circular clusters from the leaf axils on the upper portion of the plant, each flower on a long stalk; petals reflexed, lavender or pink but may be greenish or white with pink highlights; leaves are in pairs (opposite) along the stem, lance-shaped to elliptical.

Plant Height: 2–5 ft., usually unbranched **Blooms/Fruits:** May–August

Duration: Perennial, herbaceous and colonial

Pollinator Value: Larval host plant for the monarch butterfly. Flowers attract butterflies. High value summer nectar source.

Habitat: Roadsides, disturbed areas, field borders, bottomland & upland prairies, pastures, and old fields.

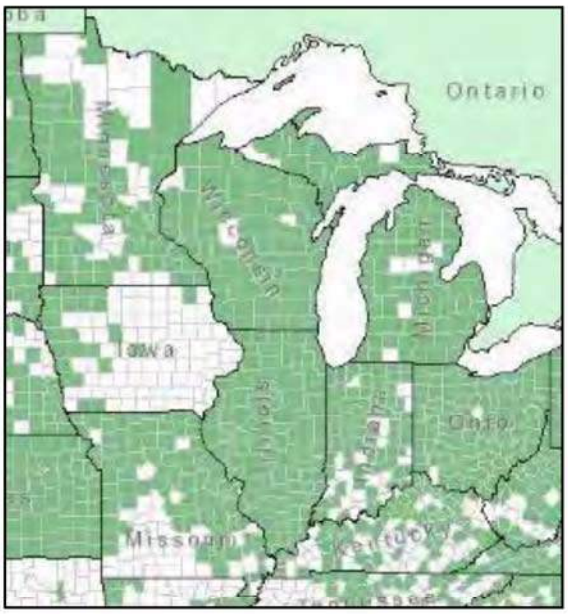



Photo: Kelly Gill, Xerces Society



Flowering/close-up of flowers





Stem and leaf arrangement

Compassplant (*Silphium laciniatum*)

Aster Family

Other Common Names: none

Scientific Name: *Silphium laciniatum* L. **Plant Symbol:** SILA3

Distinguishing characteristics: Leaves thick, leathery, deeply lobed to dissected; flowering heads yellow with dark centers; basal leaves long stemmed, the leaves reduced in size up the stem; basal leaves generally oriented in a north-south direction.

Plant Height: 3–6 ft. **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous (with woody taproot)

Pollinator Value: Compass plant is an excellent source of pollen and nectar. It is especially valuable to long-tongued bees. Monarchs are known to nectar on this plant.

Habitat: Glades, open prairie, openings in dry upland forests, and roadsides.

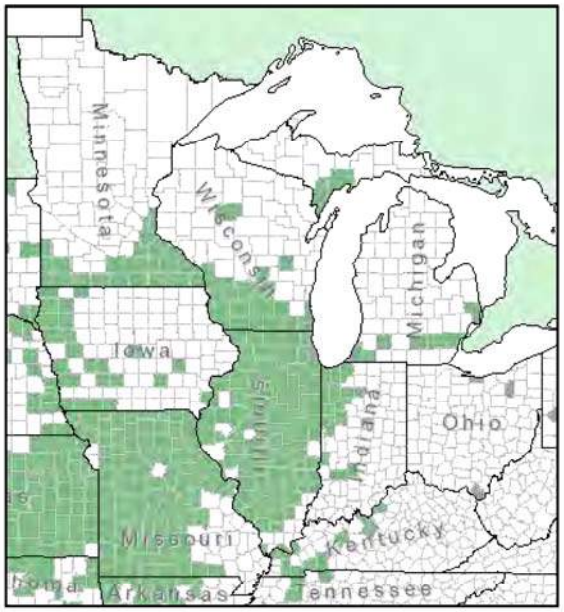



Photo: Sally and Andy Wasowski, Lady Bird Johnson Wildflower



Close-up of flowers and unopened flower



Seedling



Leaf



Culver's Root (*Veronicastrum virginicum*)

Figwort Family

Other Common Names: Bowman's Root

Scientific Name: *Veronicastrum virginicum* (L) Farw. **Plant Symbol:** VEVI4

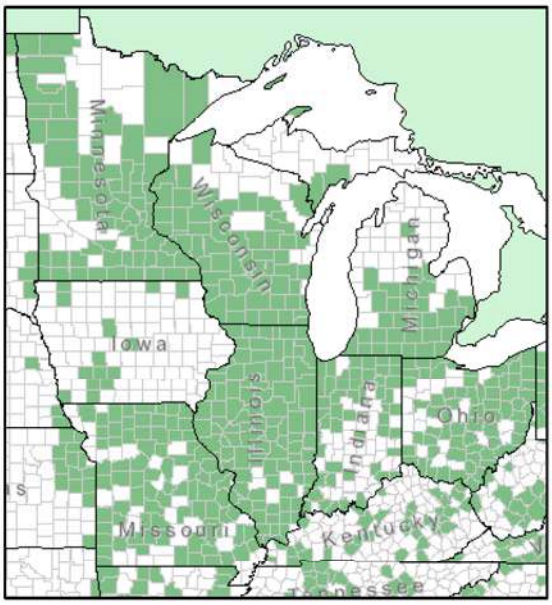
Distinguishing characteristics: Flowering stems 1–several at the top of the plant, with elongate inflorescences appearing candelabra-like; flowers numerous on short flower stalks, white to cream colored, occasionally light pink with 4 petals per flower; leaves in whorls along the stem, variable in size from 1.5–5 in. long, lance-shaped with a pointed tip and sharply toothed edges.

Plant Height: 3–6 ft., erect **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous (from rhizomes)

Pollinator Value: This flower is highly attractive to many types of bee, butterfly, and other beneficial insects.

Habitat: Bottomland and upland prairies, openings in mesic to upland forests, pastures, and roadsides.









Full flowering/close-up of blooms





Stem and Leaf arrangement



Mature plant

Cup Plant (*Silphium perfoliatum*)

Aster Family

Other Common Names: cup rosinweed

Scientific Name: *Silphium perfoliatum* L. **Plant Symbol:** SIPE2

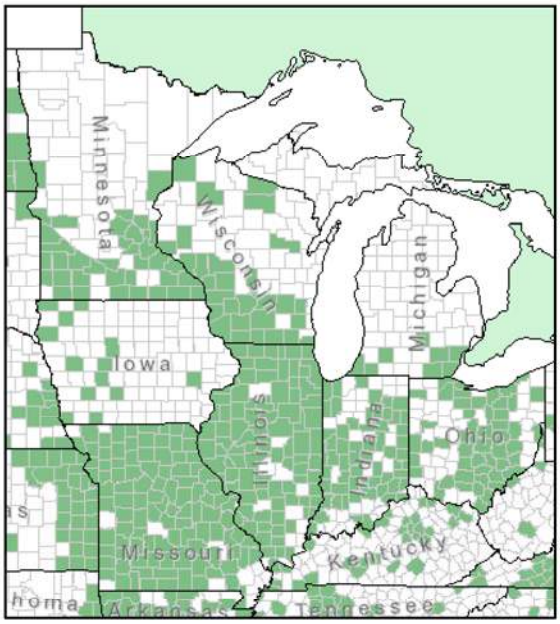
Distinguishing characteristics: Floral heads in loose, open inflorescences; rays yellow and the central disc yellow; leaves opposite on the stem and, except the basal leaves, characteristically have the leaf bases fused together with its opposite leave making a "cup" around the stem and appearing as if the square stem is growing through the middle of the leaf, the leaves are thickened but not leathery.

Plant Height: 3–7+ ft., erect (commonly in clusters) **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous (from rhizomes)

Pollinator Value: This flower provides nectar and pollen to bees and other beneficial insects. It also attracts butterflies.

Habitat: Bottomland forests, banks of rivers and streams, moist low ground, and ditches.









Full flowering/close-up of flowers and mature





Leaf arrangement



Close-up of stem

Dense Blazingstar (*Liatris spicata*)

Aster Family

Other Common Names: button snakeroot, dense gayfeather, dense liatris, marsh blazing star, marsh gayfeather, marsh liatris

Scientific Name: *Liatris spicata* (L.) Willd. **Plant Symbol:** LISP

Distinguishing characteristics: Flowering heads are in rose-purple tufts tightly clustered along an elongated spike-like inflorescence which flowers from the top down; leaves are linear (about 8 – 10 in. long), clustered near the base of the stem, but also occurring up the stem where they become shorter.

Plant Height: 2–4 ft., erect **Blooms/Fruits:** July–October

Duration: Perennial, herbaceous (from a rounded corm)

Pollinator Value: Bees and butterflies are attracted to the flowers of this late summer nectar source.

Habitat: Upland prairies, meadows, and slopes.

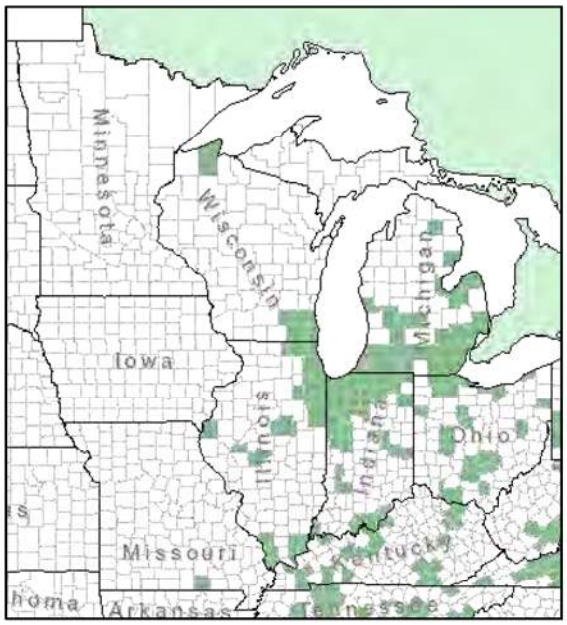
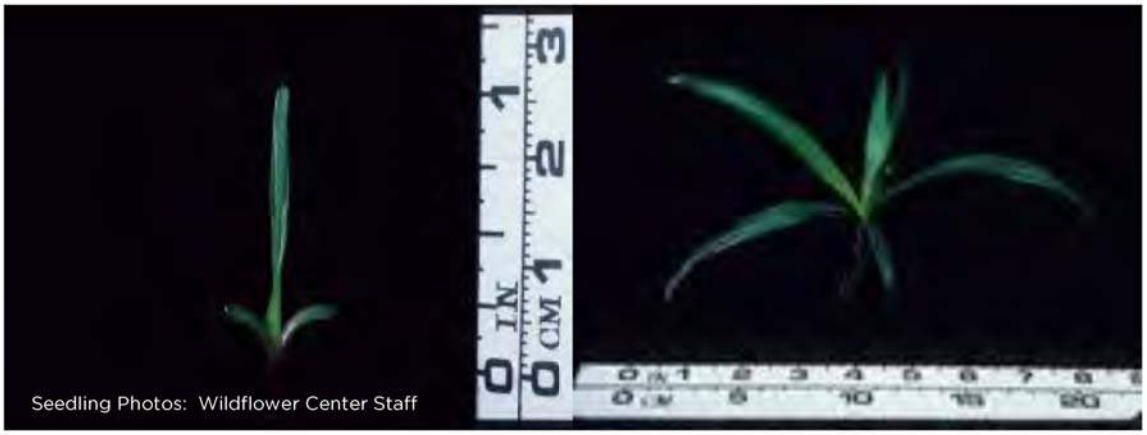



Photo: Julie Makin, Lady Bird Johnson Wildflower



Seedling



Fulling flowering/close-up of flowers





Stem and leaf arrangement



Mature plant

Devil's Bite (*Liatris scariosa*)

Aster Family

Other Common Names: large blazing star, large gayfeather, large liatris, savanna blazing star, savanna gayfeather, savanna Liatris

Scientific Name: *Liatris scariosa* (L.) Willd. **Plant Symbol:** LISC2

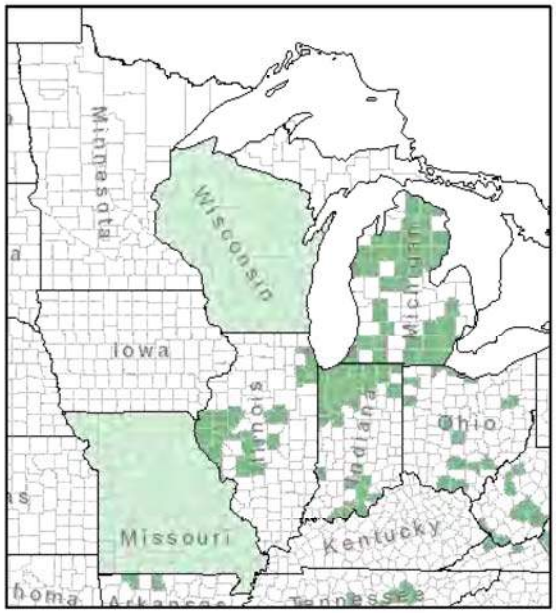
Distinguishing characteristics: Flowering heads few and widely spaced along a terminal inflorescence, powder-puff in appearance, blue to lavender to light purple, and hairy inside the flower tube; terminal flower head larger than the rest; the small bract leaves under each flower head have thin, papery, clear to purple edges; lower leaves narrow but widest above the middle and with a long leaf stalks; middle and upper leaves narrow, lance-shaped and without a leaf stalk.

Plant Height: 2–5 ft., erect **Blooms/Fruits:** July–October

Duration: Perennial, herbaceous (from a rounded corm)

Pollinator Value: Highly preferred monarch nectar source. Flowers attract other bees and butterflies.

Habitat: Upland prairies and exposed ledges, openings in forests, pastures, and dry open areas.







Full flowering/close-up of flowers



Stem and leaf arrangement



Mature plant

Dotted Blazing Star (*Liatris punctata*)

Aster Family

Other Common Names: liatris, narrow-leafed gayfeather, Nebraska blazing star, blazing star, button snakeroot, prairie snakeroot, starwort.

Scientific Name: *Liatris punctata* Hook. **Plant Symbol:** LIPU

Distinguishing characteristics: Clusters of puffy blue flowers loosely spaced along a spike-like inflorescence, inflorescence axis easily visible between the flower clusters; leaves narrow and crowded, slightly up-curved, with dotted glands on the surface.

Plant Height: 1–3 ft. flowering stems **Blooms/Fruits:** August–October

Duration: Perennial, herbaceous

Pollinator Value: *Liatris* spp. are very attractive to monarchs and other butterflies. While Rocky Mountain blazing star (*Liatris ligulistylis*) is by far the most attractive species for the monarch butterfly, all Liatris can serve as a nectar source. Liatris flowers are also favored by bumble bees and others.

Habitat: Common on upland, rocky ridges, grassy and sagebrush prairies, roadsides, in sandy or clayey

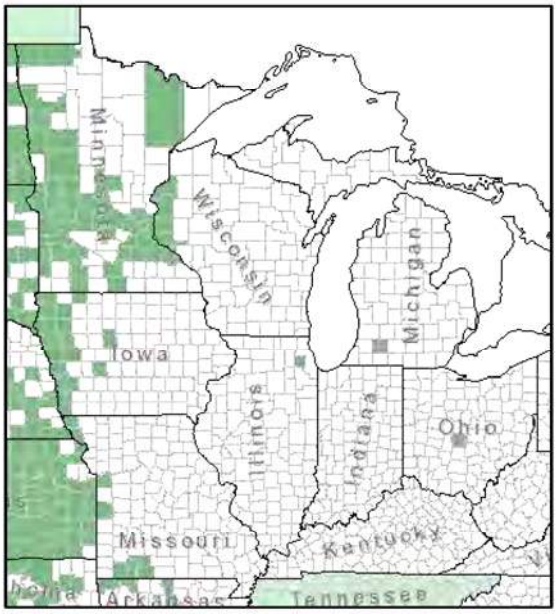



Photo: Sally and Andy Wasowski, Lady Bird Johnson



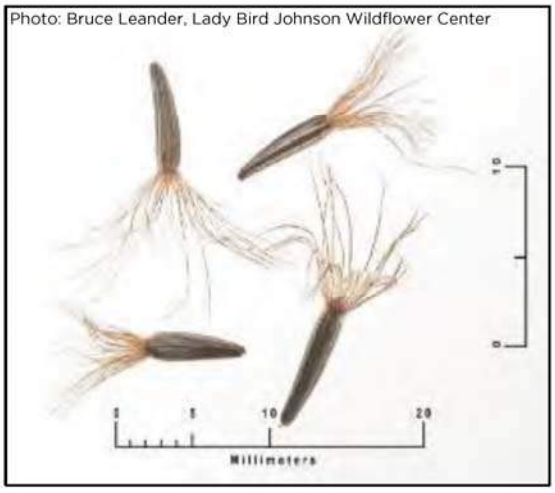
Flower buds



Plants flowering/close view of flowers



Seed maturation



Seed

Downy Pagoda-Plant (*Blephilia ciliata*)

Mint Family

Other Common Names: sunny woodmint, Ohio horsemint

Scientific Name: *Blephilia ciliata* (L.) Benth. **Plant Symbol:** BECI

Distinguishing characteristics: Flowers in 1 or more tight, spherical clusters which terminate the stem; flowers two-lipped, pale lavender with dark purple spots on the lower lip; leaves opposite, widest near the middle, leaves on the lower portions of the stem absent at flowering; stems hairy.

Plant Height: 1–2 ft., erect **Blooms/Fruits:** May–August

Duration: Perennial, herbaceous

Pollinator Value: Known to serve as a high-value summer nectar source for the monarch butterfly. Also attracts other pollinators and beneficial insects.

Habitat: Mesic to dry upland forests, stream banks, and wooded hillsides.

