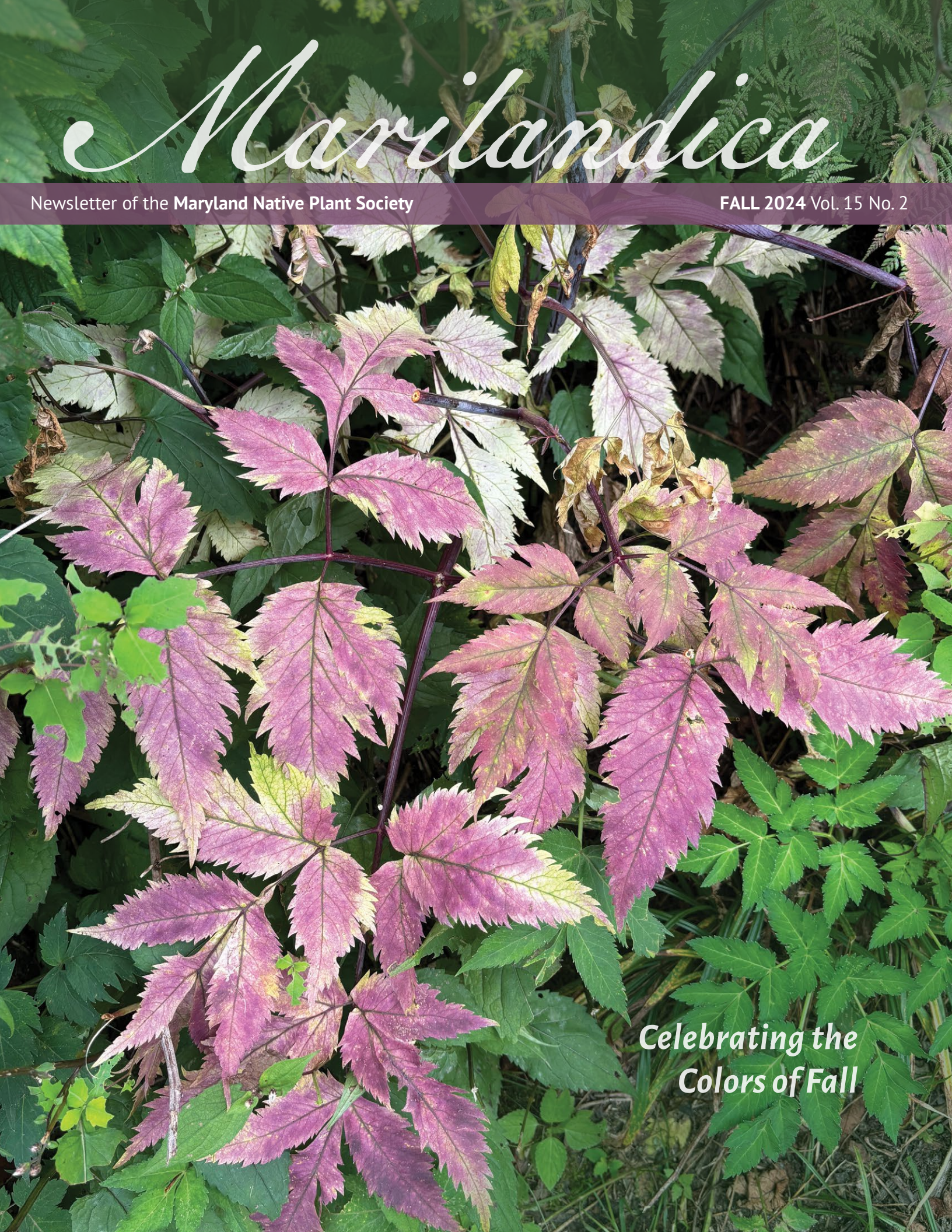




Marylandica

Newsletter of the Maryland Native Plant Society

FALL 2024 Vol. 15 No. 2

*Celebrating the
Colors of Fall*



MDFlora.org

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Vast peatland of the North Cherry Creek Bog, Garrett County, Maryland, September 22, 2013.
Photo by R.H. Simmons.

