

Milkweeds and their Communities

Gardening with milkweeds: In general, do not plant one or two plants. If you attract monarchs, their caterpillars will quickly decimate your plants and go hungry. Remember, milkweeds come up in late spring, don't forget where they are when planting new additions. Please do not collect wild seed without permission.

***Asclepias tuberosa*, butterfly milkweed**

Habitat: The preference is full sun, mesic to dry conditions, and an acidic soil that is sandy or rocky. However, this plant will adapt to other kinds of soil, including those that contain loam or clay if they are well-drained. Although this plant develops very slowly, it is easy to cultivate in open sunny areas once it becomes established.

Where to see it: Found on power lines and meadows, try Little Bennett Regional Park, and Maydale Nature Center. In the wild, *Asclepias tuberosa* can compete by growing a strong deep taproot while associated species create a dense fibrous network underground which supports the plant as well.

Associated species **in the wild:** Many grasses such as *Andropogon virginicus* (broomsedge), *Schizacharium scoparium*, (little bluestem), *Coleataenia anceps* (beaked panicgrass), *Eragrostis spectabilis* (purple love grass).

Flowering companion species are: *Pycnanthemum muticum*, *P. virginianum*, *P. tenuifolium* (mountain mint, Virginia mountain mint, narrowleaf mountain mint); *Oenothera fruticosa* (sundrops), *Eupatorium altissimum*, *hyssopifolium*, and *serotinum* (tall, hyssop-leaved, and late thoroughwort), *Euphorbia corollata* (flowering spurge), *Heliopsis helianthoides* (oxeye sunflower), *Solidago juncea*, *nemorosa* and *rugosa* (early, gray, and wrinkleleaf goldenrod), *Penstemon digitalis* (beardtongue) and many many more.

In the garden:

If you have poor soil then the above species could work in your garden. If you have more typical loamy soil, many of the above species will become too aggressive and overtake the butterflyweed. For typical gardens, look for plants that enjoy similar conditions and won't grow too tall and shade the butterflyweed.

Antennaria spp. pussytoes, *Eragrostis spectabilis* (purple love grass), *Rudbeckia fulgida* (orange coneflower), *Liatris spp.* (gayfeather), *Allium cernuum* (nodding onion), *Phlox subulata* (creeping phlox), *Coreopsis verticillata* (threadleaf tickseed), *Sericocarpus linifolius* (whitetop aster), *Euphorbia corollata* (flowering spurge), *Baptisia tinctoria* (yellow wild indigo), *Penstemon hirsutus* (hairy beardtongue), *Oenothera fruticosa* (sundrops),

Tip: If planting in a clay soil, try it on a slope to increase drainage, add some sand or gravel to the planting area. Rich loam will make it floppy. Try not to move it once planted (taproot).

***Asclepias syriaca*, common milkweed**

Habitat: Moist to dry fields, roadsides, vacant lots, woodland borders, pastures, sand dunes. It is a colonizer of disturbed areas in natural and developed habitats.

Plant common milkweed along with other aggressive plants so they keep each other in check. Look for unused areas of land and ask permission to plant it there (for example at schools). Friends of Sligo Creek talked Pepco into reducing mowing on a powerline.

Companions in the wild: See list for *Asclepias tuberosa*. These plants are often found in the same habitat. I suspect that the *A. tuberosa* occupies areas where the soil is drier.

In the garden: This is one of the earliest to come up and is available for spring migrating monarchs. *Eutrochium fistulosum* (Joe-pye weed), *Pycnanthemum* and *Monarda* spp. (mints) *Helianthus* spp. (sunflowers), *Veronicastrum virginicum* (Culver's root), *Solidago* (goldenrod) *Panicum virgatum* (switch grass), *Symphotrichum* spp. (asters), *Phlox paniculata* (fall phlox).

Tip: You can cut common milkweed back hard in July to provide fresh leaves for fall migrating monarchs and to clean up its appearance and prevent seeding. Be sure to check undersides of leaves for caterpillars or eggs.