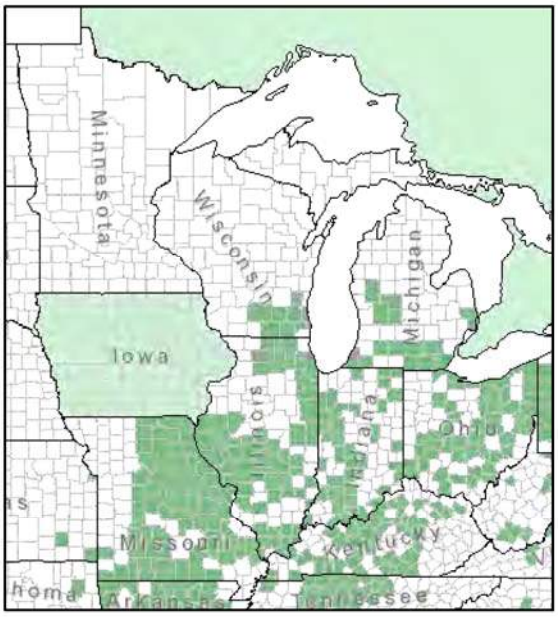



Photo: Sally and Andy Wasowski, Lady Bird Johnson







Flowering/close-up of flowers



Close-up of stem and leaf

Dutchman's Breeches (*Dicentra cucullaria*)

Fumitory Family

Other Common Names: dicentre à capuchin

Scientific Name: *Dicentra cucullaria* (L.) Bernh. **Plant Symbol:** DICU

Distinguishing characteristics: Flowers white with yellow markings, on elongated inflorescences, each flower with two upright spurs making the flower appear as a pair of upside-down pantaloons with a yellowish "belt"; leaves are all basal, finely divided or dissected and appearing feathery, bright green on top and pale green on the undersurface.

Plant Height: Up to 1 ft., arching **Blooms/Fruits:** March–May

Duration: Perennial, herbaceous (rootstock with clusters of small, teardrop-shaped bulbils/bulblets)

Pollinator Value: This spring wildflower is of special value to early spring bumble bees, upon which it relies for pollination.

Habitat: Deciduous woods and clearings, ravines, and bases of bluffs.

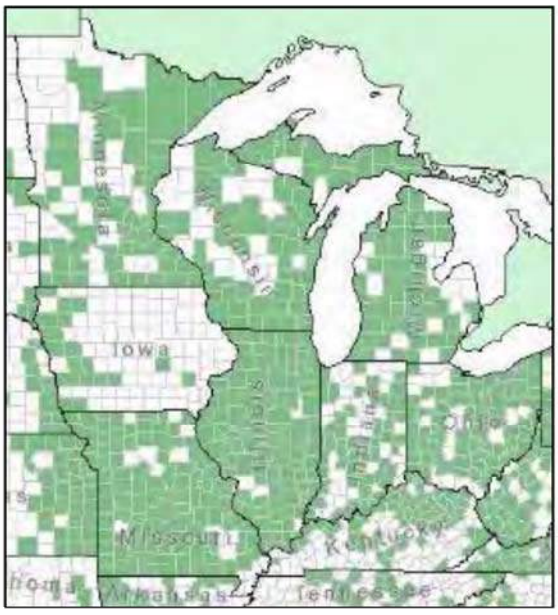



Photo: R.W. Smith, Lady Bird Johnson Wildflower Cente





Full flowering/close-up of blooms



Leaf



Bulblets

Dwarf Larkspur (*Delphinium tricorne*)

Buttercup Family

Other Common Names: spring larkspur

Scientific Name: *Delphinium tricorne* Michx. **Plant Symbol:** DETR

Distinguishing characteristics: Flowers blue to deep purple with an obvious spur projecting out the back of the flower; leaves are mostly in a basal rosette with a few additional leaves (2–4) up the stem, somewhat rounded in overall shape deeply are deeply palmately-cut.

Plant Height: 1–3 ft., erect **Blooms/Fruits:** April–May

Duration: Perennial, herbaceous (with thickened, often tuberous roots)

Pollinator Value: This spring wildflower attracts long--tongued bees and butterflies.

Habitat: Slopes in hardwood forests, edges of thickets, moist prairies

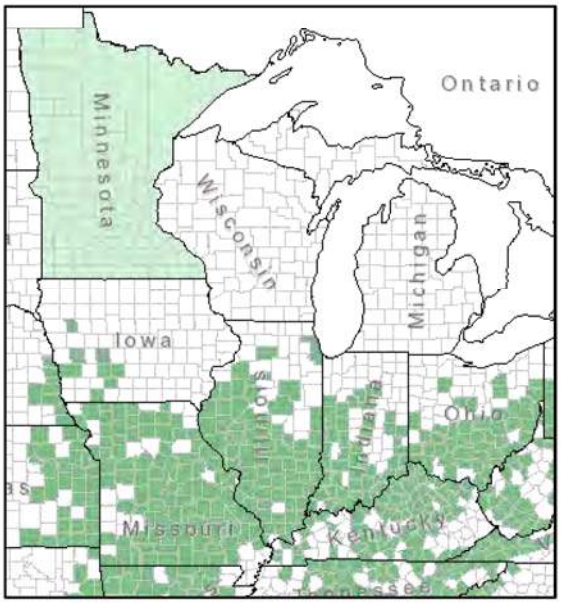



Photo: W.D. and Dolphia Bransford, Lady Bird Johnson Wildflower





Full flowering/close-up of blooms





Leaf

Eastern Bluestar (*Amsonia tabernaemontana*)

Dogbane Family

Other Common Names: bluestar, willow amsonia, woodland bluestar

Scientific Name: *Amsonia tabernaemontana* Walter **Plant Symbol:** AMTA2

Distinguishing characteristics: Flowers in clustered inflorescences on the upper portions of the plant; petals light blue, 5-parted and spreading widely, very hairy within the center of the flower; leaves alternate or sub-opposite on the stem with short leaf-stems, lance to broadly lance-shaped; fruits slender, elongate, and usually erect, surpassing the leaves in height.

Plant Height: 2–3 ft., erect **Blooms/Fruits:** March–May

Duration: Perennial, herbaceous (old stem bases of previous year often present)

Pollinator Value: Spring nectar source. Attracts butterflies and long--tongued bees

Habitat: Wet, sandy sites and wooded areas, prairies, and bottomland.

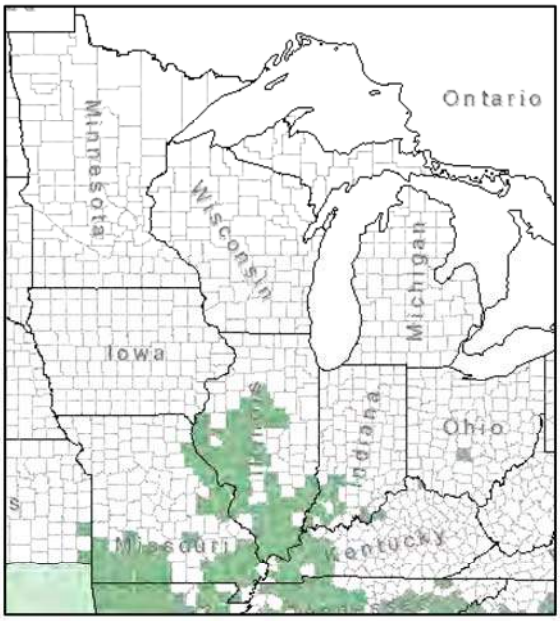
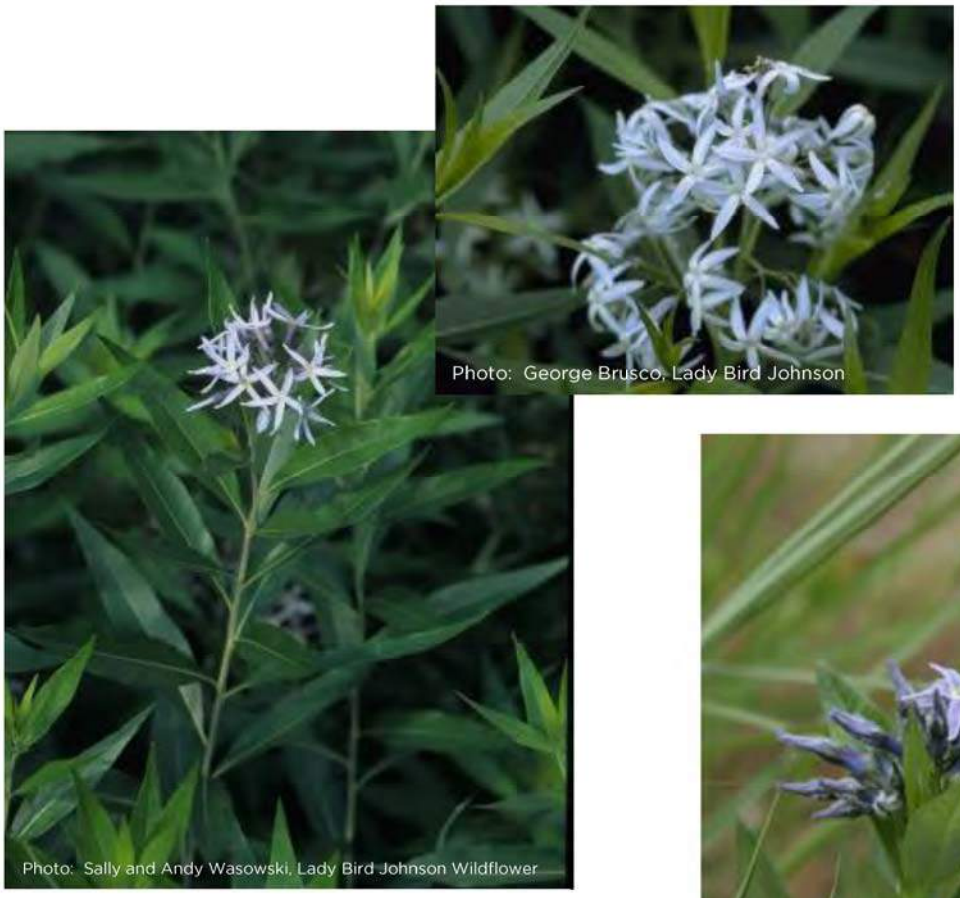



Photo: Clarence Rechenthin, Plants Database

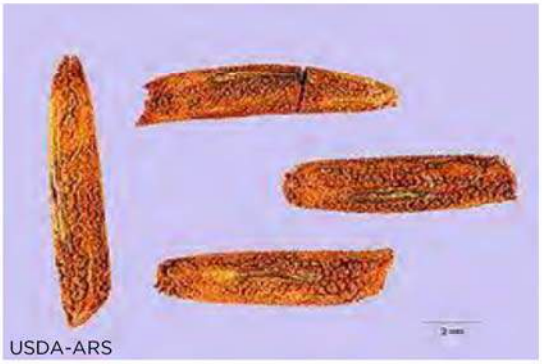


Full flowering/close-up of blooms



Stem and leaf





Seed

Eastern Purple Coneflower (*Echinacea purpurea*)

Aster Family

Other Common Names: echinacea, snakeroot, Kansas snakeroot, narrow-leaved purple coneflower, scurvy root, Indian head, comb flower, black susans, and hedge hog

Scientific Name: *Echinacea purpurea* (L) Moench **Plant Symbol:** ECPU

Distinguishing characteristics: Flowering heads with reddish-purple to pink rays (2-3" long) which are generally reflexed slightly at flowering; central disk conical with reddish-orange, blunt tipped spines and a dark center; leaves largest basally and reduced in size up the stem and with coarsely saw-toothed margins. The only *Echinacea* in our range with leaves 3-5 in. wide and with rounded or heart-shaped leaf bases, and fibrous roots.

Plant Height: 2–4 ft., erect **Blooms/Fruits:** May–October

Duration: Perennial, herbaceous (with fibrous roots)

Pollinator Value: This flower attracts butterflies and native bees. It is somewhat self--incompatible.

Habitat: rocky prairies, open wooded, thickets, often near waterways

Note: Eastern purple coneflower is a common horticultural plant with several cultivars which do escape into natural environments. These cultivars will appear somewhat different in size and flower color compared to native individuals.

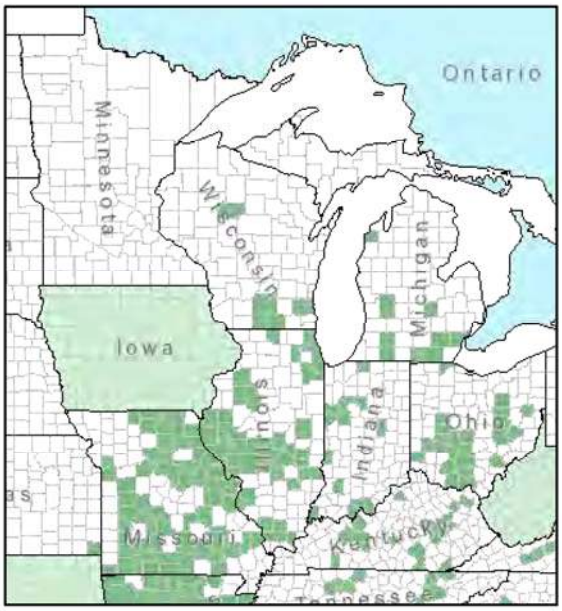



Photo: Alan Cressler, Lady Bird Johnson Wildflower Center





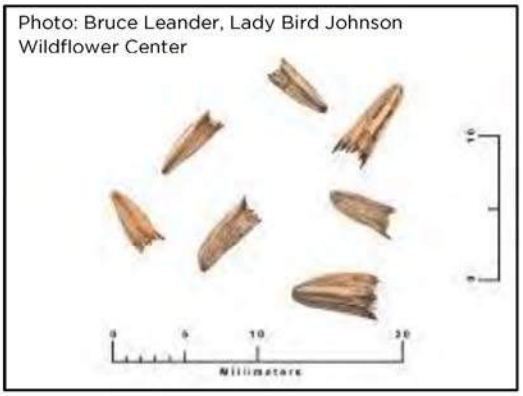
Seedling



Full flowering/close-up of flower and mature seedhead



Stem and leaf



Seed

False Boneset (*Brickellia eupatorioides*)

Aster Family

Other Common Names: none

Scientific Name: *Brickellia eupatorioides* (L.) Shinners **Plant Symbol:** BREU

Distinguishing characteristics: Flower heads in small clusters of few flowered, flat-topped inflorescences; individual flower heads appearing elongate and without rays, flowers in the disc are pale yellow, yellowish green, to pinkish lavender; leaves are alternately arranged on the stem but are closely crowded together and may appear opposite or whorled, their shape ranges from linear to broadly lance shaped, and with glandular hairs underneath.

Plant Height: 1–3 ft., erect to ascending **Blooms/Fruits:** July–October

Duration: Perennial, herbaceous or with a woody persistent base

Pollinator Value: This flower provides nectar from summer through fall for monarchs and other invertebrates.

Habitat: Open prairies and plains, dry open forests, pastures, old fields, and roadsides.

Note: Six varieties of false boneset occur in the US, three of which are native to the Midwest: varieties *corymbulosa, eupatorioides,* and *texana.*

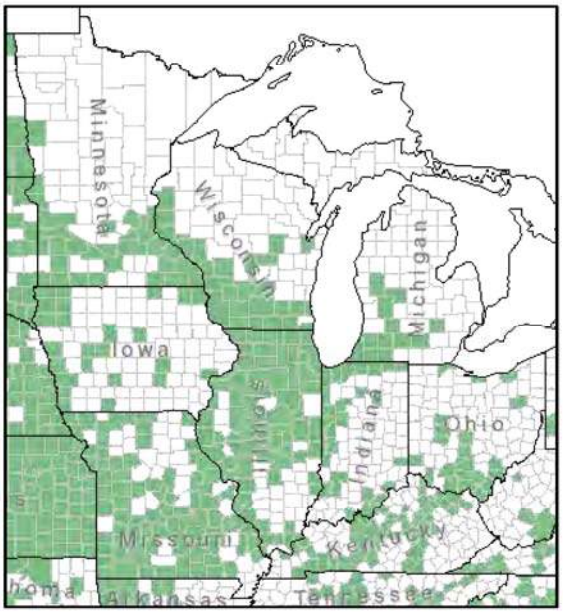



Photo: Mike Haddock



Full flowering/close-up of blooms/seed set



Early flowering

Field Thistle (*Cirsium discolor*)

Aster Family

Other Common Names: roadside thistle

Scientific Name: *Cirsium discolor* (Muhl. Ex Willd.) Spreg. **Plant Symbol:** CIDI

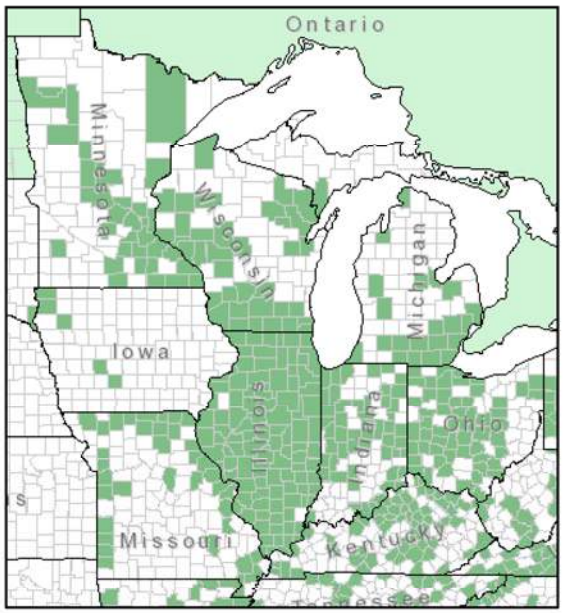
Distinguishing characteristics: Flower heads solitary on the ends of branches, pinkish to reddish purple in a "cup" of spine-tipped bracts underneath the inflorescence; leaves are deeply dissected more than ½way from the margin to the midrib, and spiny, the upper surface green and the undersurface densely hairy and appearing white.

Plant Height: 3–8 ft., erect **Blooms/Fruits:** July–November

Duration: Biennial or short-lived Perennial, herbaceous (with thickened taproot)

Pollinator Value: This native thistle is highly attractive to numerous pollinators, from bumble bees to the monarch butterfly. It is also a host plant for the painted lady butterfly.

Habitat: Upland prairie, glades, bluffs, old and fallow fields, and openings in dry upland forests.











