



Marilyndica

Fall/Winter 2018

A Publication of the Maryland Native Plant Society

Volume 9, Issue 2

Marilandica

A Publication of the
Maryland Native Plant Society



www.mdflora.org

P.O. Box 4877 Silver Spring, MD 20914

CONTACTS

Membership & Website

Karyn Molines, membership@mdflora.org

Marilandica Editors

Kirsten Johnson, kh.johnson@gmail.com

Vanessa Beauchamp, vbeauchamp@towson.edu

General Inquiries

info@mdflora.org

MNPS CHAPTERS

Eastern Shore

Info@mdflora.org

Greater Baltimore

Kirsten Johnson, kh.johnson@gmail.com

Montgomery County

info@mdflora.org

North East

Tracey Ripani, info@mdflora.org

Prince George's/Anne Arundel Counties

Robinne Grey, info@mdflora.org

Southern Maryland

Karyn Molines, info@mdflora.org

Washington, DC

Claudine Lebeau, claudine_l_lebeau@yahoo.com

Western Mountains

Liz McDowell, lmcnativeplants@hughes.net

EXECUTIVE OFFICERS

Kirsten Johnson, **President**

Karyn Molines, **Vice-president**

Anne Denovo, **Secretary**

Sujata Roy, **Treasurer**

BOARD OF DIRECTORS

Vanessa Beauchamp

Carole Bergmann

Allen Browne

Michael Ellis

Marc Imlay

Beth Johnson

Kerrie Kyde

Liz Matthews

Brett McMillan

Christopher Puttock

Roderick Simmons

Jil Swearingen

Michelle Wenisch

Lou Aronica, Emeritus

Chris Fleming, Emeritus

Joe Metzger, Emeritus

Our Mission

Promote awareness, appreciation and conservation of Maryland's native plants and their habitats. We pursue our mission through education, research, advocacy, and service activities.

Letter from the President



Dear Members,

Preparing Kerry Wixted's article for this issue, I asked myself – What about my own small garden here in Baltimore City? It's almost all native plants, but is it maximized for pollinators? Am I doing it right? These thoughts were completely contrary to my typical exhortations to people wondering about planting native. I always say, 'Just get started! You don't need to be an expert!' I still believe that and I applaud each individual decision to go with native sedges instead of (God forbid!) English ivy as a ground cover. Or to tolerate a certain number of white snakeroots sneaking in, and to leave dead stalks standing through the winter. No one will convert to native gardening if we make it too hard. But I personally will make two changes based on Kerry's advice. I'll stop buying a little of this and a little of that. No more plant zoo. I'll concentrate on a few piedmont native plants that will thrive without tending (since I'm not going to tend them) and I'll turn off my outdoor lights. Our planet is in trouble. We all know that. Let me just do my best.

– Kirsten Johnson, President

We Welcome New Board Members

Kerrie Kyde was until recently the Invasive Plant Ecologist for Maryland's Natural Heritage Program at MD Department of Natural Resources. She served as Chair of the state Invasive Plant Advisory Committee from its inception; she created the citizen science data collection Statewide Eyes, designed to increase the volume of invasive species data available to Maryland land managers; she was a founding member of the Maryland Invasive Species Council and the founding president of the Mid-Atlantic Invasive Plant Council. Now retired from DNR, she is catching up on her native plant ID skills and stewarding her own little piece of land.

Michelle Wenisch, a native of Michigan, is a soil scientist/agronomist and environmental attorney with the US Department of Environmental Protection. She has a special interest in soil biology, particularly mycorrhizal fungi. In her spare time she's a Montgomery County Weed Warrior Supervisor.

Other changes on the Board – Matt Cohen is stepping down as Treasurer, to be replaced by Sujata Roy. Anne DeNovo will be Secretary in addition to continuing as Field Trip Coordinator. Our organization could not function without the dedication of conscientious volunteers like Matt, Sujata, and Anne.

All new positions were effective as of the Annual Meeting on November 27.

Thank you to our members whose dues and donations support all of these activities and more.

In addition to publishing *Marilandica*, Maryland Native Plant Society —

- Sponsors at least 50 field trips each year in Maryland's natural areas, free of charge,
- Holds free evening programs monthly in Montgomery County and bimonthly in Allegany County,
- Holds a 2-day conference each fall,
- Supports conservation projects in Maryland,
- Publishes and distributes a booklet on landscaping with native plants,
- Supports scientific research on Maryland's native plants and their habitats,
- Has over 1500 members,

AND does all this as an all-volunteer organization on a budget of less than \$50,000 per year.