Cover: Filmy angelica (*Angelica triquinata*) in its autumn glory. A member of the Apiaceae family—the MNPS Plant Family of 2024—it displays the red pigments discussed in Pru Foster's article "The Reds of Autumn" (see pp. 4-5); photo by R. H. Simmons. **Left:** Leaves of Sweetgum (*Liquidambar styraciflua*) in shades of burgundy and purple; photo by Jil Swearingen.

Greetings fellow MNPS Members!

As a volunteer-based organization, most of the operations and activities of MNPS are carried out by current and former board members. The society would simply not exist without their contributions. So, it is with great pleasure that I welcome three new board members—Bradley Simpson, Ashley Bowers, and Liz McDowell.

Bradley is the Habitat Manager for Nature Forward's headquarters, 'Woodend Sanctuary' in Chevy Chase. He has a background in researching and actively managing urban forests. Since joining the board in May, Bradley has led several field trips with a focus on wetlands and volunteered to lead the production of this issue of *Marilandica*. He enjoys sharing his love of plants with others, especially with identification. We're all grateful to have his enthusiasm, knowledge, and skills.

Ashley works for the City of Baltimore on land management issues. In this capacity, she has developed conservation policy and the country's first natural gas pipeline right-of-way conversion to native pollinator meadow as well as securing funding for vegetation management. She joined the board in August and is interested in supporting our monthly programming as we plan for the coming year. I'm certain that her work experiences will guide the board as we consider upcoming legislative efforts.

Long-time MNPS member and past board member, Liz was featured in my Member Spotlight in the Spring 2024 *Marilandica* (mdflora.org). For many years Liz has been leading the Western Mountain Chapter of the Maryland Native Plant Society and running an annual conference. She will continue to work on those projects while advising the board about various issues important to Western Maryland as well as insights on how to get more chapters up and running across the state. Welcome back Liz, I know your contributions will be invaluable.

In addition to welcoming these new board members, I would like to extend my heartfelt gratitude to three outstanding board members who have recently stepped down. We appreciate their significant and ongoing contributions to MNPS. Sujata

Roy, Diane Beadle, and Jil Swearingen—on behalf of the entire society, "Thank you!"

Diane served as Treasurer during which time she helped us review and improve our banking practices. Nowadays, she is focusing on her work with the Community Native Planting Project (CNPP), for which she is president. Diane will be the speaker for our November monthly program (on November 26th) where she will explain how the project helps public and private landowners become environmental stewards by removing invasives and planting natives.

Sujata served on the board for 10 years before stepping down this year. During that time, Sujata served, at various times, as Treasurer, Vice President, and President. While helping with the day-to-day operations, Sujata has been especially enthusiastic about community engagement and has led many wonderful field trips and plant ID workshops. Many of us have been introduced to a new native plant species or learned how to key out a plant with Sujata!

Jil also served on the board for 10 years. She has been Vice President, Secretary, Conference Chair, Monthly Programs Chair, and Editor for *Marilandica*, often simultaneously! Her contributions included organizing countless Monthly Programs, producing seven newsletters, and coordinating six annual conferences. Jil spearheaded the investment in equipment and technical assistance that enables our high-quality hybrid meetings. She continues to support the *Marilandica* editorial team and help find speakers for our Monthly Programs.

You can find more information on the MNPS board at mdflora.org/2025Board. Please reach out if you are interested in volunteering or being part of our hard-working team. I'm so grateful for all of the time and skills that our board members, volunteers, and our membership at large provide to help forward the mission of MNPS, thank you all for what you do!

Lauren Hubbard, PhD



Left to right: Bradley Simpson under the majestic arms of The Angel Oak, a Southern live oak (*Quercus virginiana*) in Charleston, South Carolina; Ashley Bowers at Descanso Gardens, near Pasadena, California; Native plant champion Liz McDowell in Gros Morne, Newfoundland.

The Reds of Autumn

By PRU FOSTER

Red! It stands out. We use red to get attention or to warn of danger. Part of the reason red grabs our attention is because it scatters relatively little in the Earth's atmosphere. The sky is blue, at the opposite end of the visible spectrum, because blue light from the sun scatters the most in our atmosphere and thus more of it reaches our eye. Because red light scatters so little, we can see it from long distances and under less-than-ideal conditions—such as through fog or a lot of atmosphere at sunset. The visibility of red makes it a useful warning color.