Full flowering/close-up of



Stem and leaf



Mature flowers and seed



Flat-top Goldentop (*Euthamia graminifolia*)

Aster Family

Other Common Names: flat-topped goldenrod, grass-leaved goldentop/goldenrod

Scientific Name: *Euthamia graminifolia* (L.) Nutt. **Plant Symbol:** EUGR5

Distinguishing characteristics: Stems leafy and heavily branched in the upper half, with small spreading hairs; leaves grass like, sessile on the stem and linear, 4 – 5 in. long by ¼ in. wide, and with leaf margins showing stiff ascending hairs; inflorescences flat-topped in appearance and borne on the ends of branches; individual flower heads, numerous heads at the end of branches with approximately 15 – 25 yellow rays and a yellow center.

Plant Height: 3–5 ft. **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous

Pollinator Value: Provides nectar and/or pollen to a wide variety of insect taxa including butterflies and moths, beetles, true bugs, wasps, honey bees, bumble bees and other native bee species.

Habitat: Fields, pastures, thickets, prairie, and roadsides.

Note: Older botanical keys and references refer to this species as *Solidago graminifolia.*

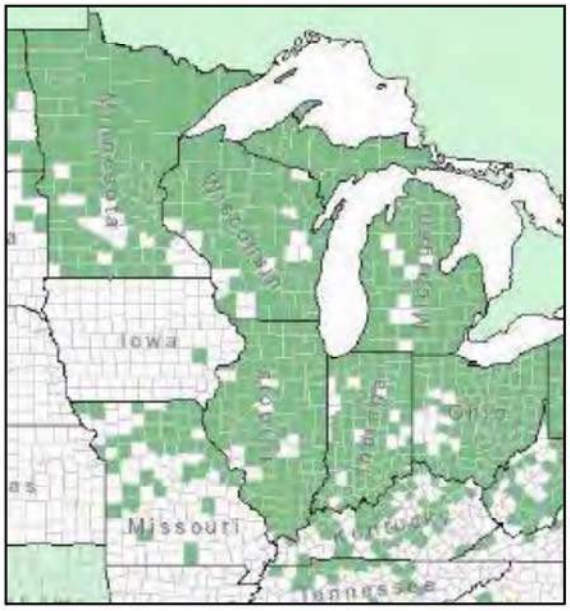



Photo: W.D. and Dolphia Bransford Lady Bird Johnson Wildflower



Flowering/close-up view of flower





Leaf shape and arrangement

Flodman's Thistle (*Cirsium flodmanii*)

Aster Family

Other Common Names: none

Scientific Name: *Cirsium flodmanii* (Rydb.) Arthur **Plant Symbol:** CIFL

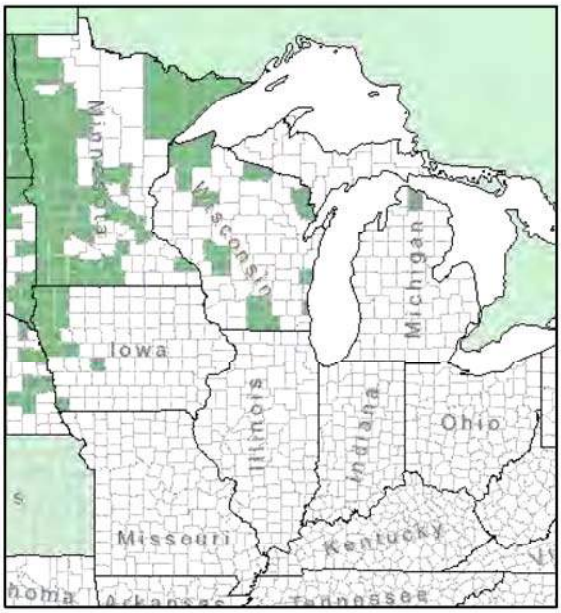
Distinguishing characteristics: Flowering heads dark purple to pink (rarely white), borne singly on the upper stem branches and thus appearing inflorescence-like; leaves lobed or dissected and bearing spines along the margins and on the tip of each lobe, heavily white-hairy on both the top and bottom, but more so on the bottom of the leaf; leaf stalk winged.

Plant Height: 2–4 ft., erect **Blooms/Fruits:** June–September

Duration: Perennial, herbaceous (from elongate, sprouting rhizomes)

Pollinator Value: This native thistle is highly attractive to numerous pollinators, from bumble bees to the monarch butterfly.

Habitat: Tall, short, and mixed grass prairies, meadows, pastures, commonly on moist ground, and moist disturbed sites.







Close-up of flower/flowering and seedling



Stem and leaf arrangement



Seed development



Close-up of leaf

Gray Goldenrod (*Solidago nemoralis*)

Aster Family

Other Common Names: grayleaf goldenrod, dwarf goldenrod, old field goldenrod, prairie goldenrod

Scientific Name: *Solidago nemoralis* Aiton **Plant Symbol:** SONE

Distinguishing characteristics: Small yellow flower clusters on recurved terminal branches; stems densely hairy with extremely short, curved hairs; leaves forming a basal rosette and are gradually reduced in size up the stem; leaves oblong, widest towards the top end, with only 1 prominent vein.

Plant Height: 0.5–2.5 ft. tall **Blooms/Fruits:** July–November

Duration: Perennial, herbaceous

Pollinator Value: This flower is very popular with bees, wasps, and butterflies of many types. It is known to attract butterflies.

Habitat: Dry upland prairie, ledges and tops of bluffs, openings in dry woods, old fields and pastures

Note: There are many plants commonly called goldenrods that belong to different plant genera, *Solidago, Euthamia, and Oligoneuron* and are all fairly similar. They generally have yellow, clustered flowers, but some species are white. The flowering stems can be elongate and recurved or flat-topped.

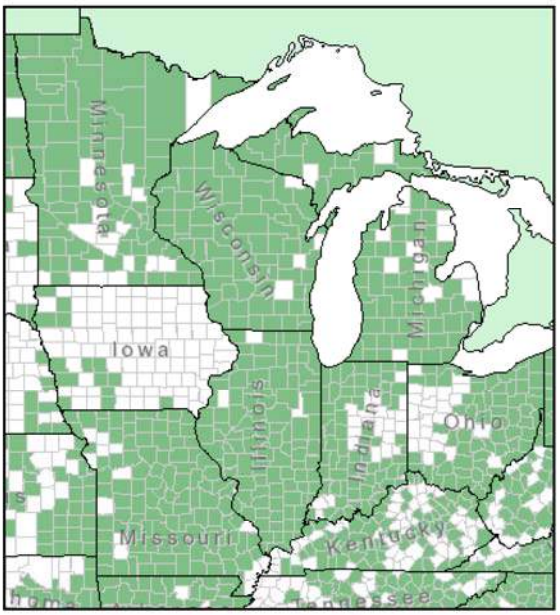



Photo: R.W. Smith, Lady Bird Johnson Wildflower Center



Unopened flowers



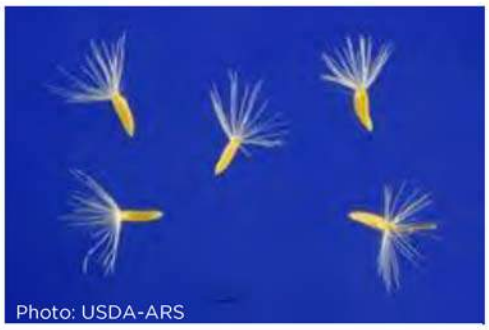
Close-up of Flowers



Mature plant



Full bloom



Seed

Great Blue Lobelia (*Lobelia siphilitica*)

Bellflower Family

Other Common Names: blue cardinal flower, blue lobelia, great lobelia

Scientific Name: *Lobelia siphilitica* L. **Plant Symbol:** LOSI

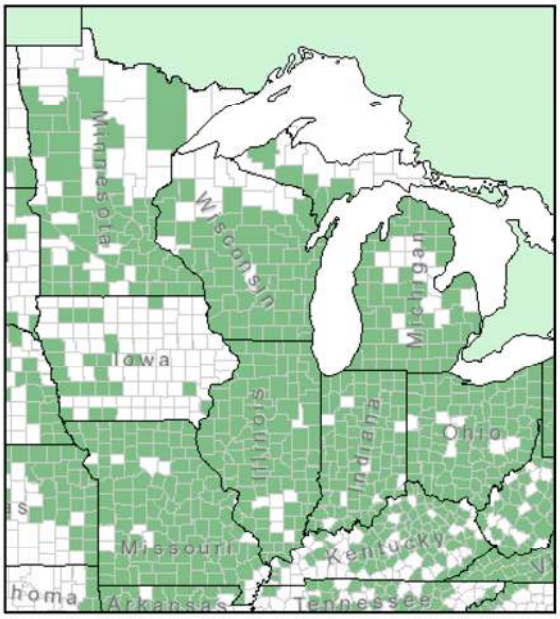
Distinguishing characteristics: Flowers are blue with a white center, strongly two-lipped with 3 sharp-pointed petals hanging downward and two pointed upwards; inflorescence is terminal, elongate, and leafy; leaves variable ranging from lance shaped to widest near the tip, are gradually reduced in size from the stem midpoint to the top, and are attached directly to the stem or with a short leaf stalk.

Plant Height: 1–3 ft., erect **Blooms/Fruits:** July–October

Duration: Perennial, herbaceous

Pollinator Value: This plant is a favorite of bumblebees and butterflies. It blooms in late summer and attracts long-tongued bees.

Habitat: Moist depressions, banks of streams and ponds, swamps, sloughs, pastures, and ditches.











Close-up of stem, flower and leave/leaf arrangement



Hairy Pagoda-plant (*Blephilia hirsuta*)

Mint Family

Other Common Names: sunny woodmint, Ohio horsemint

Scientific Name: *Blephilia ciliata* (L.) Benth. **Plant Symbol:** BECI

Distinguishing characteristics: Flowers in 1 or more tight, spherical clusters which terminate the stem; flowers two-lipped, pale lavender with dark purple spots on the lower lip; leaves opposite, widest near the middle, leaves on the lower portions of the stem absent at flowering; stems hairy.

Plant Height: 1–2 ft., erect **Blooms/Fruits:** May–August

Duration: Perennial, herbaceous

Pollinator Value: Known to serve as a high--value summer nectar source for the monarch butterfly. Also attracts other pollinators and beneficial insects.

Habitat: Mesic to dry upland forests, stream banks, and wooded hillsides.

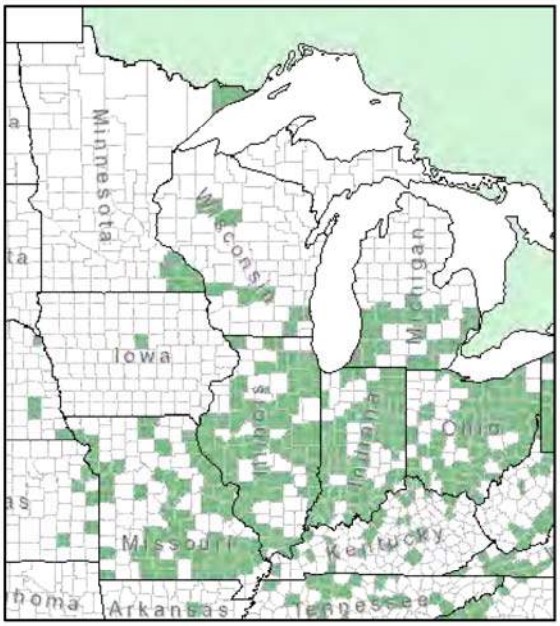



Photo: John Hilty, Illinois



Full flowering/close-up of flowers



Close of stem and leaf and leaf

Hairy White Oldfield Aster (*Symphyotrichum pilosum*)

Aster Family

Other Common Names: white heath aster, oldfield weed, frost aster, white aster, aster poilu

Scientific Name: *Symphyotrichum pilosum* (Willd.) G.L. Nesom **Plant Symbol:** SYPI2

Distinguishing characteristics: Flowering heads small (<1 in. across), numerous on multiple stem branches, each flower oriented upwards, rays white, center yellow; leaves without leaf stems or very short ones on lower leaves; basal and lower leaves widest above the middle and withered at flowering time; middle and upper leaves lance-shaped and smaller than basal leaves; stems generally very hairy.

Plant Height: 1–3 ft., erect (in clusters or tufts (caespitose)) **Blooms/Fruits:** August–November

Duration: Perennial, herbaceous (from short, stout, woody rootstocks or succulent rhizomes)

Pollinator Value: These flowers provide abundant nectar and pollen in the fall. They attract butterflies. Several aster-oligolege bees feed on the pollen.

Habitat: Old fields, fallow fields, prairies, pastures, openings in forests, fencerows, roadsides, and disturbed areas.

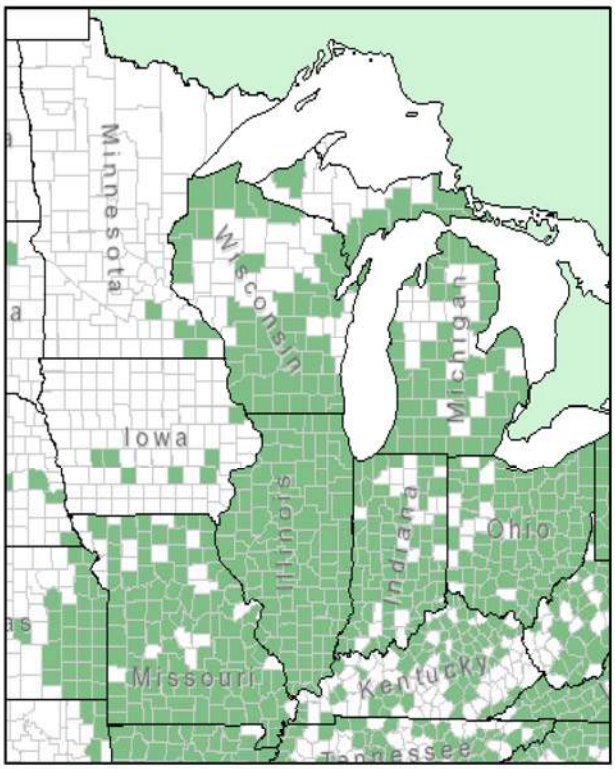



Photo: Julie Makin, Lady Bird Johnson Wildflower



Full flowering/close-up of flowers



Seedling; stem and leaf arrangement; close-up of leaf

Hemlock Waterparsnip (*Sium suave*)

Carrot Family

Other Common Names: water parsnip, water parsley

Scientific Name: *Sium suave* Walt. **Plant Symbol:** SISU2

Distinguishing characteristics: Inflorescences flat-topped or slightly-domed, with umbrella-like branching, and occurring in both terminal and axillary positions along the stem; individual flowers are very small with short white petals; leaves are pinnate-compound with 3–8 pairs of leaflets and one terminal, single leaflet.

Plant Height: 2–6 ft., erect **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous (with fibrous roots)

Pollinator Value: This flower provides nectar and pollen to bees and other beneficial insects.

Habitat: Moist depressions, marshes, swamps, springs, banks of rivers and streams, and ditches.

Note: This plant is not poisonous but looks very similar to the highly poisonous water hemlock (*Cicuta maculata*) and poison hemlock (*Conium maculatum*).

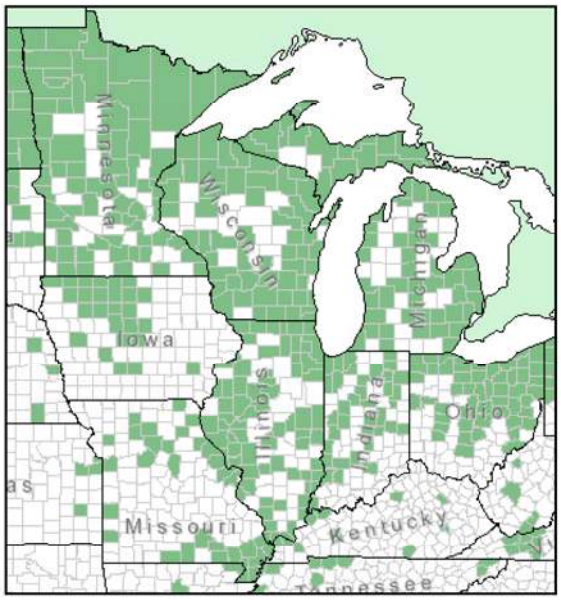



Photo: John Hilty, Illinois Wildflowers





Flowering





Close-up of stem and leaf

Hoary Puccoon (*Lithospermum canescens*)

Borage Family

Other Common Names: orange puccoon

Scientific Name: *Lithospermum canescens* (Michx.) Lehm. **Plant Symbol:** LICA12

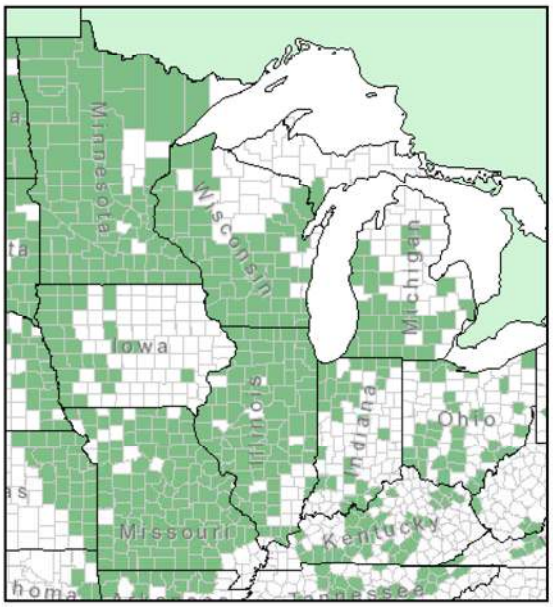
Distinguishing characteristics: Flowers yellow-orange to orange, tubular with 5 spreading petals, clustered at the top of the plant; leaves bright green, but covered in dense, grey hairs giving the plant a greyish (hoary) color, narrowly lance-shaped, and thickened; stems also covered with dense, grey hairs.

Plant Height: 0.5–1.5 ft., erect **Blooms/Fruits:** March–June

Duration: Perennial, herbaceous (from a rhizome or woody rootstock)

Pollinator Value: This flower is a spring nectar source to pollinators and other beneficial insects.

Habitat: Roadside banks, dry open woods, prairies, pastures, roadsides, and open disturbed areas.