On the cover: Common Milkweed, *Asclepias syriaca*, in winter. Photo: Kirsten Johnson. Graphic design of *Marilandica* is provided by Marjie Paul, PaulDesignWorks@me.com.

Wildflower in Focus – Common Milkweed

Asclepias syriaca L

Common milkweed

Dogbane Family, Apocynaceae

Milkweed. So much to say, so little space. There's the complex flower structure, rivaling that of orchids, and there's the poison, and the evolution... I could go on and on. In the last issue, I wrote about the effect of insect herbivory on milkweed evolution. This time, let's start with pollination and end up at taxonomy. Our focus this year is on the Dogbane Family (Apocynaceae) of which the milkweeds comprise one of five subfamilies. What are the milkweeds doing in that family anyway? Didn't we learn that they had a family of their own, the Asclepiadaceae? Or to reverse the question, why were the milkweeds ever classified in a separate family?



Pollinia of common milkweed cling to the foot of a margined leatherwing beetle. Photo: Robert Ferraro

Anyone who's spent time in the field knows that milkweeds have characteristics in common with Indian hemp and other dogbanes. Not so visible is an important feature that distinguishes them and that was at least one reason for their prior classification as a separate family. Milkweeds do not produce pollen in the form of a loose powder as most plants do. Instead, they produce pollen in waxy sacs called pollinia, located in two anther pouches adjacent to vertical stigmatic slits. An insect trying to drink nectar from the slippery flower will sometimes accidentally slip its leg or other appendage into the opening at the bottom of the stigmatic slit. This slit is lined with bristles that force the leg up into the opening of a clamp-like structure that pinches tight onto the insect's leg. As the insect struggles to escape, it withdraws pollinia from the anther pouches. Each of the pollinia contains an enormous number of pollen grains, so that this mechanism is a highly efficient method of transporting pollen. The effort requires strength, and the best pollinators are large hymenopterans (bees and wasps). Smaller, weaker insects (including non-native honeybees) are likely to become trapped and die. A photo on this page shows a beetle with pollinia stuck to its foot.

Interestingly, a similar structure evolved independently in the Orchid Family, although there, the mechanism for attaching the pollinia to the insect is different and orchids generally don't require pollination by large strong insects the way milkweeds do.

So why combine the milkweeds into the Dogbane Family? A goal of taxonomic grouping is that all the species in each family should be derived from a single ancestor *and* that all the species derived from the family ancestor should be included in the family. A family that meets these criteria is called "monophyletic." It has long been understood that the milkweeds and the members of the narrowly defined Dogbane Family



Apocynum cannabinum, Indian hemp, with a grapeleaf skeletonizer moth. Compare the flower structure to that of milkweed. Photo: Robert Ferraro.

are closely related. In fact, they were derived from the same common ancestor. This meant that the absence of the milkweeds created a hole in the old Dogbane Family tree, a condition known as "paraphyly" that taxonomists avoid whenever possible. With the addition of the milkweeds, the Dogbane Family is monophyletic, and better reflects the evolutionary relationships among the species in the newly constituted family.

-Kirsten Johnson



Close-up of Asclepias quadrifolia, whorled milkweed. Note the reflexed petals, and the vertically oriented scoop-shaped "hoods." The stigmatic slits are between the hoods. Photo: Jim Stasz.

References

- Agrawal, A. 2017. *Monarchs and Milkweed*. Princeton Univ. Press.
- Eldridge, E.P. 2015. *Milkweed Pollination Biology*, https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/nvpmctn12764.pdf
- Endress, M.P. and P.V. Bruyns 2000. A Revised Classification of the Apocynaceae s.l., *The Botanical Review*, Vol. 66, pp. 1–56.
- Johnson, S.D. and T.J. Edwards 2000. The structure and function of orchid pollinaria, *Plant Systematics and Evolution*, Vol. 222, pp. 243–269.
- Nazar, N. et al. 2013. The taxonomy and systematics of Apocynaceae: where we stand in 2012, *Botanical Journal of the Linnean Society*, Vol. 171, pp. 482–490.

Concerned about Pollinators? Here are Some Points to Consider.

Editor's Note: In July Kerry Wixted, Wildlife Education and Outreach Specialist of the Maryland Department of Natural Resources, posted an extremely informative email on the Maryland Master Naturalists' listserv in response to questions and comments about pollinators. Here is an edited version.

- **Honeybees are not native to the US**, and research is starting to show adverse impacts of honeybees on native bee species. For example, in landscapes that are relatively homogeneous (like many backyards), the presence of honeybees decreased the number of foraging bumblebees. For research on how honeybees can impact native pollinators, see: <https://www.sciencedirect.com/science/article/pii/S1439179116300378>; <https://www.nature.com/articles/s41559-017-0249-9>.