***Asclepias incarnata* var *pulchra*, swamp milkweed**

Habitat: Wet meadows, river and stream shores, open swamps, freshwater tidal marshes or other wet soils. Frequent in Piedmont plateau and Coastal Plains, infrequent in mountains.

Where to see it: Maydale Nature Center, Little Bennett Regional Park (wet meadow near Wilson's Mill), Pope farm surrounding areas.

Associated species **in the wild:** *Scirpus cyperinus* and *georgianus*, *Juncus effusus* (rushes), *Carex lurida*, *Carex tribuloides* (sedges), *Cinna arundinacea* (sweet woodreed), *Coleataenia anceps* (beaked panicgrass), *Euthamia graminifolia*, *Solidago rugosa* (goldenrods), *Mimulus ringens* (monkeyflower), *Eupatorium* spp. (thoroughwort), *Lobelia cardinalis* (cardinal flower)

In the garden: Pair with other moisture and sun loving plants such as: *Lobelia* spp., wetland sedges, *Mimulus* spp. (monkeyflower), *Sium suave* (water parsnip), *Iris versicolor* (blue flag), *Eupatorium perfoliatum* (common boneset), *Hibiscus* spp.

Tip: Though it supposedly requires wet feet, swamp milkweed can grow in average soil as long as there is some moisture present and can tolerate flooding. Good for bottom of rain garden.

***Asclepias purpurascens*, purple milkweed**

Habitat: Floodplain, wet meadows, stream banks, upland depression swamps, shale barrens. Usually found in soil originating from calcareous, igneous rock, or silicate minerals. Infrequent.

Where it's planted: Brookside Gardens: Anderson Pavillion Pond, Meadowside Nature Center

Associated species **in the wild:** Bracken and Sensitive fern, *Juncus effusus*, *Dichanthelium scoparium*, *Solidago rugosa*, *Helianthus divaricatus*,

In the garden: Keep in an area where it won't be overtaken by other aggressive plants. Try it with *Penstemon* spp. (beardtongue), *Coleataenia anceps* (beaked panic grass), *Conoclinium coelestinum* (mistflower), *Euthamia caroliniensis* (slender goldenrod)

Where to buy local ecotype native plants:

Chesapeake Natives, Upper Marlboro, MD www.chesapeakenatives.org

Montgomery Parks Nature Center Native Plant sales, if you specifically ask where the plants came from. If Pope Farm provided them, they are the local ecotype.

Earth Sangha, Fairfax VA www.earthsangha.org

Environmental Concern, St. Michaels, MD http://www.wetland.org/nursery_home.htm

Sylva Native Nursery, www.sylvanative.com

American Native Plants, Middle River, MD <https://www.americannativeplants.com/> (mostly wholesale, occasionally open to public.

Kollar Nursery: <http://www.kollarnursery.com>

Plant databases to search by certain characteristics (height, bloom time, etc.):

Chesapeake Bay Region, US Fish and Wildlife Service, "Native Plants for Wildlife Habitat and Landscape Conservation." <http://www.nativeplantcenter.net/>

Native Plant Information Network (NPIN) Ladybird Johnson Wildflower Center:

<http://www.wildflower.org/plants/index.php>

Missouri Botanic Garden, Plant finder database:

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderProfileResults.aspx>

<http://www.iconservepa.org/plantsmart/plantsdatabase/>

Mt. Cuba: Native Plant Finder: <https://mtcubacenter.org/native-plant-finder/>

Search for the nativity of plants in MD by county, (can also submit your findings)

MD Biodiversity project, <https://www.marylandbiodiversity.com/>

To see how widespread a plant is nationwide:

Biota of North American plants (BONAP) <http://www.bonap.org/>

Information on Lepidoptera (Monarchs/Other Butterflies/Moths) and Pollinators:

Monarch Watch: <https://monarchwatch.org/>

Raising Butterflies and Moths for Conservation:

<https://www.facebook.com/groups/butterflyandmothconservation/>

(Private Facebook Group – Read guidelines to join)