Full flowering/close-up of flowers/seedling



Stem and leaf arrangement

Hoary Verbena (*Verbena stricta*)

Verbena Family

Other Common Names: hoary vervain, tall vervain, woolly verbena, wooly verbena

Scientific Name: *Verbena stricta* Vent. **Plant Symbol:** VEST

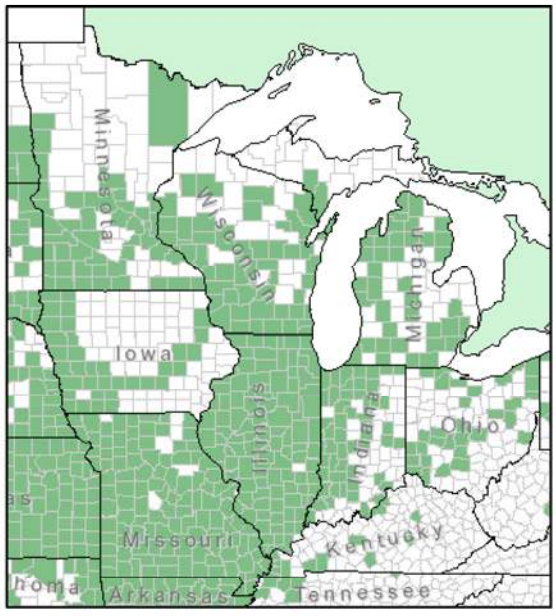
Distinguishing characteristics: Flowers blue to purple on long (up to 1 ft.) terminal spikes, flowering occurs at the bottom of the spike first and progressively flowers upward; leaves are opposite each other on the stem, attached directly to the stem without a leaf stalk, or with a short leaf stalk <1/4 in. long, shape is widely lance-shaped to almost circular; stems and leaves densely covered with short hairs giving the plant an overall "grayish" appearance.

Plant Height: 1–4 ft., erect to ascending **Blooms/Fruits:** June–September

Duration: Perennial, herbaceous

Pollinator Value: This flower is known to attract butterflies. It is also a larval food source for the common buckeye.

Habitat: Upland prairies, loess and sand prairies, open upland forests, overgrazed pastures, old fields, and disturbed areas.









Full flowering/close-up of blooms





Close-up of stem and leaf



Mature plant

Indianhemp (*Apocyanum cannabinum*)

Dogbane Family

Other Common Names: Indianhemp bane, hemp dogbane, indianhemp dogbane, prairie dogbane, honeybloom, bitter root, black hemp, lechuguilla, westernwall

Scientific Name: *Apocyanum cannabinum* L. **Plant Symbol:** APCA

Distinguishing characteristics: Inflorescences located on the upper portions of the plant and composed of clusters of small, white to greenish-white bell-shaped flowers that are often drooping; leaves are opposite on the stem, broadly lance shaped of oblong; fruit in long, drooping, cylindrical pods which are always in pairs. Indianhemp superficially resembles milkweed with flowers in clusters and milky sap.

Plant Height: 2–6 ft., erect **Blooms/Fruits:** May–September

Duration: Perennial, herbaceous

Pollinator Value: High value nectar source in the summer for the monarch butterfly.

Habitat: Prairies, open woodlands, roadsides, disturbed sites; quite common.

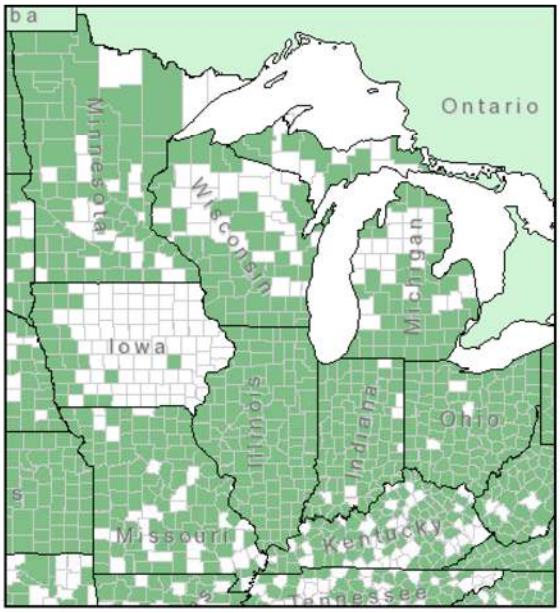
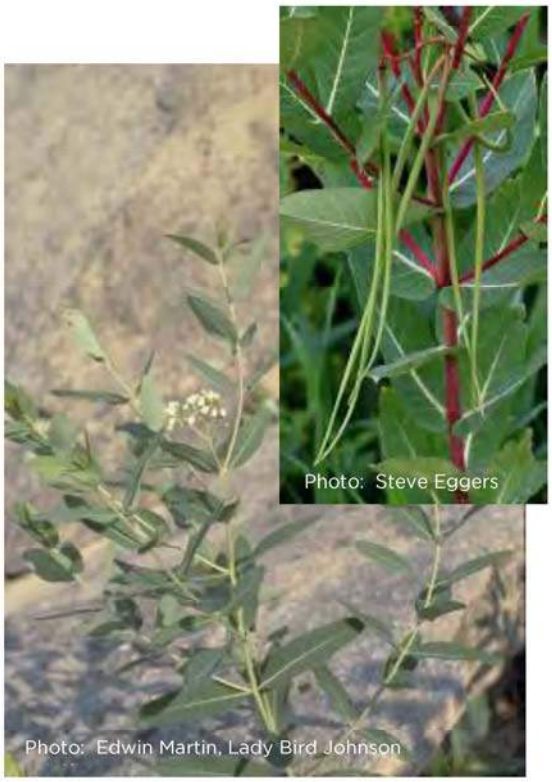



Photo: Albert F.W. Vick, Lady Bird Johnson Wildflower



Full flowering/close-up of blooms



Stem and leaf arrangement

Late-flowering Thoroughwort (*Eupatorium serotinum*)

Aster Family

Other Common Names: white boneset, late boneset, late-flowering boneset

Scientific Name: *Eupatorium serotinum* Michx. **Plant Symbol:** EUSE2

Distinguishing characteristics: Flower heads white in terminal, flat-topped to slightly domed-shaped clusters; leaves opposite (except for the uppermost leaves), lance shaped, pointed tip, margins toothed, moderately hairy on both sides and dotted with glands; leaf stem ½- 1 in. long.

Plant Height: 2–5 ft., erect **Blooms/Fruits:** August–October

Duration: Perennial, herbaceous

Pollinator Value: Late--flowering thoroughwort is attractive to a variety of insects, including butterflies and bees.

Habitat: Bottomlands, moist woods, and banks of ponds and streams; can become weedy.

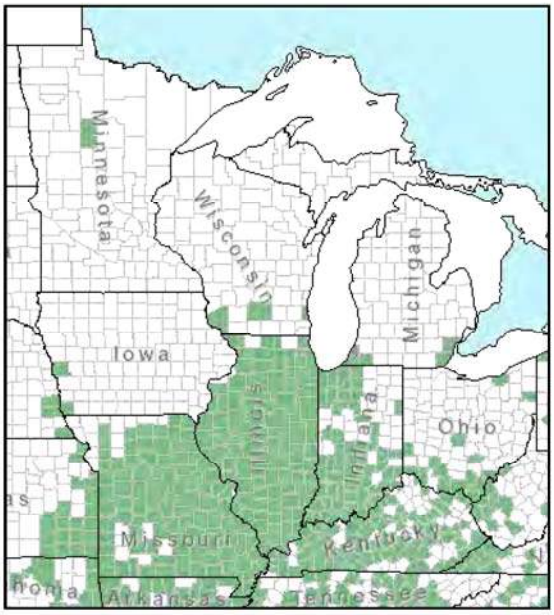



Photo: Robert Stone, Lady Bird Johnson



Flowering/close-up of flower heads





Photos showing stem and leaf arrangement

Leadplant (*Amorpha canescens*)

Pea Family

Other Common Names: leadplant amorpha, prairie shoestring

Scientific Name: *Amorpha canescens* Pursh **Plant Symbol:** AMCA6

Distinguishing characteristics: Flowers small and purple in narrow, elongate terminal spike-like inflorescences, and unlike most pea flowers leadplant has only a banner petal; leaves are covered with short dense hairs giving the plant its distinctive grayish appearance (lead color), leaves are compound with 15–20 pairs of leaflets and a single terminal leaflet; taproots very deep, extending to 4 ft.

Plant Height: 1–3 ft., ascending **Blooms/Fruits:** May–August

Duration: Perennial, woody short shrub/subshrub

Pollinator Value: Highly attractive to native bees. Provides nectar and pollen in the summer.

Habitat: Upland prairies, loess hill prairies, openings in dry upland forests, pastures, and roadsides.

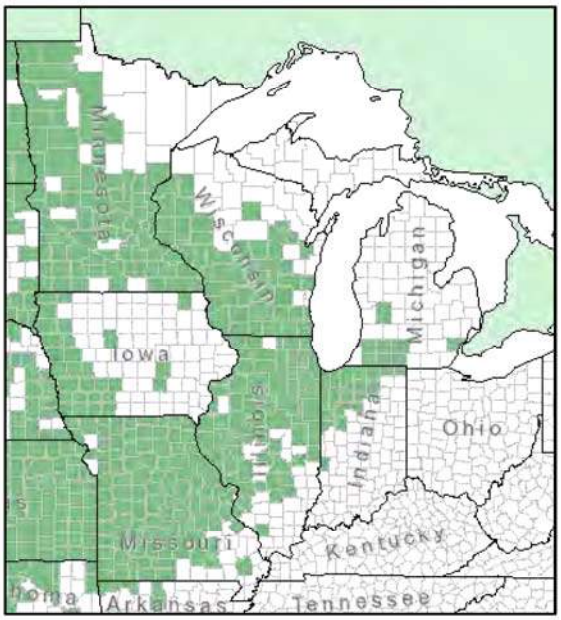



Photo: Sally and Andy Wasowski, Lady Bird Johnson Wildflowe



Full flowering/close-up of blooms



Mature flower head





Close-up of leaflets and vegetative growth

Maximillian Sunflower (*Helianthus maximiliani*)

Aster Family

Other Common Names: Max sunflower

Scientific Name: *Helianthus maximiliani* Schrad. **Plant Symbol**: HEMA2

Distinguishing characteristics: flower head similar to common sunflower; tall, leafy unbranched stems; long, narrow leaves up to 10 inches, coarse and hairy, and slightly toothed and pointed.

Plant Height: 3–10 ft., erect **Blooms/Fruits:** August–November

Duration: Perennial, herbaceous

Pollinator Value: Many species of native bee are sunflower specialists and they frequently nectar and collect pollen from these flowers. Butterflies also nectar on sunflowers.

Habitat: Adapted too many soil types, from sands to clays; favors good internal drainage and sunny locations.

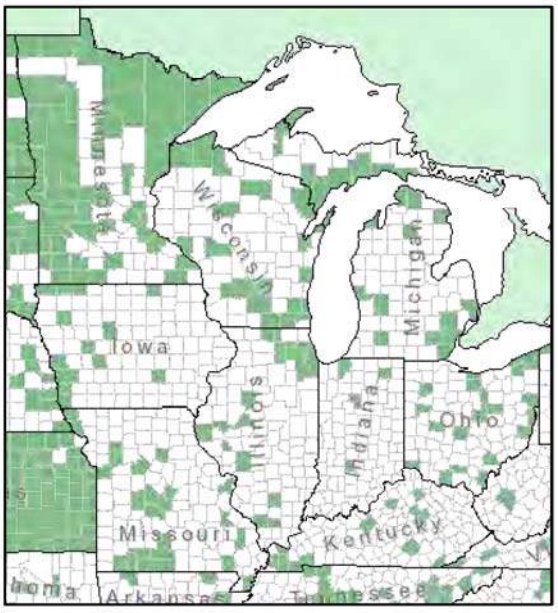
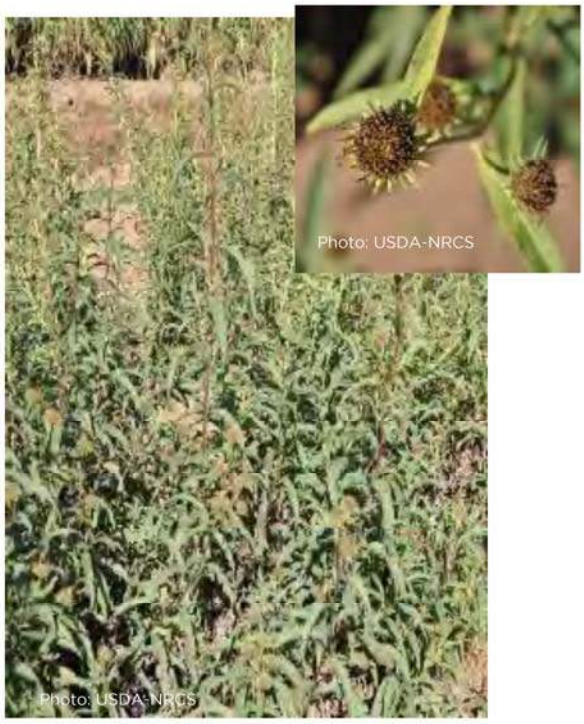


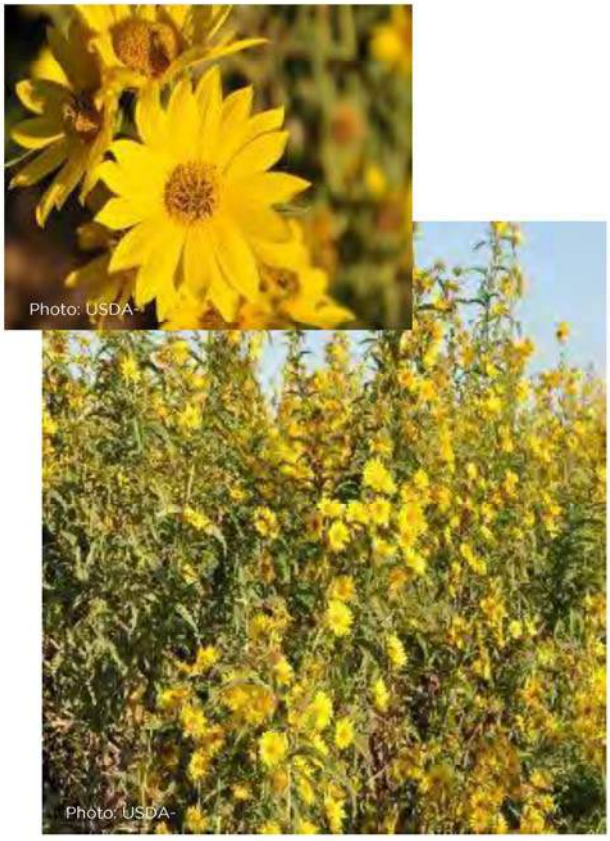

Photo: USDA-NRCS



Seedling



Mature plant



Full flowering



Late vegetative

New England Aster (*Symphyotrichum novae-angliae*)

Aster Family

Other Common Names: none

Scientific Name: *Symphyotrichum novae-angliae* (L.) G.L. Nesom **Plant Symbol:** SYNO2

Distinguishing characteristics: Flower heads in many branched inflorescences; rays numerous (40–100) in each flower head, reddish-purple to purple and the disc reddish-purple; the leaves are widest at the ends, with a blunt tip and tapering base that clasps the stem, with 3-main veins per leaf, the middle and lower leaves absent at flowering; stems are hairy with interspersed gland-tipped hairs, 1 to several from the base and branched towards the top.

Plant Height: 2–5 ft., erect **Blooms/Fruits:** July–October

Duration: Perennial, herbaceous (with woody rootstock and rhizomes)

Pollinator Value: These flowers provide abundant nectar and pollen in the fall. They attract butterflies. There are a number of aster--oligolege bees that feed on the pollen.

Habitat: Bottomland prairies, moist depressions, fens, stream banks, pastures, fencerows, and roadsides.

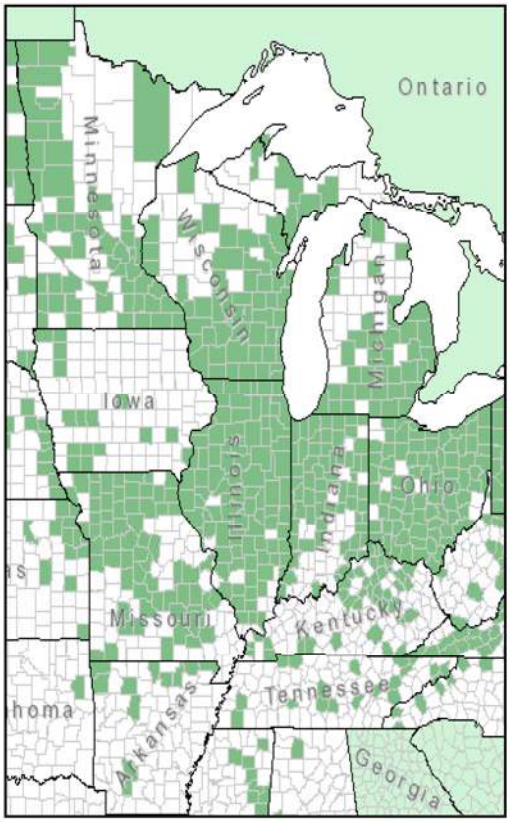



Photo: Steve Eggers ©

Northern Dewberry (*Rubus flagellaris*)

Rose Family

Other Common Names: ronce à flagelles

Scientific Name: *Rubus flagellaris* Willd. **Plant Symbol:** RUFL

Distinguishing characteristics: Stems of 2-kinds – first year "primocanes" lowly arching and trailing across the ground, rooting at the tip and along the stem, persistent through winter, usually with 5-leaflet palmately-compound leaves, and, second year "floricanes", 3-leaflet palmately-compound leaves which die-back to the ground in winter; flowers 5-parted, white, with 1–6 flowers per inflorescence which are produced on upright stalks arising from the "floricanes"; fruit dark red to black, persistent on the plant; prickers with a broad base, bent backwards, approximately 5-prickers per ½inch.