Andrena aliciae on wingstem, *Verbesena alternifolia*.
Photo: Josh Emm

- **Neonicotinoid pesticides (“neonics”) are used in many ways.** Neonics are some of the few resources we have to fight invasive insects like emerald ash borer and hemlock wooly adelgid. Neither ash trees nor hemlocks are insect pollinated, so treatment with neonics will only affect insects feeding on those trees, as well as possibly some of the plants towards the base of the trees where root injection can be applied. The loss of hemlocks has been directly tied to the decline in several forest bird species as well as other ecological loss. See: <https://phys.org/news/2018-05-long-term-reveals-invasive-insect-forest.html>.

- **The Maryland Pollinator Protection Act** went into effect in January 2018. It restricts the sale and use of neonicotinoid pesticides. Only farmers and certified pesticide applicators (or people working under their supervision) can apply them outdoors. So while these products may appear on store shelves, they cannot be applied outdoors by gardeners. Pesticides are regulated by the Maryland Department of Agriculture.

- **“Natural” pesticides are not always safer.** Pyrethrins are made from chrysanthemum extracts but have a high toxicity to bees. Xerces

Society has a chart showing the relative toxicity of various pesticides: <https://www.xerces.org/wp-content/uploads/2009/12/xerces-organic-approved-pesticides-factsheet.pdf>

- **Pollinator declines are not solely linked to pesticides.** As a society, we certainly use too many pesticides (herbicides and fungicides included). However, pollinator decline is also linked to habitat loss. Pollinators can't survive without habitats that fill their needs throughout their life cycles.

Ways to Help Pollinators

- **Plant native species.** Many non-native plant species 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, its nectar is almost all sucrose (like Kool-Aid), and it lacks nutrients needed for butterfly reproduction. Many specialist bee species have the greatest needs, and they often depend completely on plants of a single genus or species. For comprehensive tables of host plants for mid-Atlantic specialist bees compiled by Jarrod Fowler and Sam Droege, see http://jarrodflower.com/host_plants.html and http://jarrodflower.com/specialist_bees.html.



Unequal Cellophane Bee, Colletes inaequalis, emerging from its nest.
Photo: Mike Burchett

- **Plant native species in clumps.** If you have limited space, quantity is more important than diversity. Pollinators need to feed off multiple plants, so if you have one here and one there, they will not be enticing or energy efficient to visit. Many gardeners are delighted to find Monarch caterpillars on one of their few milkweed plants, only to find they don't have enough plants to feed them.

- **Reduce outdoor lighting and light pollution.** Walk by any light at night, and you will see hundreds of insects, including 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. Light pollution also affects birds and bats. Florida Fish and Wildlife has a comprehensive site on certified fixtures and bulbs that reduce impacts to wildlife. <http://myfwc.com/conservation/you- conserve/lighting/>



Black-and-gold bumble bee, Bombus auricomus on wild bergamot, Monarda fistulosa. Photo: Pauline Horn

- **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 wood structures that are unfinished or haven't been painted or stained in a while can also provide wildlife habitat. Leave sandy areas open for ground nesting bees.

- **Appreciate natural predators like wasps.** I often hear "what good are wasps," and it is hard not to give an hour-long spiel about their importance. Wasps are pollinators as adults, and some of them are very effective at it, while others—like some butterflies—mostly just drink the 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. I personally let a yellow jacket nest stand and simply roped off the area.

It was fun watching the workers snag bugs from my garden and drag them down into their nest. A raccoon eventually dug it all up and made a meal after the second year.

- **Don't forget the beetles!** Some beetle-pollinator associations, like that of magnolia, have ancient evolutionary origins. Beetles also pollinate more recently evolved species like goldenrods and viburnums.

- **Educate others.** There are many misconceptions about pollinators and people often focus only on the charismatic pollinators. Lead by example in your yard and in your community 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.

- **Do your research.** I want to emphasize the importance of consulting reliable sources of science-based information before forming opinions and beliefs. Research is critically important for me as a biologist and there is no reason why everyone should not have the same habit. As Dr. John Hall always mentions in his taxonomy lecture, the last guy who knew everything died a long time ago. Therefore, you should be a master of looking up information. I always recommend looking through Science Daily to find short articles on current research. The articles link to the actual research papers, not the sensational but often inaccurate reports by popular media. You can find Science Daily here: <https://www.sciencedaily.com/>

- Kerry Wixted



Blue-winged wasp, Scolia dubia, on goldenrod. This large, beneficial wasp not only pollinates but also preys on June beetles. Photo: Kerry Wixted.