Warning Coloration in Butterflies. From frogs to snakes to ladybugs, animals use red coloring as a warning that they are poisonous or taste bad. This is called aposematism (advertising a warning) and is so effective that other animals hitchhike on this signaling system, copying poisonous animals' color patterns. An example of this mimicry is the non-poisonous Red-spotted Purple butterfly (*Limenitis arthemis astyanax*) which lives in Maryland. It has conspicuous red-orange spots on its wings, similar to those of the co-occurring and poisonous Pipevine Swallowtail (*Battus philenor*).

However, north of here—where the Pipevine Swallowtail doesn't occur—*Limenitis arthemis astyanax* has a different form called the White Admiral*. The White Admiral is distinguished by a wide white band on black wings and lacks the bright warning spots on the wings found in the southern Red-spotted Purple's population. One might think these are separate species, but they are the *same species with local adaptations*. Where White Admirals occur, there are no Pipevine Swallowtails to teach the local predators to avoid its toxic warning colors and thus no benefit to mimicking them.



Scarlet Oak (*Quercus coccinea*) is an excellent tree for the home garden that grows fast and matures relatively early while supporting moths, squirrels, birds, and even black bears. Photo by Faith Campbell.

Coevolution Theory of Red Autumnal Leaves. The flashy autumnal reds in leaves may have evolved to serve a similar purpose to aposematism in the animal kingdom. The coevolution theory of autumnal red leaves holds that the red coloration evolved to combat aphid damage. In autumn, aphids seek out a place to lay their eggs where, the following spring, their newly hatched young can readily find yummy leaves to munch on. Aphids tend to choose greener-leaved trees to lay their eggs on and red-leaved trees tend to have less aphid damage. Even within the same species—the aphids prefer the green-leafed individuals over the red-leafed ones. In areas with larger aphid populations, the number of tree species that have red fall foliage increases.

Finally, the amount of phenolics in a leaf—which serves as a chemical defense against insect feeding—correlates with red autumnal color. The coevolutionary theory hypothesizes that it was advantageous for trees to produce red leaves at the time of year that effectively deters

aphids and simultaneously advantageous for the aphids to avoid poisonous red leaves.

If autumnal red leaves reduce aphid damage so effectively, you may wonder why all trees don't produce red leaves in the autumn. It's because there is a cost to producing the red pigment—anthocyanin. Unlike the other main pigments in leaves, anthocyanins are generally not present in leaves during the growing season. Instead, it is produced through the breakdown of sugars in the leaf in the presence of bright sunlight as the leaves are dying. The disadvantage of this pigment production is that sugars used to make the anthocyanin have been allocated away from growth, regulation, or stress mitigation. We can see this in apple lineages. Wild apples tend to have more red autumnal leaves than domesticated apples, but they also have smaller fruits. This is because they've used sugars to protect the tree from aphid attack rather than allocating them to plump up the fruits.

*If you aren't confused yet, we'll try harder. There is a separate species of butterfly—called White Admiral (*Limenitis camilla*)—native to Europe, that is unrelated to the white form of the Red-spotted Purple. We're definitely going to be quizzing you on this!

Green and yellow pigments. Unlike the red pigment, green (chlorophyll) and orange-yellow (carotenoid) pigments are present in leaves throughout the growing season. We usually only see the green of the chlorophyll before autumn, because at that time the chlorophyll is far more abundant than the other pigments. During the growing season, chlorophyll is continually destroyed (via photosynthesis) and continually produced (via biosynthesis)—maintaining levels high enough to make most leaves appear green.

But in late summer, as deciduous trees prepare to drop their leaves, they grow a layer of cork-like cells at the base of their leaf stems. This cuts off the flow of water and minerals into the leaf stopping biosynthesis but not photosynthesis. As a result, the abundance of chlorophyll in the leaf drops. As it does so, carotenoids, which are more stable than chlorophyll, begin to shine through creating the glorious yellows and oranges of autumn leaves. In some species, anthocyanin is produced at this time—providing the spectacular reds. Sometimes we can see the stages of chlorophyll decay in one leaf as the veins will have more rich fluids in them than the space between the veins will have—creating those stunning leaves with green veins and yellow, orange, or red intervein areas. Prized leaf finds.