Plant Height: About 1 ft. tall, but with long, training branches **Blooms/Fruits:** May–June

Duration: Perennial, woody sub-shrub

Pollinator Value: These flowers provide nectar and pollen in the early spring, and their stems can serve as habitat for tunnel-nesting bees. They are also attractive to butterflies.

Habitat: Upland prairies and open woodland, pastures, pastures, old fields, roadsides, and disturbed areas.

Note: There are many dewberries, blackberries, and raspberries, which all appear similar. Commonly "dewberries" grow across the ground (prostrate) while blackberries and raspberries grow with upright and arching stems.

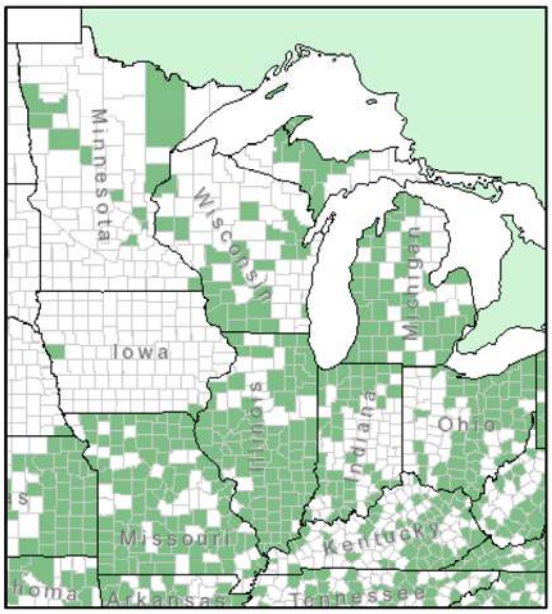



Photo: John Hilty, Illinois Wildflowers



Flowering/close-up of flowers



Early growth



Stem with prickers

Oval-leaf Milkweed (*Asclepias ovalifolia*)

Milkweed Family

Other Common Names: dwarf milkweed

Scientific Name: *Asclepias ovalifolia* Decne. **Plant Symbol:** ASOV

Distinguishing characteristics: Inflorescences few towards the top of the stem with 8–20 flowers each; flowers greenish-white to cream colored (sometimes purple), petals reflexed with upturned ends; leaves are opposite on the stem or sub-opposite and broadly lance-shaped, sparsely to moderately hairy on the underside with very fine hairs.

Plant Height: Up to 1.5 ft., often shorter **Blooms/Fruits:** May-June

Duration: Perennial, herbaceous (with shallow, slender rhizomes)

Pollinator Value: Larval host plant for the monarch butterfly. High value summer nectar source for other insects.

Habitat: Uncommon on sandy, clayey prairie soils, and open woodlands; more common after fires.

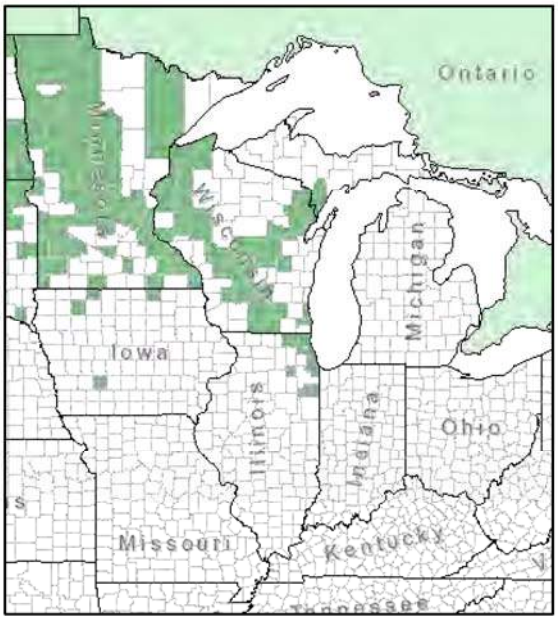



Photo: W.D. and Dolphia Bransford, Lady Bird Johnson



Full flowering/close-up of blooms





Foliage



Stem and leaf arrangement

Pale Purple Coneflower (*Echinacea pallida*)

Aster Family

Other Common Names: pale echinacea, pale coneflower

Scientific Name: *Echinacea pallida* (Nutt.) Nutt. **Plant Symbol:** ECPA

Distinguishing characteristics: Flower heads appearing daisy-like with pale pink, narrow, obviously drooping rays and with a dark purple to pink cone-shaped center; leaves much longer than broad, linear to widest in the middle, and with short, stiff hairs on the surfaces thus feeling raspy to the touch; stems with short stiff hairs that may be swollen (pustular) at the base of the hair.

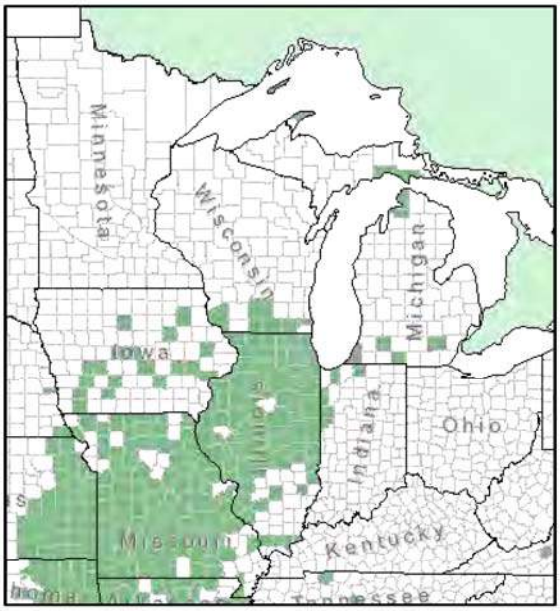
Plant Height: 3–5 ft., erect **Blooms/Fruits:** May–June

Duration: Perennial, herbaceous

Pollinator Value: This flower attracts butterflies and native bees.

Habitat: Upland prairies, glades, savannas, and other dry open sites.

Note: This species is similar to black Samson (*E. angustifolia*), but pale purple coneflower has white pollen while black Samson's pollen is yellow.







Full flowering/close-up of blooms





Stem and leaf



Mature coneflower

Parasol Whitetop (*Doellingeria umbellata*)

Aster Family

Other Common Names: flat-top aster, flat-topped white aster, tall white aster

Scientific Name: *Doellingeria umbellata* (Mill.) Nees **Plant Symbol:** DOUM2

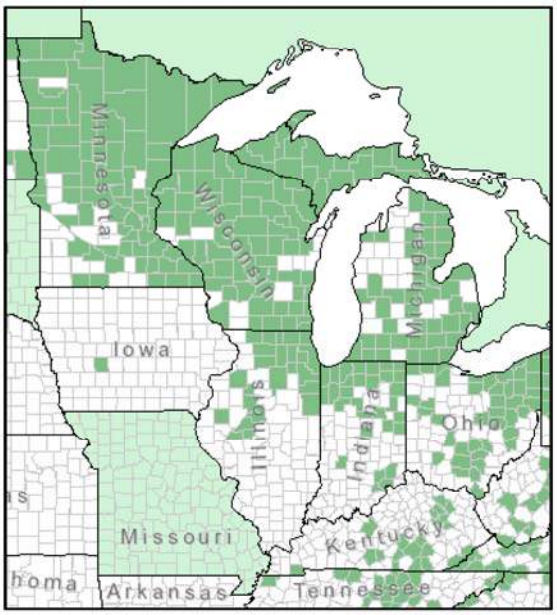
Distinguishing characteristics: Flower heads daisy-like with white rays and a yellow center and ½to ¾in. across; inflorescence is flat-topped, branched with densely clustered flower heads; the stem has fine longitudinal lines of many small curved hairs; leaves are lance-shaped to widest in the middle, sharp pointed at the tip, have smooth margins, and do not have leaf stalks.

Plant Height: 2–4 ft., erect (only branched in the inflorescence) **Blooms/Fruits:** August–October

Duration: Perennial, herbaceous (from thick, sometimes woody rhizome)

Pollinator Value: This late summer blooming plant is highly attractive to a variety of bees and other invertebrates.

Habitat: Wetland margins, seeps, forest edges, meadows, fields, and disturbed areas.







Flowering/close-up of flowers



Photo: John Hilty, Illinois





Stem and leaf arrangement



Photo: John Hilty, Illinois

Prairie Blazing Star (*Liatris pycnostachya*)

Aster Family

Other Common Names: prairie gayfeather, prairie liatris, Kansas blazing star, Kansas gayfeather, Kansas liatris, cat-tail blazing star, cat-tail gayfeather, cat-tail liatris, hairy button-snakeroot

Scientific Name: *Liatris pycnostachya* Michx. **Plant Symbol:** LIPY

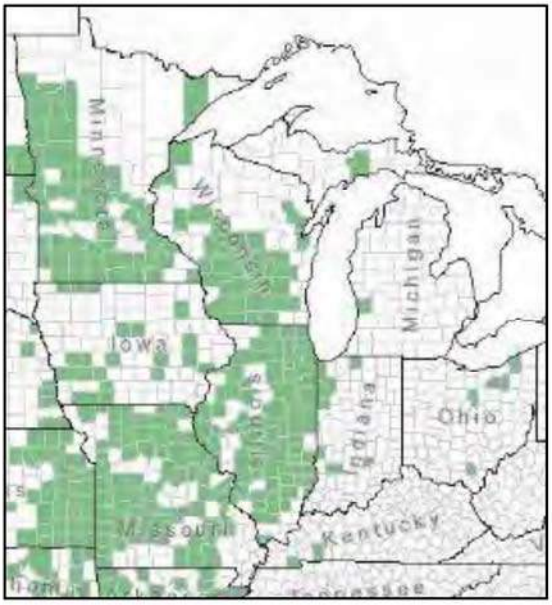
Distinguishing characteristics: Flowering heads purplish-blue to lavender powder-puffs and tightly clustered on an elongate inflorescence (spike) that may be half the length of the entire plant; flowering occurs from the top of the inflorescence first and then downward as the season progresses; leaves crowded on the stem and linear up to 6 in. long towards the base, but shorter upward.

Plant Height: 2–5 ft., erect **Blooms/Fruits:** July–October

Duration: Perennial, herbaceous (from a rounded corm)

Pollinator Value: Bees and butterflies are attracted to the flowers of this late summer through fall nectar source.

Habitat: Upland prairies, openings in mesic to upland forests, stream and ditch banks, fencerows, and pastures.







Full flowering/close-up of flowers







Mature plant



Stem and leaf

Prairie Ironweed (*Vernonia fasciculata*)

Aster Family

Other Common Names:

Scientific Name: *Vernonia fasciculata* Michx. **Plant Symbol:** VEFA2

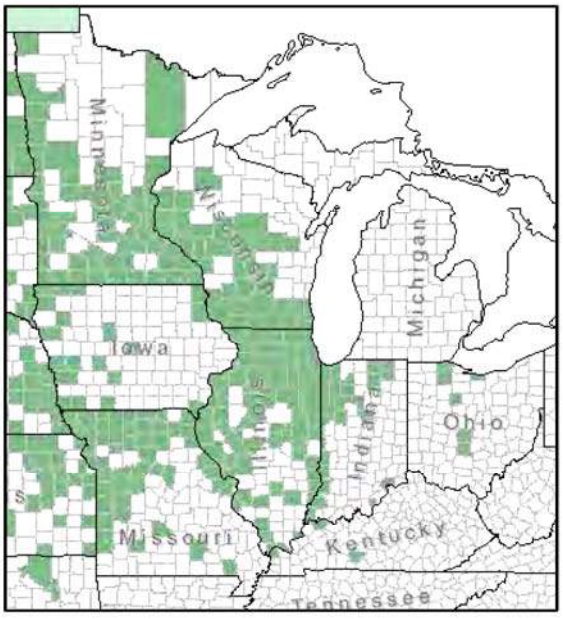
Distinguishing characteristics: Flower heads reddish-purple to purple in a much branched inflorescence; leaves are alternate on the stem and mostly attached directly without a leaf stem, shape is widely lance-shaped and tapering at both ends, the undersurface has small, indented glands; the dark green leaves with the vivid purple flowers makes it easy to identify.

Plant Height: 2–4 ft., erect **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous (from rhizomes)

Pollinator Value: This flower attracts bees and butterflies. It supports an oligolege bee with its pollen.

Habitat: Bottomlands, ditches, low prairies, marshes, fens, and low fields.











Full flowering/close-up of flowers and mature





Close-up of leaf/stem and leaf

Prairie Milkweed (*Asclepias sullivantii*)

Milkweed Family

Other Common Names: smooth milkweed

Scientific Name: *Asclepias sullivantii* Engelm. Ex A. Gray **Plant Symbol:** ASSU3

Distinguishing characteristics: Inflorescences 15 – 40 flowered, in roundish clusters from the axis of the upper leaves; flowers borne on 2 -3 in. stalks, pinkish-rose to purple colored and reflexed; leaves opposite one another and attached directly to the stem without leaf stalks, broadly spear-shaped, and spreading but with the ends often ascending.

Plant Height: 2–4 ft., erect **Blooms/Fruits:** June–August

Duration: Perennial, herbaceous (with deep, fleshy rhizomes)

Pollinator Value: Larval host plant for the monarch butterfly. Flowers attract butterflies. High value summer nectar source.

Habitat: Sandy, loamy, and rocky calcareous prairie soils and roadsides.

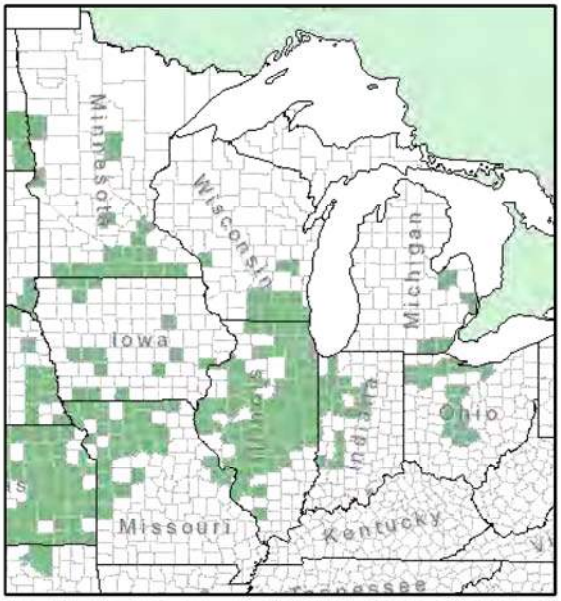



Photo: Sally and Andy Wasowski, Lady Bird Johnson





Full flowering/close-up of blooms



Leaf arrangement

Purple Milkweed (*Asclepias purpurescens*)

Milkweed Family

Other Common Names: None

Scientific Name: *Asclepias purpurescens* L. **Plant Symbol:** ASPU2

Distinguishing characteristics: Flowers in umbrella-shaped clusters towards the top of the stem; flowers green to purple in bud, reddish to dark purple with reflexed petals in flower; leaves opposite on the stem, but may rarely have 4 leaves at a node, lance shaped to elliptic with a narrow base and a sharp pointed tip.

Plant Height: 1.5–3 ft., erect **Blooms/Fruits:** May–July

Duration: Perennial, herbaceous (with deep-set rhizomes)

Pollinator Value: Larval host plant for the monarch butterfly. Flowers attract butterflies. High value summer nectar source.

Habitat: Upland prairies, savannahs, pastures, open upland forests, and pastures.

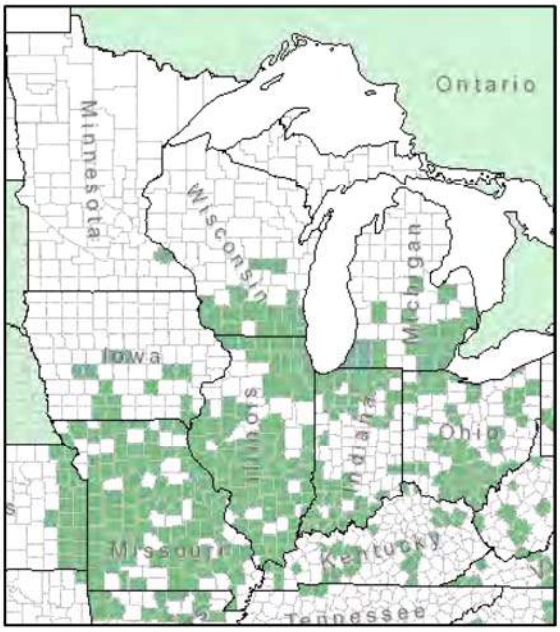



Photo: Alan Cressler, Lady Bird Johnson Wildflower Center



Full Flowering/close-up of flowers



Foliage/leaf arrangement



Multiple inflorescences

Rocky Mountain Blazing Star (*Liatris ligulistylis*)

Aster Family

Other Common Names: Rocky Mountain gayfeather, Rocky Mountain liatris, meadow blazing star, meadow gayfeather, meadow liatris

Scientific Name: *Liatris ligulistylis* (A. Nels) K. Schum **Plant Symbol:** LILI

Distinguishing characteristics: Flower heads blue and appearing as small powder-puffs along a spike-like inflorescence, the terminal flower head will usually flower first and is clearly larger than those below it; leaves are numerous along the stem, narrow and widest towards the top and tapering towards the stem.

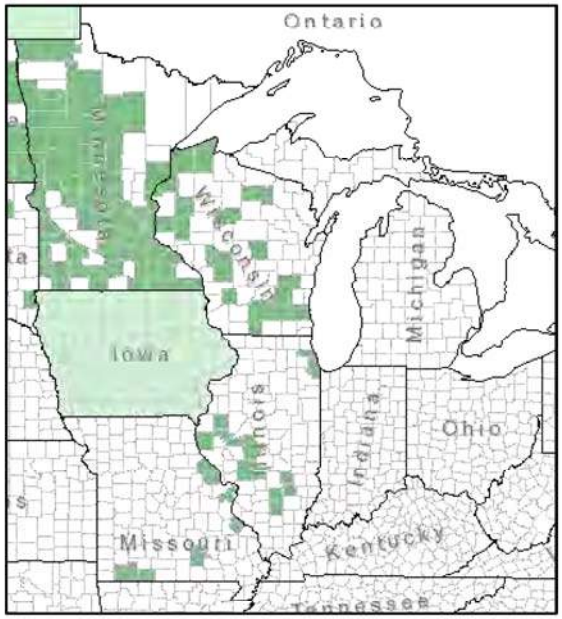
Plant Height: 1–3 ft., erect **Blooms/Fruits:** July–October

Duration: Perennial, herbaceous (with a rounded corm)

Pollinator Value: Arguably, the most highly preferred monarch nectar plant. Bees and butterflies are also attracted to the flowers.