MNPS Research Grants

MNPS awards grants up to \$3000 for scientific research on Maryland's native plants and their habitats. The application for 2019 grants will be posted on our website in January with a due date in late March.

Are the Little Things Running the World?

Rapid environmental and anthropogenic changes are decreasing biodiversity worldwide, potentially diminishing ecosystem functions and services, but many of the potential relationships between biodiversity and ecosystem function are still unexplored. For example, we know that higher tree species diversity is associated with increases in timber production, carbon storage, and watershed quality, but we don't know why this is the case. A better understanding of the benefits of diversity and the damage that diversity losses could cause may motivate policy makers, landowners, and the public to favor measures that preserve biodiversity and mitigate the negative effects of diversity loss.

My research investigates how bacteria and fungi, sometimes called the “great unseen,” may be an overlooked yet important dimension of diversity. Indeed, bacteria and fungi are the most abundant organisms on Earth and they outweigh all plants and animals combined! While we know how important microbes are for human health (e.g., immunity, digestion), we know much less about their role in ecosystem function outside of the human body. I am studying whether microbes associated with plants may be equally — if not, more — important to plant health. With the use of newly developed technologies, researchers are beginning to discover that microbes are critical

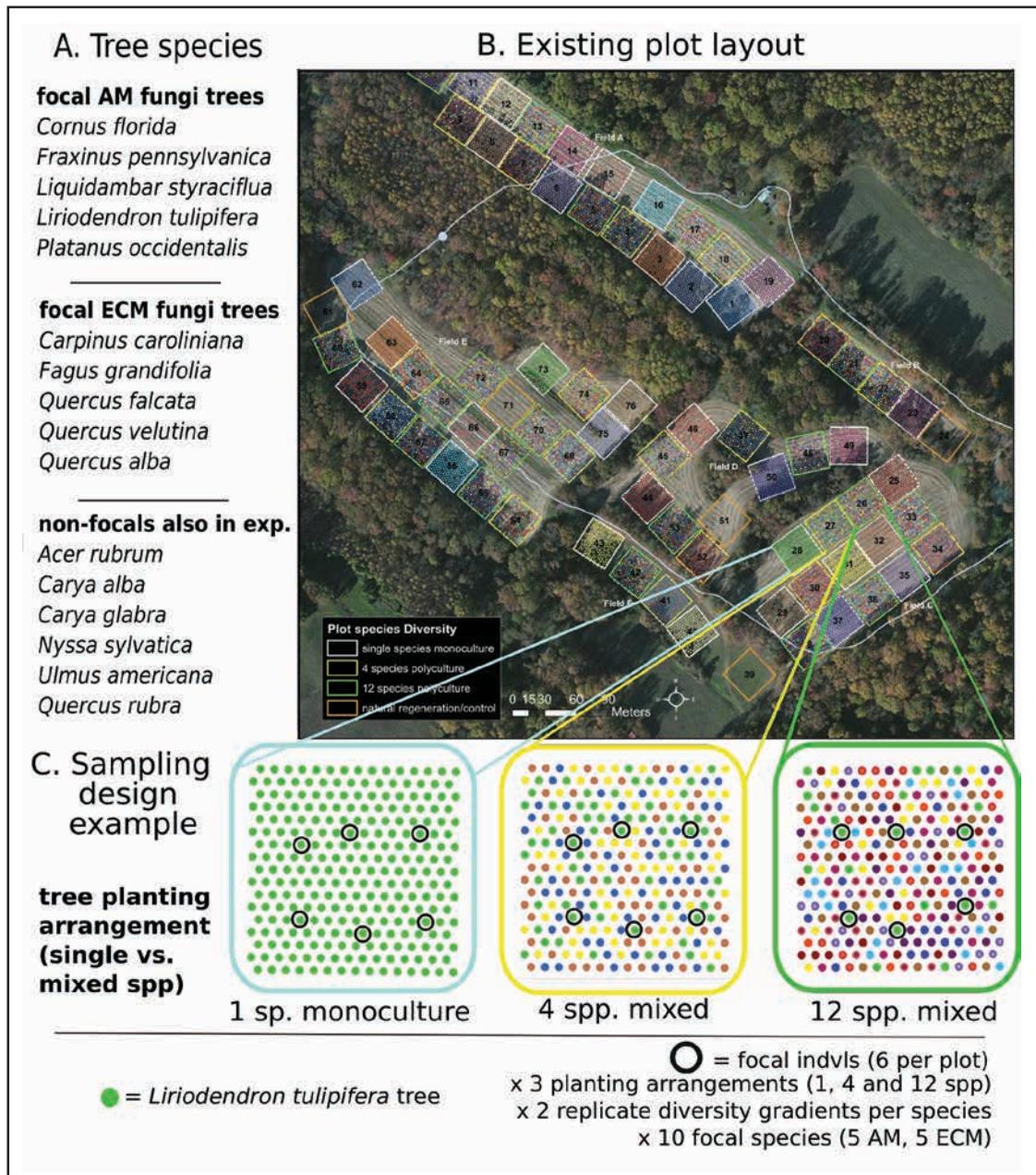


Figure 1: The focal species (A) and experimental design (B) of the BiodiversiTREE experiment at the Smithsonian Environmental Research Center in Edgewater, Maryland. Focal species include dogwood (*Cornus florida*), green ash (*Fraxinus pennsylvanica*), sweetgum (*Liquidambar styraciflua*), tulip poplar (*Liriodendron tulipifera*), sycamore (*Platanus occidentalis*), muscledogwood (*Carpinus caroliniana*), beech (*Fagus grandifolia*), southern red oak (*Quercus falcata*), black oak (*Quercus velutina*), and white oak (*Quercus alba*).



Figure 2. The BiodiversiTREE site in Edgewater, Maryland.