Xerces Society for Invertebrate Conservations (Milkweed Seed Finder; Pollinator Conservation Resource Center; Bumble Bee Conservation; Monarch Conservation): <https://xerces.org/>

University of Maryland Extension Home & Garden Information Center:
<https://extension.umd.edu/hgic>

Other excellent resources:

Rainscapes program: provides support and money for Conservation landscape and Raingardens:
<https://www.montgomerycountymd.gov/water/rainscapes/index.html>

Milkweeds A Conservation Practitioner's Guide, Plant Ecology, Seed Production Methods and Habitat Restoration Opportunities, The Xerces Society

Missouri Botanical Gardens: <http://www.missouriplants.com/> to research specific species, many overlap with our area

Audubon Naturalist Society <http://www.audubonnaturalist.org/> classes, credit courses, garden, wild flower hikes

Dept. of Botany, Smithsonian Institution., DC Flora Checklist, <http://botany.si.edu/DCFlora/> plus page of links to other sites

Green Spring Gardens, Gardening Information, Plant Information Sheets:
<http://www.fairfaxcounty.gov/parks/greenspring/gardening.htm>, provides lists of suggested Native plants for Spring, Summer, Fall blooming, Shady or Sunny Gardens, etc.

Maryland Dept. of Natural Resource:
<http://dnr.maryland.gov/wildlife/habitat/wildacres/wawildflowers.asp>, Numerous resources including "Creating a Wildflower Backyard" and Rare, Threatened and Endangered Plants.

Maryland Native Plant Society, Primary Non-profit organization dedicated to Maryland Native Plants, <http://mdflora.org/>, Informative meetings on specific topics, conferences, field trips, conservation and much more.

Montgomery County Master Gardeners of the University of Maryland's College of Agriculture and Natural Resources. <http://mcmg.umd.edu/Contactus.cfm>, Master Gardener's offer free services that the public may take advantage of, including [telephone consultation](#), [ask us a question via email](#), [plant clinics](#), etc.

Nature by Design, Landscaping Philosophy, <http://www.nature-by-design.com/philosophy.html>,
Backyard Reforestation: A New Approach to Suburban Landscaping

US Forest Service, Celebrating Wildflowers, <http://www.fs.fed.us/wildflowers/>. Extensive website with pages on native gardening, pollinators, ethnobotany, rare plants and more.

Virginia Native Plant Society, Information on growing natives. <http://vnps.org/wp/growing-natives/>, plant sales, Reference book and app: Flora of Virginia.

USDA Plant Database: www.Plants.usda.gov

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- Pleasants, J.M., and K.S. Oberhauser. Milkweed loss in agricultural fields because of herbicide sue: Effect on the monarch butterfly population. *Insect Conservation and Diversity*. Vol. 6, pp. 135-144.
- Weakley, A.S., J.C. Ludwig, J.F. Townsend, & B. Crowder (ed.). *Flora of Virginia*. Second edition. 2012. Fort Worth, TX: Botanical Research Institute of Texas Press.

Good info on general gardening practices from Kerry Wixted, Wildlife and Natural Outreach specialist, Department of Natural Resources

1. Honeybees are not native to the US, and research is starting to show adverse impacts of honeybees on native bee species. <https://www.npr.org/sections/thesalt/2018/01/27/581007165/honeybees-help-farmers-but-they-dont-help-the-environment> In landscapes that are relatively homogeneous (like many backyards), the presence of honeybees decreased the amount of foraging bumblebees: <https://www.sciencedirect.com/science/article/pii/S1439179116300378> Additional research on how honeybees can impact native pollinators can be found here: <https://www.nature.com/articles/s41559-017-0249-9>
2. In 2016, the Pollinator Protection Act was passed in MD. It was just enacted this past January and restricts the sale and use of neonicotinoids: <https://extension.umd.edu/hgic/pollinators-neonicotinoid-insecticides-and-new-maryland-law>
3. Pesticides are not regulated by the Maryland Department of Natural Resources. They are regulated by the Maryland Department of Agriculture. <http://mda.maryland.gov/plants-pests/Pages/default.aspx>
4. Neonicotinoids are used in many ways, and neonics are some of the few resources we have to fight invasive insects like emerald ash borer and hemlock woolly adelgid. Ash trees and

hemlocks are wind pollinated, so treatment with neonics is only going to impact insects feeding on those trees as well as possibly some of the plants towards the base of the trees where root injections can be applied. The loss of hemlocks has been directly tied to the decline in several forest bird species.