Habitat: Open moist sites, pine barrens, roadsides, ditches, and along railroads.

Note: There are several *Liatris* species that are similar in appearance to Rocky Mountain blazing star. This species can be distinguished from others by having the terminal flower head on the inflorescence larger than the lower ones when it is in flower and the inside of the floral tube is not hairy.







Full flowering



Stem and leaf arrangement



Close-up of flowers



Mature flowers

Showy Goldenrod (*Solidago speciosa*)

Aster Family

Other Common Names: prairie goldenrod, showy-wand goldenrod

Scientific Name: *Solidago speciosa* Nutt. **Plant Symbol:** SOSP2

Distinguishing characteristics: Flower heads yellow in branched inflorescences arising both terminal and from the axils of the upper leaves, ascending to spreading; leaves are variable – those on the lower portions of the plant widest in the middle or the end of the leaf, and leaves above the middle of the plant are widest towards the base of the leaf, all leaves have 1 main vein, stems with longitudinal ridges or grooves.

Plant Height: 2–5 ft., erect **Blooms/Fruits:** August–November

Duration: Perennial, herbaceous

Pollinator Value: This flower is very attractive to bumble bees and butterflies. Goldenrods are quality nectar and pollen sources for pollinators and other beneficial insects. It hosts a number of oligolege bees.

Habitat: Upland prairies, dry to mesic upland forests, dry open site, and roadsides.

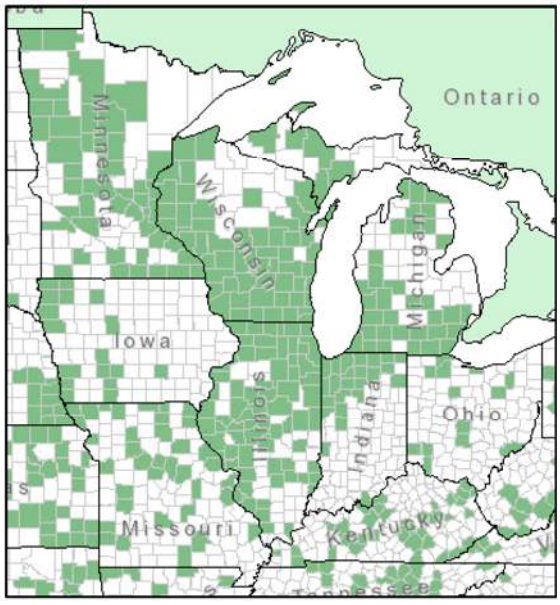
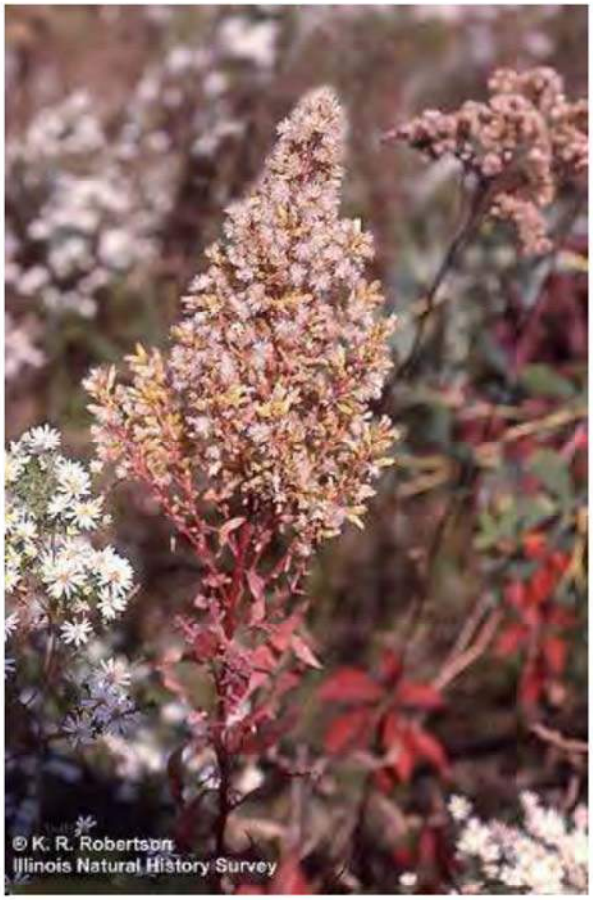



Photo: Sally and Andy Wasowski, Lady Bird Johnson Wildflower



Close-up of Flowers





Mature plant



Leaf

Showy Milkweed (*Asclepias speciosa*)

Milkweed Family

Other Common Names: None

Scientific Name: *Asclepias speciosa* Torr. **Plant Symbol:** ASSP

Distinguishing characteristics: Flowers in umbrella-shaped clusters borne on hairy flower stalks; petals reflexed with upturned tips, greenish-purple to pink with an overall hour-glass shape; leaves are opposite on the stem, pointed at the tip, rounded at the base, and hairy on the under surface; stems are hairy and may be branched.

Plant Height: 1.5–3 ft., but may reach 6 ft., erect **Blooms/Fruits:** May–September

Duration: Perennial, herbaceous

Pollinator Value: Larval host plant for the monarch butterfly. Flowers attract butterflies. High value summer nectar source.

Habitat: Wet prairies, savannahs, and roadside ditches.

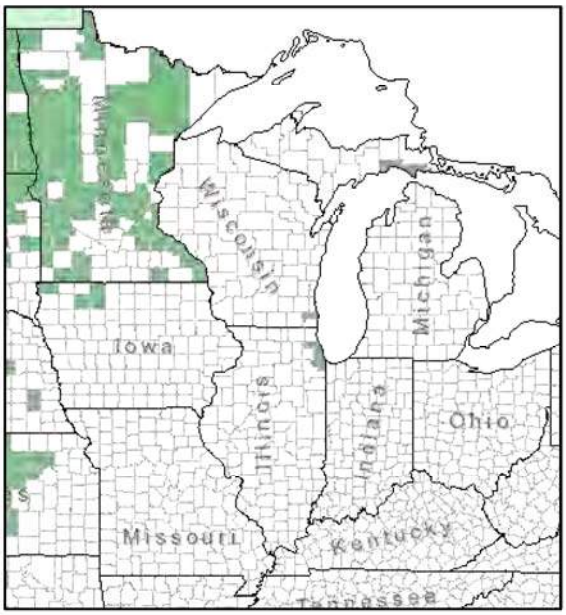



Photo: John Hix, Lady Bird Johnson Wildflower Center



Full flowering/close-up of blooms







Stem and Leaf arrangement



Mature fruit with seed

Skyblue Aster (*Symphyotrichum oolentangiense*)

Aster Family

Other Common Names: sky blue American-aster, azure aster, blue devil

Scientific Name: *Symphyotrichum oolentangiense* (Riddell) G.L. Nesom **Plant Symbol:** SYOO

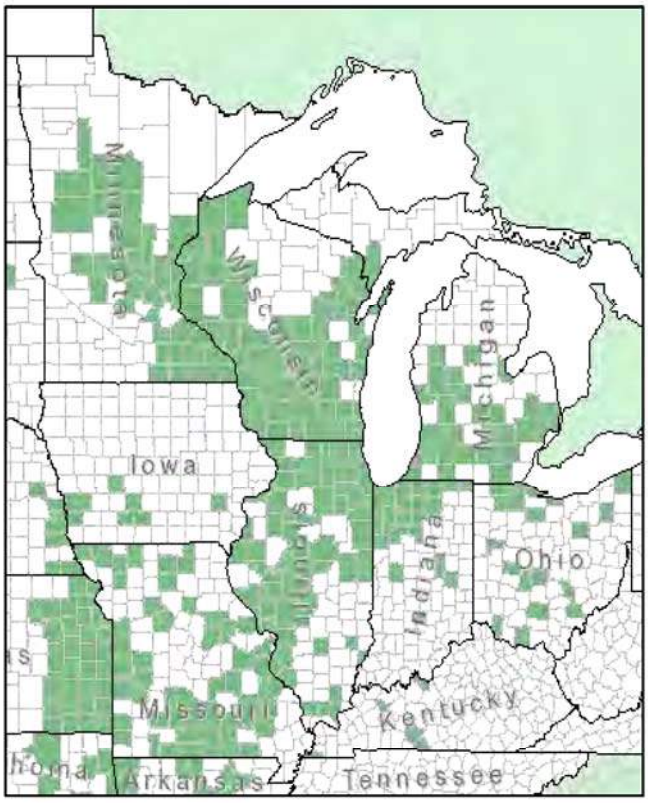
Distinguishing characteristics: Flowering heads in small clusters at the ends of branches, each flower head 0.5–1.0 inch across; rays blue to lavender, center yellow but becoming dark purple with age; leaves both basal and along the stem at flowering time; basal and lower leaves with a long leaf stems which are commonly winged; upper leaves smaller and with shorter leaf stems; leaf undersurfaces densely hairy with short stiff hairs and raspy to the touch.

Plant Height: 1–3 ft., erect (in clusters or tufts (caespitose)) **Blooms/Fruits:** August–October

Duration: Perennial, herbaceous (from branched woody rhizomes)

Pollinator Value: These flowers provide abundant nectar and pollen in the fall. They attract butterflies. There are a number of aster--oligolege bees that feed on the pollen.

Habitat: Open, dry, sandy, or rocky soils, upland prairies, open forests, and rocky slopes.







Full flowering/close-up of flowers





Stem and leaf arrangement; close up of leaf





Mature plant

Smooth Beggarticks (*Biden laevis*)

Aster Family

Other Common Names: smooth bidens, smooth bur marigold, larger bur marigold, showy bur marigold

Scientific Name: *Biden laevis* (L.) Britton, Sterns & Poggenb. **Plant Symbol:** BILA

Distinguishing characteristics: Flowering heads solitary on the top of numerous branches, generally upright in flower and nodding in fruit, rays and disc yellow to yellow orange; leaves opposite (may be whorled at base), widest at the middle or above the middle with toothed margins and a pointed tip; fruits with 4-barbed awns on top.

Plant Height: 1–3 ft., erect but with a spreading base. **Blooms/Fruits:** August–October

Duration: Annual within the Midwest, Perennial to the south, herbaceous

Pollinator Value: This flower is a summer and fall nectar source. Known to attract butterflies and other invertebrates.

Habitat: Marshes, wetlands, stream banks, moist prairies, pastures, and roadside ditches.




Photo: Joseph Marcus, Lady Bird Johnson Wildflower





Flowering/close-up of flower heads





Close-up of leaf

Smooth Blue Aster (*Symphyotrichum laeve*)

Aster Family

Other Common Names: smooth aster

Scientific Name: *Symphyotrichum laeve* (L.) Á. Löve & D. Löve **Plant Symbol:** SYLA3

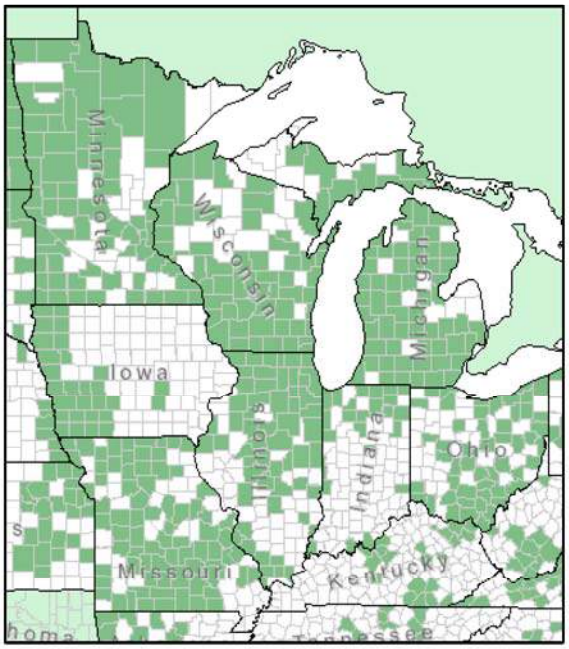
Distinguishing characteristics: Flowering heads few to many on the ends of ascending branches, rays are blue to lavender and the center is yellow; leaves are widest near the middle and sometimes heart-shaped, generally without hairs; leaf stems absent or very short; basal leaves and those on the lower half of the stem generally absent/withered at flowering.

Plant Height: 2 – 4 ft., erect, branched above the stem's midpoint **Blooms/Fruits:** August - October

Duration: Perennial, herbaceous (from creeping, woody rhizomes)

Pollinator Value: These flowers provide abundant nectar and pollen in the fall. They attract butterflies. Several aster-oligolege bees feed on the pollen.

Habitat: Open or drying sites, upland prairies, open forests, and roadsides.











Full flowering/close-up of flowers





Stem and leaf arrangement



Mature plant

Mid

Smooth Phlox (*Phlox glaberrima*)

Phlox Family

Other Common Names: marsh phlox

Scientific Name: *Phlox glaberrima* L. **Plant Symbol:** PHGL4

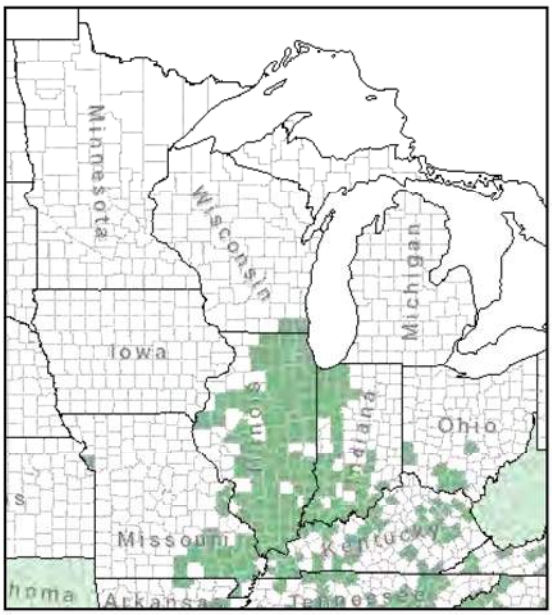
Distinguishing characteristics: Flowers in loose clusters in a dome-shaped inflorescence, pink to pinkish purple in color, the 5 petals widely spreading with a narrow floral tube below; leaves are opposite on the stem and very narrow towards the plant base and becoming lance-shaped further up the stem. Smooth phlox does not have separate vegetative and flowering stems as in some other *Phlox* species.

Plant Height: 1–3 ft., erect **Blooms/Fruits:** May–July

Duration: Perennial, herbaceous (with thick rhizomes)

Pollinator Value: A spring, blooming flower that attracts butterflies.

Habitat: Fens, acid seeps, bottomland prairies and forests, and swamps.







Full flowering/close-up of blooms



Close-up of leaf/ stem and leaf

Soft-hair Marbleseed (*Onosmodium bejariense*)

Borage Family

Other Common Names: soft-hair false gromwell, false gromwell, western marbleseed

Scientific Name: *Onosmodium bejariense* DC. ex A. DC. **Plant Symbol:** ONBE

Distinguishing characteristics: Flowers tubular shaped and small (0.5 in.) on long, coiled inflorescences, white, cream, or yellowish-green in color; inflorescences are coiled like a fern frond or scorpion's tail and unroll as the flowers develop; leaves are alternate, lance to egg shaped, with a tapering tip and very hairy on the top and undersurfaces; basal leaves usually falling off at flowering time.

Plant Height: 1–3 ft. **Blooms/Fruits:** May–August

Duration: Perennial, herbaceous (may have a woody base)

Pollinator Value: Softhair marbleseed's enclosed flowers are primarily accessed by large native bees. They contain both pollen and nectar resources.

Habitat: Grasslands, forest openings, limestone outcrops

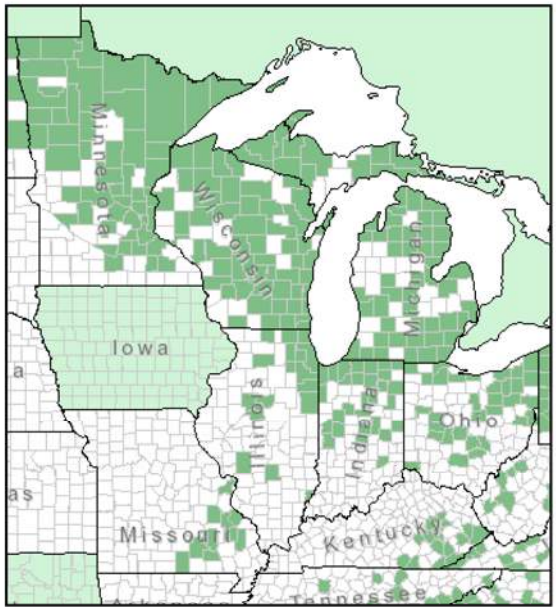



Photo: W.D. and Dolphia Branford, Lady Bird Johnson



Close-up of flowers; stem and leaf arrangement



Seedling



Seed

Spotted Beebalm (*Monarda punctata*)

Mint Family

Other Common Names: dotted beebalm, horse mint, dotted horse mint

Scientific Name: *Monarda punctata* L. **Plant Symbol:** MOPU

Distinguishing characteristics: The inflorescences are in a series of ball-like clusters of flowers terminating the stems; flowers two-lipped with a hood (top) and lip (bottom), cream-colored to pale yellow or pinkish with prominent purplish-brown to maroon spots; leaves are lance shaped and moderately hairy on both the top and bottom surfaces; the stems are square like most mints.

Plant Height: 1–2 ft., erect **Blooms/Fruits:** June–September

Duration: Perennial (South), to Biennial, to Annual (North), herbaceous

Pollinator Value: Hummingbirds may be attracted by the nectar. Also popular with butterflies and long-- tongued bees.

Habitat: Sand prairies, crop field margins, open disturbed sites, and along roadsides.