drivers of plant performance, and that they have the ability to structure entire plant communities. In my previous work, I demonstrated that leaf bacteria on trees determine which plants make it to the top of the canopy (the “winners”) and which trees die (the “losers”) in tropical forests in Panama — which suggests that these microbes are essential to forest function (Griffin et al. 2016, 2017).

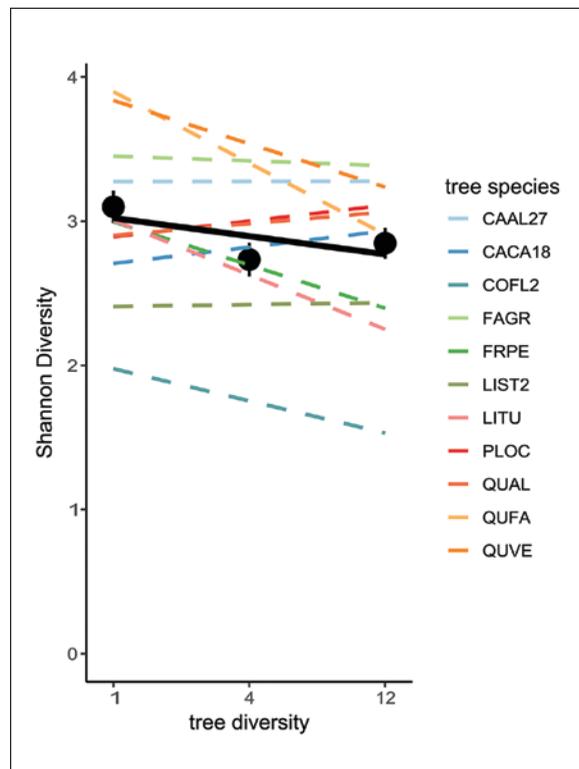
I recently conducted a research project partially funded by the Maryland Native Plant Society to evaluate the relationship between plant-associated microbes and the positive effects of native tree diversity in Maryland. In collaboration with Drs. Melissa McCormick, John Parker and Karin Burghardt, I took advantage of an existing tree diversity experiment at the Smithsonian Environmental Research Center (SERC) site in Edgewater, Maryland. Tree diversity on 30 acres of former cropland had been manipulated beginning in 2013 by creating plots with 1, 4 or 12 tree species (Figures 1 and 2). This set-up permits a variety of experiments on tree diversity and it allowed us to determine how tree diversity influenced the fungal communities associated with tree leaves. I isolated and characterized all of the fungi from leaves collected from ten native tree species in the experimental plots and found that increases in tree diversity actually decreased fungal diversity on leaves (Figure 3 at right). This suggests that high diversity forests may be better protected from fungal pathogens, both those that can wipe out entire populations of trees (e.g., the chestnut blight), and also those that lessen the vigor of trees in less obvious ways. This work adds an important component to our understanding of why diversity is important for forest health.

References:

Griffin, E. A., S. J. Wright, P. J. Morin & W. P. Carson. 2017. Pervasive interactions between foliar microbes and soil nutrients mediate leaf production and herbivore damage in a tropical forest. *New Phytologist* 216: 99–112.

Griffin, E. A., M. B. Traw, P. J. Morin, J. N. Pruitt, S. J. Wright & W. P. Carson. 2016. Foliar bacterial and soil fertility mediate seedling performance: a new and cryptic dimension of niche differentiation. *Ecology* 97: 2998–3008.