5. "Natural" pesticides are not always safer. Pyrethrins are made from chrysanthemum extracts but have a high toxicity to bees. Here's a chart from the Xerces Society: <https://www.xerces.org/wp-content/uploads/2009/12/xerces-organic-approved-pesticides-factsheet.pdf>

6. Pollinator declines are not solely linked to pesticides. As a society, we certainly use too many pesticides (herbicides and fungicides included). However, many additional reasons for pollinator decline are linked to habitat loss. Here are ways to help:

- * Plant native species in your yard. Many non-native plant species may attract pollinators, but they often attract generalist species and/or a fraction of species as compared to a native plant. Dandelions mainly feed honeybees and other introduced bees. Butterflybush is invasive in Maryland, and its nectar is almost all sucrose (like Hi-C) and lacks nutrients needed for butterfly reproduction. Many specialist bee species have the greatest needs, and they often are only supported by a species or two of plants. Here's a list from Jarrod Fowler's research with Sam Droege: http://jarrodfowler.com/host_plants.html

- * Plant native species in clumps. If you have limited space, quantity is more important than diversity. Pollinators need to feed from multiple plants, so if you have one here and one there, it is not going to be enticing or energy efficient to visit.

- * Reduce outdoor decorative lighting and light pollution. Walk by any light at night, and you will see a ton of insects which also include our pollinators. Light pollution isn't often addressed, but it has a huge impact on insects and other species. If you have outdoor lighting, consider placing it on timers or on sensors. Florida has a comprehensive site on certified fixtures and bulbs that reduce impacts to wildlife: <http://myfwc.com/conservation/you- conserve/lighting/> Light pollution also affects birds and bats.

- * Leave the leaves. Leaf litter is important in the lifecycle for many insects. Large moths like woolly bears and luna moths over winter under leaf litter. It is important to remove excess leaf litter by mid-May, however, to reduce larval tick habitat.

- * Create shelter. Add bee boxes to your yard. Leave decaying logs in piles for habitat. Don't clean the garden in the fall; leave standing flower stalks as they might be overwintering spots for pollinators, especially if the piths are hollow. If a standing dead tree (snag) is not a hazard to people, pets, or property then leave it up for wildlife. Understand that our unfinished wood structures or wood structures that haven't been painted or stained in a while are also habitat. Leave sandy areas or bare earth open for ground nesting bees.

* Embrace natural predators. Wasps are pollinators as adults, and some of them are effective at it while others are like butterflies and are just good at drinking nectar. Social wasps can be aggressive if you get close to their colony, but if you keep your distance and respect their space then they will take care of pests in your yard AND pollinate plants

* Educate others. There are many misconceptions about pollinators, and often, people only focus on the charismatic pollinators. Lead by example in your yards and in your communities with pollinator friendly practices that help ALL pollinators. Show people why wasps should be celebrated, why drab moths still matter, why monarchs need more than milkweed.

Science Daily has short articles on current research that link to the actual research papers and not something that has been sensationalized by popular media. <https://www.sciencedaily.com/>

Further reading on milkweeds:

<https://the-natural-web.org/2013/08/19/milkweed-its-not-just-for-monarchs/>

<https://www.collection.ento.vt.edu/?p=302>

https://www.xerces.org/wp-content/uploads/2008/06/Wings_sp11_milkweed.pdf

<https://texasbutterflyranch.com/2016/05/08/new-study-nectar-plants-more-important-than-milkweed-for-monarch-butterfly-migration/>

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