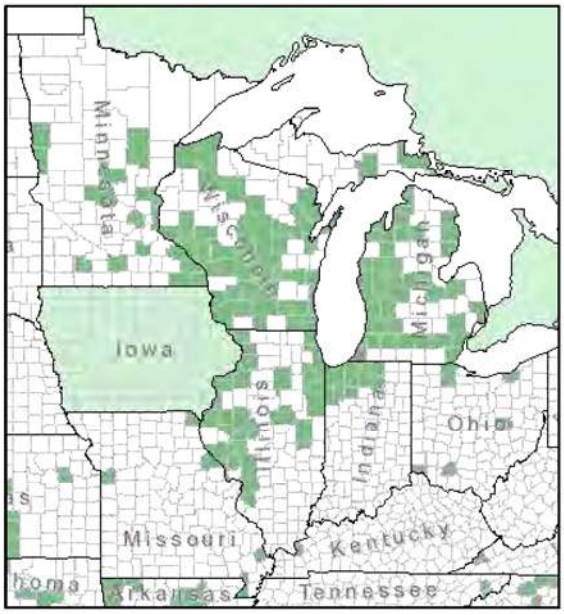



Photo: W.D. and Dolphia Bransford, Lady Bird Johnson Wildflower



Full flowering/close-up of blooms



Stem and leaf arrangement/ close-up of leaf

Stiff Goldenrod (*Oligoneuron rigidum*)

Aster Family

Other Common Names: ridged goldenrod

Scientific Name: *Oligoneuron rigidum* (L) Small **Plant Symbol:** OLRI

Distinguishing characteristics: Flower heads in branched, flat-topped to mildly rounded inflorescences, individual flower heads small with yellow rays and yellow centers; leaves with basal rosettes that are persistent at flowering as well as smaller stem leaves; leaf surfaces with short, usually dense, curved hairs making the surface feel rough; stems with several fine grooves/ridges and with pubescence of curved hairs.

Plant Height: 2–4 ft., erect **Blooms/Fruits:** July–November

Duration: Perennial, herbaceous (with short, creeping rhizomes)

Pollinator Value: Flower supports pollinators and beneficial insects. It attracts butterflies including the monarch.

Habitat: Bottomland and upland prairies, dry upland forests, old fields, and pastures.

Note: There are many plants commonly called goldenrods that belong to different plant genera, *Solidago, Euthamia, and Oligoneuron,* and they are all fairly similar. They generally have yellow, clustered flowers, but some species are white. The flowering stems can be elongate and recurved or flat-topped.

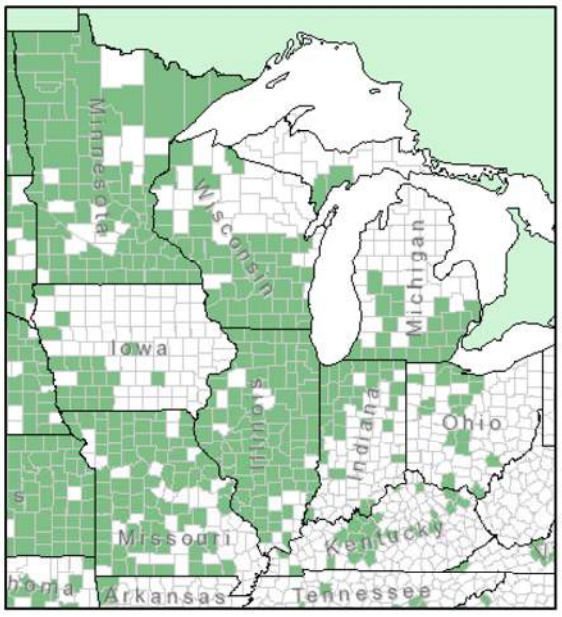



Photo: W.D. and Dolphia Bransford, Lady Bird Johnson





Full flowering/close-up of blooms



Stem and leaf arrangement



Stiff Tickseed (*Coreopsis palmata*)

Aster Family

Other Common Names: stiff coreopsis, finger coreopsis

Scientific Name: *Coreopsis palmata* Nutt. **Plant Symbol:** COPA10

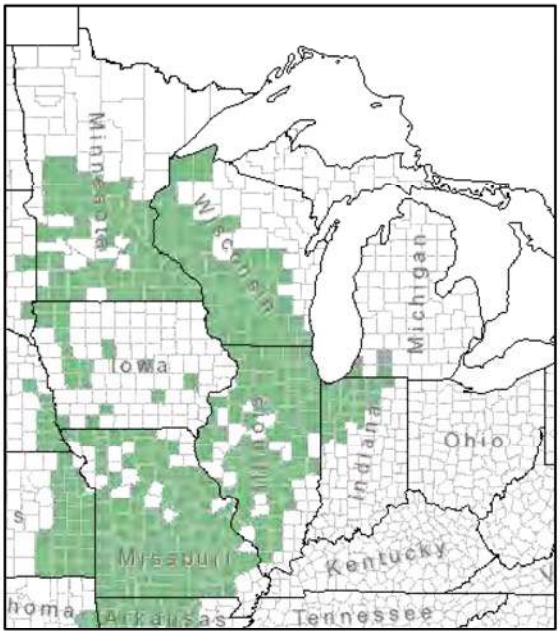
Distinguishing characteristics: Flowering heads with yellow rays and a yellow center, 2–3 in. across, borne singly or in a loose clusters of flower heads; leaves are opposite on the stem and sessile, each leaf divided into 3-lobes resembling skinny fingers.

Plant Height: 1–3 ft., erect **Blooms/Fruits:** May–September

Duration: Perennial, herbaceous (with long creeping rhizomes)

Pollinator Value: This summer blooming wildflower provides nectar and pollen to native bees and other invertebrates.

Habitat: Upland prairies, openings in forests, old fields, and fallow areas.







Full flowering/close-up of blooms



Stem and leaf



Mature plant

Swamp Milkweed (*Asclepias incarnata*)

Milkweed Family

Other Common Names: rose milkweed, pleurisy root, white Indian hemp

Scientific Name: *Asclepias incarnata* L. **Plant Symbol:** ASIN

Distinguishing characteristics: Inflorescences long stalked and with 2–12 per plant, both terminal and in the leaf axis toward the upper end of the stem; flowers pink to pinkish-white; petals reflexed; leaves opposite on the stem, lance-shaped, and with an abrupt or rounded base; leaf stalk short.

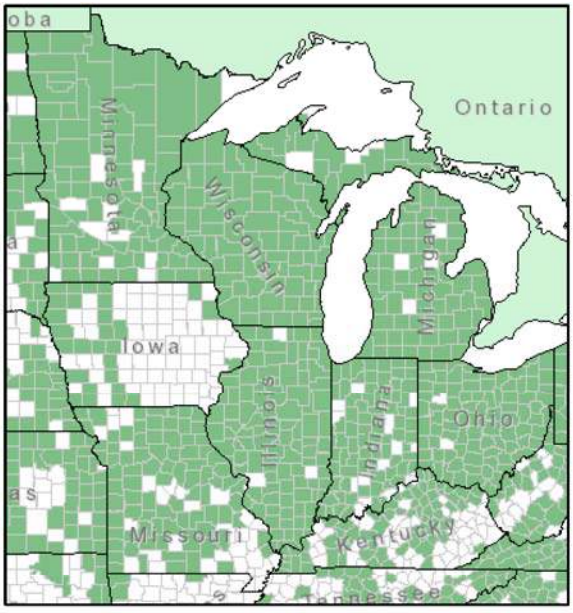
Plant Height: 2–6 ft., erect **Blooms/Fruits:** June–October

Duration: Perennial, herbaceous

Pollinator Value: Larval host plant for the monarch butterfly. Flowers attract butterflies.

Habitat: Wetland habitats: swamps, sloughs, marshes, and edges of ponds.

Note: Swamp milkweed is poisonous if consumed in larger quantities by people and livestock. Sheep are especially susceptible.







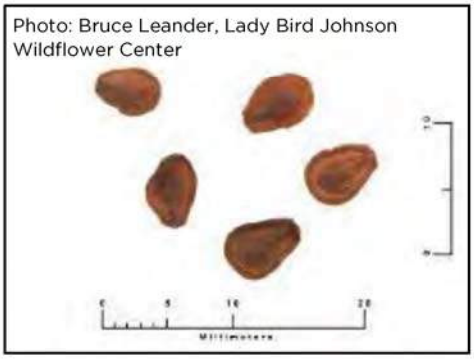
Full flowering/close-up of blooms



Leaf arrangement



Fruit



Seed

Swamp Thistle (*Cirsium muticum*)

Aster Family

Other Common Names: dunce-nettle, horsetops, chardon mutique

Scientific Name: *Cirsium muticum* Michx. **Plant Symbol:** CIMU

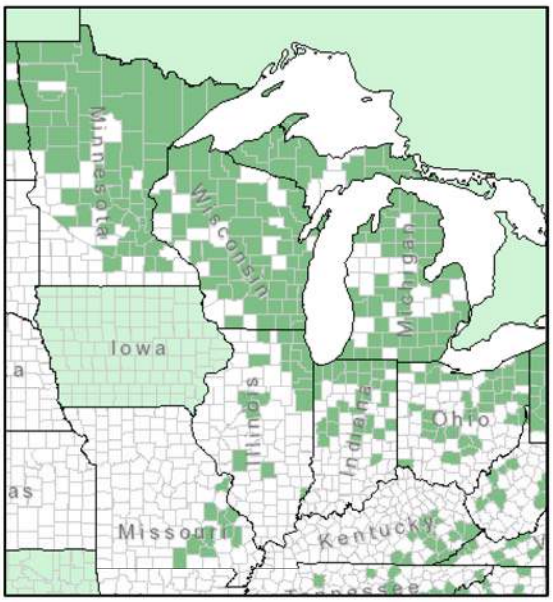
Distinguishing characteristics: Flowering heads few, in clusters of 2 -3 on branches, powder-puff shaped heads about 1 in. tall and 1 in. wide, lavender to purple in color; leaves about 1 ft. long, deeply divided into segments which may be divided some more, each division tipped with a spine along with a few spines along the margins of the divisions, leaf undersurfaces densely covered with tufts of white wooly hairs.

Plant Height: 3–7+ ft., erect (stems solitary, branched towards top) **Blooms/Fruits:** July–September

Duration: Biennial (basal rosette in first year, second year growth from taproot)

Pollinator Value: This native thistle is highly attractive to numerous pollinators, from bumble bees to the monarch butterfly.

Habitat: Low moist woodland margins, riverbanks, and meadows.







Full flowering/close-up of flowers/seedling



Stem and leaf

Tall Thoroughwort (*Eupatorium altissimum*)

Aster Family

Other Common Names: tall boneset

Scientific Name: *Eupatorium altissimum* L. **Plant Symbol:** EUAL3

Distinguishing characteristics: Flower heads white, in terminal, broadly dome-shaped to flat-topped inflorescences, usually 5 disc flowers per head; leaves opposite, but the uppermost leaves may be sub-opposite to alternate, attached to the stem directly without a leaf stalk or with a very short one, lance-shaped with sharply pointed tips and tapering bases, the leaves have 3 main veins arising from the base; stems are hollow and with purple-tinged or brownish-mottles.

Plant Height: 2–6 ft., erect **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous

Pollinator Value: These flowers serve as a late summer nectar source for a variety of bees, butterflies, and other beneficial insects.

Habitat: Upland prairies, glades, savannahs, forest openings, old fields, pastures, and ditches.

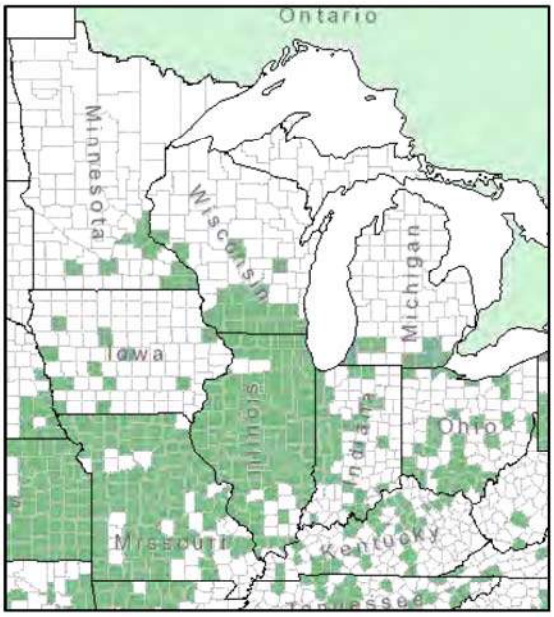



Photo: Kimberly Kline, Bird Johnson Wildflower



Full flowering/close-up of blooms



Stem and leaf arrangement



Seed

Tall Tickseed (*Coreopsis tripeteris*)

Aster Family

Other Common Names: tall coreopsis, tall tickseed

Scientific Name: *Coreopsis tripeteris* L. **Plant Symbol:** COTR4

Distinguishing characteristics: Flower heads with yellow rays and dark purple or reddish-brown centers; leaves are opposite on the stem, deeply divided into 3-segments or sometimes divided into 3 leaflets and with a leaf stalk, only the upper leaves un-divided and without a leaf stalks; seeds generally have two terminal awns/barbs or sometimes they are awnless.

Plant Height: 3–6 ft., erect **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous (from a stout rhizome)

Pollinator Value: This summer blooming flower attracts butterflies. It also provides nectar and pollen to native bees and beneficial insects.

Habitat: Open wooded stream banks, moist or upland prairies, old fields, and roadsides.

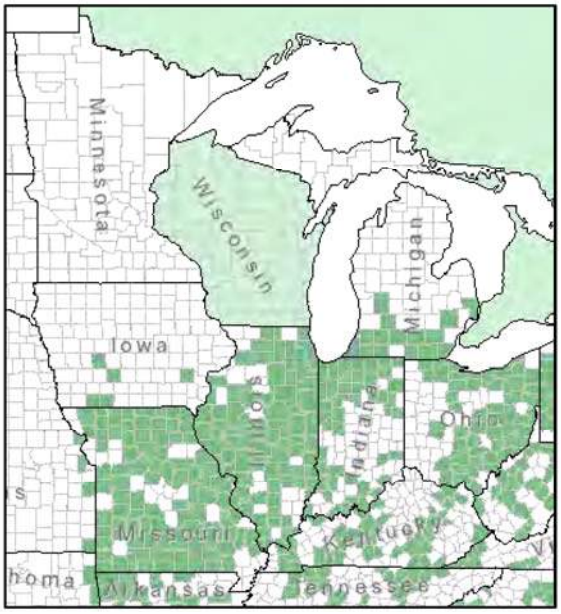



Photo: W.D. and Dolphia Bransford, Lady Bird Johnson



Full flowering/close-up of blooms





Mature plant



Stem and leaf

Turk's-cap Lily (*Lilium superbum*)

Lily Family

Other Common Names:

Scientific Name: *Lilium superbum* L. **Plant Symbol:** LISU

Distinguishing characteristics: Flowers large, nodding on long leaf-stems, orange with dark spots, the petals strongly curved backwards, and the base of each petal/sepal is a green stripe making a green star shape in the center; leaves whorled on the stem, long and narrow, widest in the middle.

Plant Height: 3–7 ft., erect **Blooms/Fruits:** July–September

Duration: Perennial, erect (from scaly bulbs)

Pollinator Value: This flower attracts hummingbirds and butterflies. It cannot self--pollinate.

Habitat: Wet meadows, moist ground, and coves.

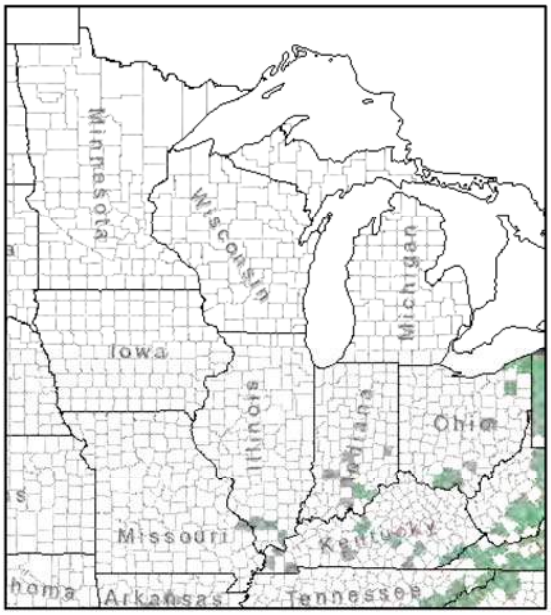
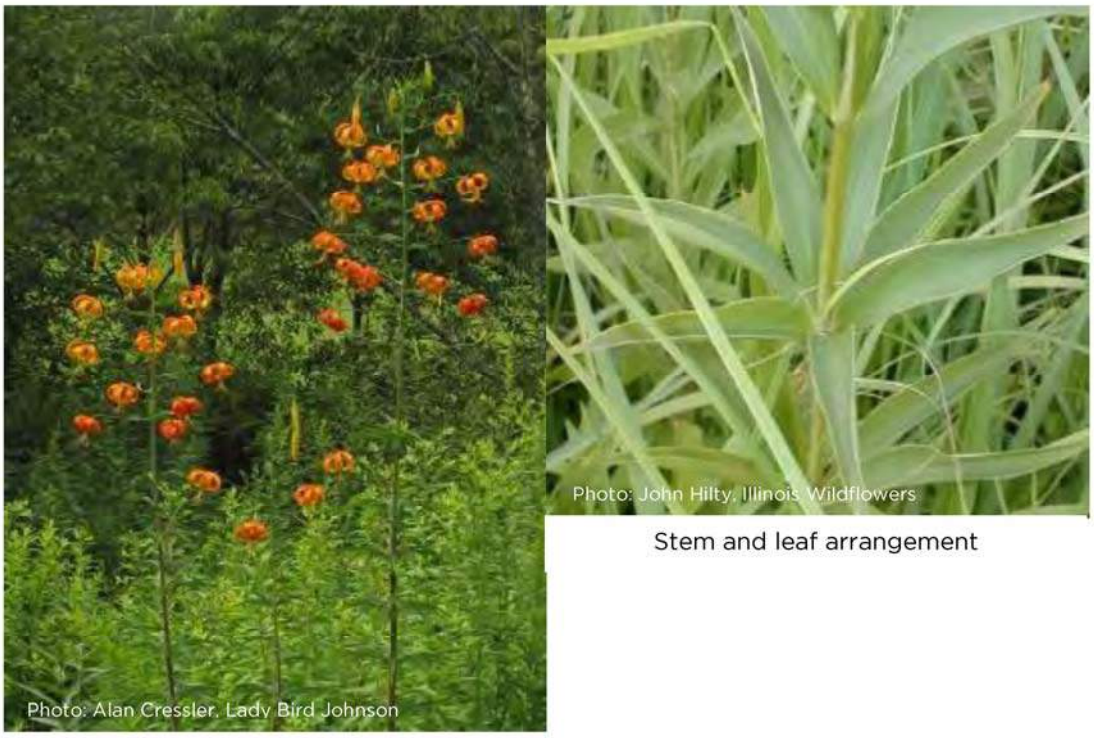



Photo: John Hilty, Illinois Wildflowers



Full flowering/close-up of flowers



Stem and leaf arrangement

Virginia Bluebells (*Mertensia virginica*)

Borage Family

Other Common Names: bluebells, Virginia cowslip

Scientific Name: *Mertensia virginica* (L.) Pers. ex Link **Plant Symbol:** MEVI3

Distinguishing characteristics: Flowers blue, funnel to bell-shaped, 1.5 – 2 in. long in drooping clusters; leaves broadly egg-shaped to widest in the middle with leaf margins smooth, the lower leaves larger and with short, winged leaf stalks while the upper leaves are smaller, without a leaf stalk, and wings extending down the stem.