Link to BiodiversiTREE experiment: <https://serc.si.edu/research/projects/biodiversitree>



MNPS grant recipient Eric Griffin at the BiodiversiTREE site, Edgewater, MD

Figure 3: The relationship between tree diversity and leaf fungal diversity of focal trees in BiodiversiTREE. Shannon diversity is an index used to characterize species diversity (here, fungal diversity) in a community. The trend line represents the mean change in fungal Shannon diversity across tree diversity treatments. Colors and codes correspond to tree species. CAAL27 = mockernut hickory (not listed in Figure 1 but sampled), CACA18 = musclewood, COFL2 = dogwood, FAGR = beech, FRPE = green ash, LIST2 = sweetgum, LITU = tulip poplar, PLOC = sycamore, QUAL = white oak, QUFA = southern red oak, QUVE = black oak

Mountain Maryland Notes



For the first time in almost four decades the forested hillsides of Garrett County failed to provide spectacular autumn colors this October. Particularly missed were the brilliant red and orange hues of the various native maple species found here. One local forester blamed the muted fall colors on the above normal rainfall and warm temperatures. Such weather conditions favor anthracnose (a group of fungal diseases that attack a variety of herbaceous and woody plants). Due to this blight many maples and other trees simply dropped their leaves early before changing color.

But despite the disappointing early fall foliage, a walk through the forest in November was not without color. There were the drab browns of crumpled oak leaves still clinging to their twigs; the soft grays of leafless maple branches; and the varied greens of hemlock, pine and spruce boughs. Interspersed among these were the harsh tans of broken tree stems and branches, sickening leftovers from recent high winds. Overall a fairly dreary picture, until a bend in the trail revealed the golden-yellow canopy of a stand of larch ready to drop its needles.

Larch, a member of the Pine Family, is the only deciduous conifer on the Allegheny Plateau. Unlike most cone-bearing trees such as pine or hemlock, it sheds all of its needles at the end of the growing season. There are two species of larch in Garrett County. Our native species, *Larix laricina*, goes by the names of tamarack, American larch, Eastern larch, and hackmatack. It is a northern species typically found in swamps and bogs. The Nature Conservancy's Cranesville Swamp in western Garrett County, has the distinction of being home to the southernmost stands of tamarack. The alien European larch, *Larix decidua*, is actually more common in Garrett County with

several planted stands of this upland species scattered throughout our state forests and parks. Both their habitat and physical characteristics easily distinguish these two species. Tamarack is a wetland species with smaller cones (about 1/2" long), slightly shorter needles (1" or less in length), and non-drooping branchlets as compared with the European larch.

American larch is a boreal species that grows near the northern limit of trees across North America. A large variety of insects feed on it, including beetles, moths, true bugs, and wasps. Red crossbills and American tree sparrows are reported to eat the seeds, and ruffed grouse consume the buds and needles. Since larch is resistant to rot, it has been used for posts and railroad ties. Its fibrous roots were used by Native Americans to piece together bark strips when making birch canoes. A tea from its bark

was a folk remedy for everything from sore throats to constipation. But be careful if you ever have reason to fell a larch: the sawdust is reported to cause an allergic skin reaction.

- Liz McDowell



*In a planted stand in Savage River State Forest, the golden-yellow fall foliage of European larch, *Larix decidua*, peaks a week or so later than that of the American larch, *Larix laricina*. Photo: Liz McDowell*

*Top: By late October American larch, *Larix laricina*, approaches maximum fall color at Finzel Swamp in northeastern Garrett County, a nature preserve owned by The Nature Conservancy. Photo: Liz McDowell*

References:

Eastman, J. 1995. *The Book of Swamp and Bog: Trees, Shrubs and Wildflowers of Eastern Freshwater Wetlands*. Mechanicsburg, PA: Stackpole Books.

Foster, S. and J.A. Duke. 2000. *A Field Guide to Medicinal Plants and Herbs of Eastern and Central North America (Second Edition)*. Boston: Houghton Mifflin Company.

Rhoads, A.F. and T.A. Block. 2005. *Trees of Pennsylvania: A Complete Reference Guide*. Philadelphia: University of Pennsylvania Press.

The Western Maryland Chapter sponsors regular evening programs usually held at Frostburg State University. See our website for details about these, and about field trips and invasive removal projects in Western Maryland.

Clear Creeks Project

Gunpowder Valley Conservancy's Clear Creeks Project Marks Five Years of Community Engagement for Clean Water

Since 1989, the Baltimore County-based Gunpowder Valley Conservancy (GVC) has been educating and mobilizing people and resources to preserve and restore the Gunpowder watershed, which drains some 500 square miles from its starting point in lower York County, Pennsylvania, through Carroll, Baltimore, and Harford counties. GVC has preserved over 1,600 acres in the watershed in conservation easements, and it also engages in education and restoration projects.