Plant Height: 1–2 ft., arching **Blooms/Fruits:** March–May

Duration: Perennial, herbaceous (from a stout, woody rootstock)

Pollinator Value: Attracts butterflies. This flower is a spring nectar source to pollinators and other beneficial insects.

Habitat: Moist woods and stream sides, shady woodlands, bottomland forests, commonly cultivated and escaped.

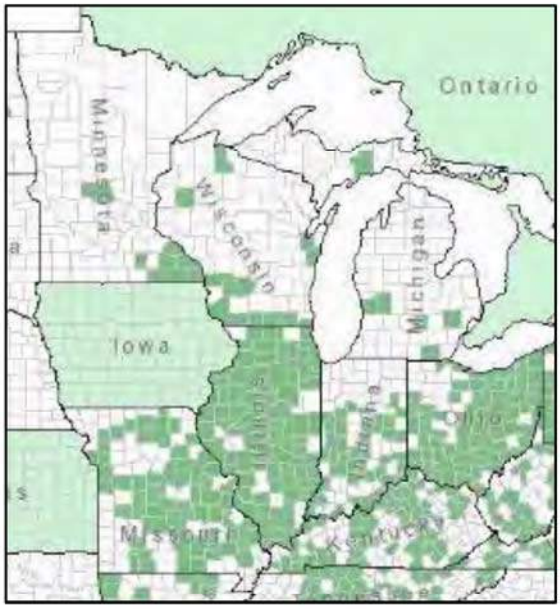



Photo: R.W. Smith, Lady Bird Johnson Wildflower Center



Flowering/close-up of flowers







Stem and leaf arrangement



Close-up of leaf

White Doll's Daisy (*Boltonia asteroides*)

Aster Family

Other Common Names: asterlike boltonia, false aster, false starwort

Scientific Name: *Boltonia asteroides* (L.) L'Hér. Plant Symbol: BOAS

Distinguishing characteristics: Flower heads in a loosely ascending, leafy, many branched inflorescence; individual flower heads with white to pink or light blue rays and a yellow center; leaves are linear to spear shaped and attached directly to the stem without a leaf stalk.

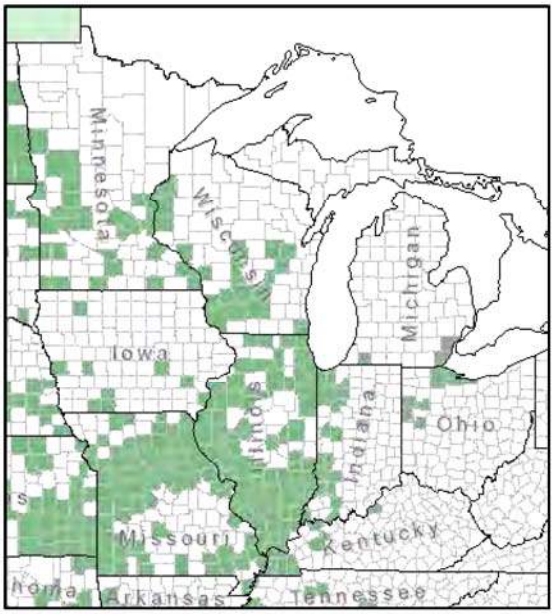
Plant Height: 2–4 ft., erect Blooms/Fruits: July–October

Duration: Perennial, herbaceous (multiple stems from stolons)

Pollinator Value: This flower provides nectar from summer through fall for monarchs and other invertebrates.

Habitat: Open damp or drying sites, streambanks, bottomland prairies and forests, fens, ditch banks, and edges of cultivated fields.

Note: There are 3 recognized varieties occurring in the US, only two of which occur in the Midwest region: B. a. var. *latisquama* and B. a. var. *recognita*. *Boltonia asteroids* var. *asteroides* does not occur in the Midwest.









Full flowering/ close-up of flower





Close-up of leaf and stem

White Prairie Clover (*Dalea candida*)

Pea Family

Other Common Names:

Scientific Name: *Delea candida* Michx. Ex. Willd. **Plant Symbol:** DACA7

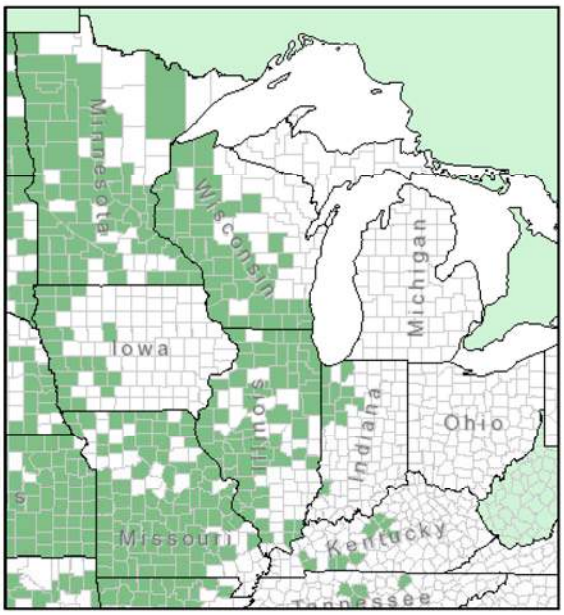
Distinguishing characteristics: Flowers small, two-lipped, white, and in cylindrical or thimble-shaped clusters at the top of the stem; flowering in a ring at the base of the cylindrical inflorescence first and the ring moves up the inflorescence; leaves compound with 3–5 pairs of leaves with one on the top; stems 1 to several from a thick taproot.

Plant Height: 1–2 ft., erect **Blooms/Fruits:** May–August

Duration: Perennial, herbaceous to shrubby bases

Pollinator Value: This flower provides nectar and pollen to bees and butterflies. It is also a larval host plant for the Dogface butterfly.

Habitat: Prairies, open woodland, stream valleys, and roadsides.







Full flowering/close-up of flowers



Stem and leaf arrangement

Wholeleaf Rosinweed (*Sliphium integrifolium*)

Aster Family

Other Common Names: entire-leaf rosinweed, rosinweed

Scientific Name: *Sliphium integrifolium* Michx. **Plant Symbol:** SIIN2

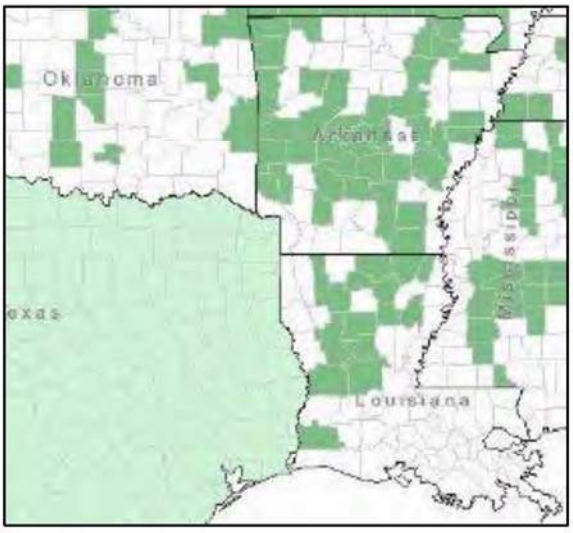
Distinguishing characteristics: Flowering heads in open loose inflorescences, rays yellow and the central disc yellow; leaves occur somewhat uniformly along the stem, are opposite each other on the stem, are widely lance-shaped to heart shaped, except for some basal leaves they are attached directly to the stem and without a leaf stalk; the leaf bases are heart shaped and clasping the stem or taper down the stem but do not fuse together with the leaf on the opposite side of the stem.

Plant Height: 2–6 ft., erect **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous (from short, stout rhizomes)

Pollinator Value: This flower provides nectar and pollen to bees and other beneficial insects.

Habitat: Upland prairies open upland forests, banks of streams and rivers, edges of crop fields, and roadsides.











Full flowering/close-up of flowers and base





Vegetative growth and close-up of stem and leaf

Whorled Milkweed (*Asclepias verticillata*)

Milkweed Family

Other Common Names: horsetail milkweed

Scientific Name: *Asclepias verticillata* L. **Plant Symbol:** ASVE

Distinguishing characteristics: Leaves very linear/narrow and whorled along the stem. Flower clusters in loose roundish clusters, white to greenish-white sometimes with a purple tinge; petals reflexed but with upturned tips; stems solitary or few from the root mass.

Plant Height: 1–3 ft., erect **Blooms/Fruits:** May–September

Duration: Perennial, herbaceous

Pollinator Value: Larval host plant for the monarch butterfly. Provides nectar in the summer and early fall. Flowers attract butterflies.

Habitat: Upland prairies, savannahs, pastures, roadsides, and open upland forests.

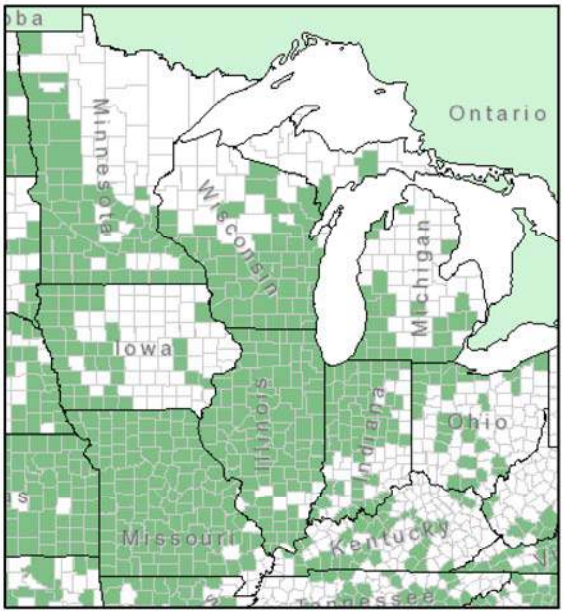



Photo: Beth Anderson, Lady Bird Johnson



Full flowering/close-up of blooms



Stem and leaf arrangement



Multiple inflorescences





Fruit (left) and mature fruit with seed (right)

Wild Bergamot (*Monarda fistulosa*)

Mint Family

Other Common Names: beebalm

Scientific Name: *Monarda fistulosa* L. **Plant Symbol:** MOFI

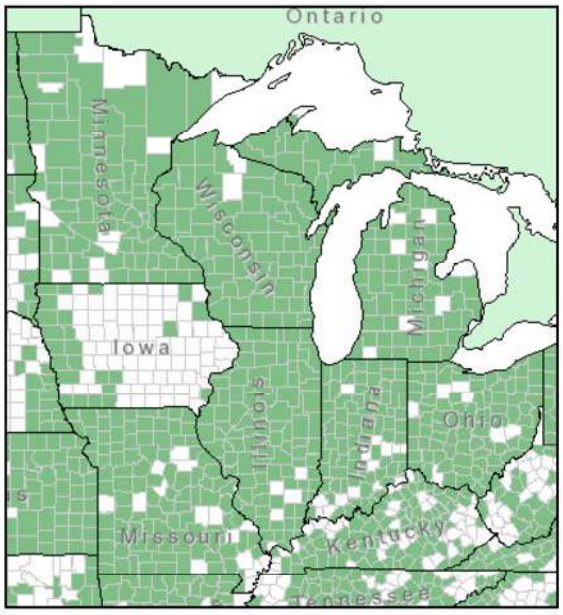
Distinguishing characteristics: Flowers in tight ball-like clusters terminating the branches, strongly 2-lipped with the upper lip erect and the lower lip downturned, pale to dark lavender, but rarely white; leaves opposite, variable from lance-shaped to widely lance-shaped, the undersurface has small, clear spots (punctae) that are visible when holding the leaf up to the light; stems are square and with backwards-pointed hairs on the upper half of the stem.

Plant Height: 1.5–4 ft., erect **Blooms/Fruits:** May–September

Duration: Perennial, herbaceous (with slender, creeping rhizomes)

Pollinator Value: This flower is highly attractive to long-tongued bees and butterflies.

Habitat: Dry open woods, fields, wet meadows and ditches, and at the edges of woods and marshes; calcareous or acidic soils.











Full flowering/close-up of blooms



Flower bud



Foliage/leaf arrangement

Wild Blue Phlox (*Phlox divaricata*)

Phlox Family

Other Common Names: Louisiana phlox, blue woodland phlox, sweet william, wild sweet william

Scientific Name: *Phlox divaricata* L. **Plant Symbol:** PHDI5

Distinguishing characteristics: Stems of 2 types – vegetative stems are spreading to slightly ascending and densely hairy, flowering stems are ascending to partially erect with moderate hairiness some of which are gland-tipped; leaves are all opposite on the stem, elliptic on the vegetative stems and widest towards the tip on flowering stems ; flowers are lavender, light purple, to pale blue in dome-shaped clusters, each flower has 5-spreading petals with an elongate tube extending to the base.

Plant Height: Flowering stems 1–2 ft., vegetative stems 2–3 inches **Blooms/Fruits:** April–June

Duration: Perennial, herbaceous to partly evergreen (with slender rhizomes)

Pollinator Value: This flower is a spring nectar source to butterflies. It I also popular with long-tongued bees.

Habitat: Bottomland and upland forests, and moist woodlands.

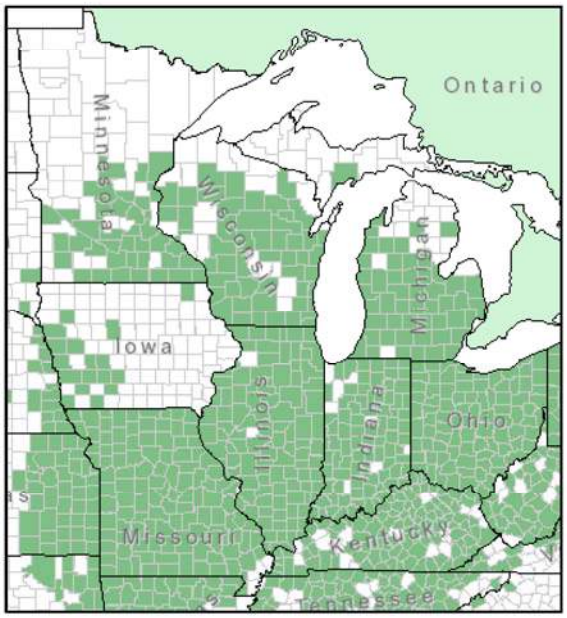



Photo: Mike Haddock







Full flowering/close-up of blooms





Close-up of stem and leaf (red circle)/habitat

Yellow Giant Hyssop (*Agastache nepetoides*)

Mint Family

Other Common Names: catnip giant hyssop

Scientific Name: *Agastache nepetoides* (L.) Kuntze **Plant Symbol:** AGNE2

Distinguishing characteristics: Flowers yellow to yellowish-green in a compact, elongate spike-like inflorescences terminating the stem; petals two-lipped with a tubular base; leaves are opposite on the stem, broadly lance-shaped, about 1.5x longer than broad, undersurfaces hairy at least on the veins; stems have a fine ring of short hairs where the leaves attach to the stem.

Plant Height: 3–5 ft., erect **Blooms/Fruits:** July–September

Duration: Perennial, herbaceous

Pollinator Value: The plant serves as a late summer and fall nectar source for the monarch butterfly, native bees, and other beneficial insects. It is highly attractive to many types of pollinator.

Habitat: Rocky wooded hillsides, riparian woodlands, pastures, and moist open sites.

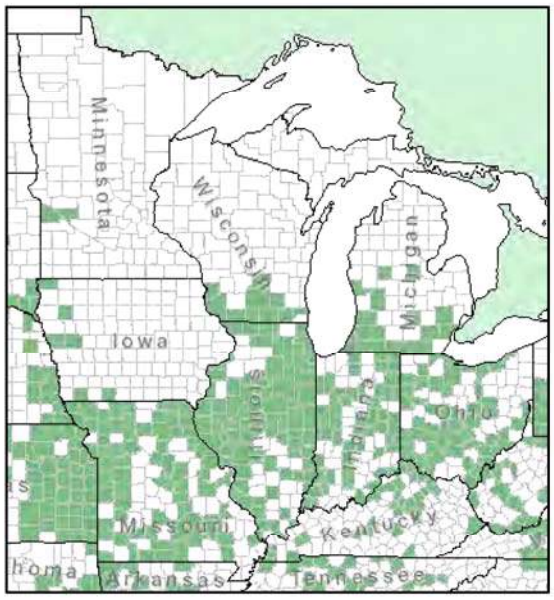



Photo: Mike Haddock







Full flowering/close-up of blooms





Close-up of Stem and leaf

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