One such endeavor is GVC's *Clear Creeks Project*, a grant-funded, community-based initiative to restore water clarity and beautify communities through stormwater best management practices. The *Clear Creeks Project* began in 2013, at the edge of the water, in the creeks of Middle River and the Tidal Gunpowder, where many residents had witnessed changing conditions over the years. Those residents gave the Project its name and tagline — “See your feet in our creeks.” They remembered being able to wade six feet into the water and still see their toes, and they expressed their hope of restoring this level of water quality for their kids and grandkids. Since then, the Project has expanded upland from its original waterfront communities into the Bird River and Lower Gunpowder Falls subwatersheds, and GVC has continued to partner with residents, homeowners associations, places of worship, and businesses.

Clear Creeks emphasizes landscaping with native plants to solve local flooding issues and filter stormwater pollution, while creating a beautiful landscape that provides wildlife habitat. *Clear Creeks* gardens use exclu-

sively native plants, sourced as much as possible from local nurseries. Property owners in the *Clear Creeks* project area are eligible for a 60-80% cost-share discount on the installation of Bayscapes, rain gardens, and microbio-retention practices and a 50% discount on rain barrels. Community members are invited to the garden installations, where they receive hands-on gardening advice and learn about Bay-friendly yard practices and the value of native plants. The University of Maryland Extension Bay-Wise Program, and specifically the landscape practices recommended in the Bay-Wise Maryland Yardstick, complement the *Clear Creeks Project* and the management practices we promote. The Project also includes tree plantings and stream clean-ups in the spring and fall and an Adopt-A-Stream program with trainings throughout the year.

If you love native plants and value clean water, we hope you'll consider volunteering at a *Clear Creeks* workshop, tree planting, or stream clean-up in 2019! GVC looks forward to more *Clear Creeks* partnerships, people, and progress in the next five years!

Funding for the *Clear Creeks Project* has been provided by the Baltimore County Department of Environmental Protection and Sustainability; Chesapeake Bay Trust; BGE; Chesapeake and Atlantic Coastal Bays Trust Fund, administered by MD Department of Natural Resources; and the National Fish and Wildlife Foundation's Chesapeake Bay Stewardship Fund.

www.gunpowdervalleyconservancy.org/clearcreeks



Amy Young



Darcey Herman

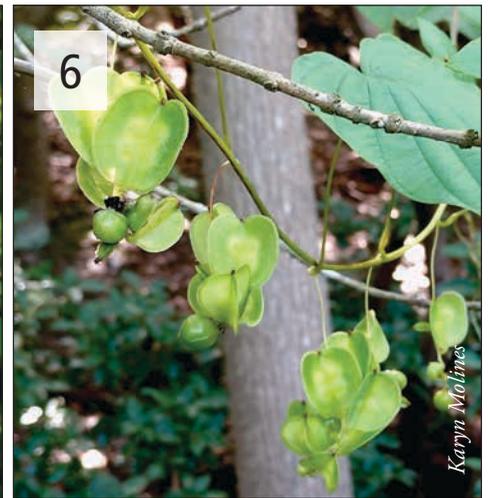


Amy Young

Volunteering with the Gunpowder Valley Conservancy is a great way to improve your local community and the environment. Whether planting trees, installing rain barrels, developing conservation gardens or helping with paperwork, there are plenty of ways you can contribute. The photos above are from Gunpowder Valley Conservancy garden workshops over the past three years. Sign up today to learn about our upcoming volunteer opportunities.

Many of the photos in Marilandica are the work of MNPS members and contributors to the Maryland Biodiversity Project, marylandbiodiversity.com.

Plant ID Quiz - "By their fruits you shall know them."



Triple Matching — Match the photo with the common name and the scientific name.

- | | |
|-----------------------|-------------------------------|
| A. Calla lily | a. <i>Apocynum cannabinum</i> |
| B. Smooth alder | b. <i>Desmodium canescens</i> |
| C. Catberry | c. <i>Alnus serrulata</i> |
| D. Hoary tick-trefoil | d. <i>Calla palustris</i> |
| E. Indian hemp | e. <i>Dioscorea villosa</i> |
| F. Wild Yam | f. <i>Ilex mucronata</i> |

ANSWERS
1. B, C
2. E, a.
3. D, b.
4. A, d.
5. C, f.
6. F, e.

Speaker suggestions?

Do you know of someone who would be a good speaker for a monthly program? If so, we would love to hear from you. Please send contact information to info@mdflora.org.

Upcoming Events

All MNPS sponsored events are free and open to the public unless otherwise noted. Pre-registration is required for many field trips, and early registration is usually offered to members. Unless otherwise indicated, MNPS field trips are generally geared to adults. New field trips and programs are continually being scheduled. See our website, mdflora.org, for up to date listings and details.

Field Trips & Other Outdoor Events

December 21, Friday, 10:00 – 2:00

Winter Tree Identification. Indoor and outdoor workshop.

Co-sponsored by Calvert Nature Society

Leader: Karyn Molines

Gatewood Preserve, Prince Frederick, Calvert Co

December 22, Saturday, 10:00 – 12:30

Beginner Tree Identification

Leader: Sujata Roy

Little Bennett Regional Park, Clarksburg, Montgomery Co

December 23, Sunday, 10:00 – 4:00

Winter Solstice Walk

Co-sponsored by Mattawoman Watershed Society, Virginia Native Plant Society Potomack Chapter, Botanical Society of Washington

Leaders: Rod Simmons and Mary Farrah

Chapman State Park

January 25, Friday, 10:00 – 1:00

Winter Greens — Learn to identify evergreen plants

Co-sponsored by Calvert Nature Society and Calvert Co Division of Natural Resources

Leader: Karyn Molines

Gatewood Preserve, Prince Frederick, Calvert Co

Do you enjoy exploring natural areas?
Learning about native plants? Nature photography?
You can be a field trip leader.

MNPS field trips are group efforts, with a wide range of expertise among the participants. You don't need a great deal of botanical expertise to be a leader. You just need to plan a route in one of your favorite natural areas.

Contact fieldtrips@mdflora.org for details.

Programs

November 27, Tuesday, 7:30 PM, doors open at 7:00

O Where are the Pines of Piney Branch?

Speaker: Steve Dryden

Kensington Library, Kensington, MD

January 29, Tuesday, 7:30 PM, doors open at 7:00

Invisible Connections: Introduction to Parasitism in Plants

Speaker: Vanessa Beauchamp, PhD, Towson University

Kensington Library, Kensington, MD

February 26, Tuesday, 7:30 PM, doors open at 7:00

To be announced.

Kensington Library, Kensington, MD

March 26, Tuesday, 7:30 PM, doors open at 7:00

Emerald Ash Borer Update for Maryland: An overview of the current status of EAB in Maryland, new projects including treatments, biocontrol, and genetic research, and outlook for EAB and ash management

Speaker: Colleen Kenny, Forest Health Watershed Planner,

MD Department of Natural Resources

Kensington Library

April 30, Tuesday, 7:30 PM, doors open at 7:00

To be announced.

Kensington Library

May 28, Tuesday, 7:30 PM, doors open at 7:00

Speaker: William Needham, President, Mycological

Association of Washington, DC

Kensington Library

June 25, Thursday, 7:00 PM

Our Largest Plants: Celebrating the Living Forest

Speaker: Joan Maloof, PhD

Kensington Library

Help DNR Track Watchlist Plants

The Department of Natural Resources monitors and ranks rare and uncommon species. But they don't have the resources to monitor "watchlist" species—those ranked S3. We can help. Here are some that bloom in the spring and are easy to ID: *Cypripedium parviflorum* (Yellow Lady's-slipper), *Delphinium tricorne* (Dwarf Larkspur), *Hybanthus concolor* (Green Violet), *Kalmia angustifolia* (Sheep Laurel), *Myosotis verna* (Spring Forget-me-not), *Primula media* (Eastern Shooting star).

If you see any of these—or any other ranked plant—please note the exact location and try to take a photo. Then either contribute the record to the Maryland Biodiversity Project, marylandbiodiversity.com, or send an email to info@mdflora.org. We'll take it from there. Locations of species are not shared publicly. You can find the complete list of Maryland's Rare Threatened and Endangered Plants on DNR's website.

Back cover: *Matelea obliqua*, climbing milkvine. This member of the Dogbane Family is rare and endangered in Maryland. Photo: Fritz Flohr Reynolds

Become a member. Join online: www.mdflora.org.

Marilandica

A Publication of the Maryland Native Plant Society



Maryland Native Plant Society
PO Box 4877
Silver Spring, MD 20914

PRSRT STD
U.S. POSTAGE
PAID
BALTIMORE, MD
PERMIT NO. 4315

In this Issue

President's Letter	pg 1
Welcome	1
Wildflower in Focus	2
Concerned about Pollinators?	3
Little Things	5
Maryland Mountain	7
Clear Creeks Project	8
Plant Quiz	9
Upcoming Events	10