Europe has far fewer autumnal reds.

Further evidence that autumnal red colors evolved as a way to reduce insect damage, comes from the observation that there are far fewer autumnal reds native to Europe. In northern Europe, there are only four woody species with red autumn leaves; all of Europe hosts just 24. In contrast, North America is home to 89 species with red autumn leaves and East Asia has a whooping 152 species. Why the difference? One theory is that the insect



The luscious autumn colors of staghorn sumac (*Rhus typhina*) are difficult to surpass. Photo by Lauren Hubbard.

pressure underlying the benefit of red autumn leaves may not be as strong in Europe.

During the Tertiary Period, 65 million years ago, there were repeated cooling and warming cycles on Earth. Glaciers extended southward in the northern hemisphere during the ice ages and retreated towards the poles during the interglacial periods. As the ice expanded and retreated, trees and insects in North America and Eastern Asia could easily migrate north and south since the mountain ranges in these regions run primarily north to south. But in Europe, the Alps run roughly east-west, and as ice sheets moved southward, tree-munching insects may have been driven extinct if they could not cross the mountains. Without the insect repelling advantages, the energy costs of making red pigments would make red-leaved autumnal species less competitive.

Red leaves as sunscreen. There are a few competing theories as to why leaves turn red in autumn. The most prominent of these is that anthocyanin facilitates an increase in the rate at which the host plant reabsorbs nutrients from the dying leaves. Anthocyanins can give this resource boost to plants because they are akin to sunscreen. The red pigment acts to prevent photoinhibition which is a reduction in the rate of photosynthesis caused by too much light. Anthocyanin thus helps to keep the leaf photosynthesizing longer into the autumn thereby increasing nutrient flow from the dying leaf back to the main body of the tree. Anthocyanins are so effective at photo-protection that there is active research into using them medicinally for skin aging and eye health. Amazingly, anthocyanin is also known to have anti-inflammatory, antioxidant, anti-diabetic, and anti-bacterial capacities.

Here in Maryland, we are lucky that many native species produce natural anthocyanins in the autumn. If you want to see red, here are some great plants to include in your landscape: Red Maple (*Acer rubrum*), Black Gum (*Nyssa sylvatica*), Serviceberry (*Amelanchier spp.*), Red Chokeberry (*Aronia arbutifolia*), Black chokeberry (*Aronia melanocarpa*), Green hawthorne (*Crataegus viridis*), Maple-leaf viburnum (*Viburnum acerifolium*), Virginia sweetspire (*Itea virginica*), blueberry (*Vaccinium spp.*) and the vine, Virginia creeper (*Parthenocissus quinquefolius*). It's best for biodiversity to use straight species, rather than cultivars, so animals, fungi, and others can support and be supported by our plantings. Here's hoping you witness some anthocyanin spectacles this fall!

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The Allure and Liability of Japanese Maple



A sea of colors from Japanese maples at Woodend Sanctuary before forest restoration efforts.

By **BRADLEY SIMPSON**

PHOTOS BY THE AUTHOR

The majestic colors of changing leaves are a highlight of the fall season. Native species like red maple (*Acer rubrum*), black gum (*Nyssa sylvatica*), scarlet oak (*Quercus coccinea*), and American beech (*Fagus grandifolia*) are abundant canopy forest trees that brighten the mid-Atlantic landscape each autumn with brilliant reds and golds. Another tree well known for its fall color is the Japanese maple (*Acer palmatum*), with a mature height of up to 35 feet. Native to Japan, Korea, and China, Japanese maple (JM) is widely planted throughout the world.

There are hundreds of cultivars of JM available. The most popular are those that boast a striking red color in fall such as 'Bloodgood' and 'Crimson Queen'. JM is easily identified by its opposite, typically 7-lobed leaves (sometimes with 5 or 9 lobes). The twigs are red to green and end in a pair of terminal buds. The bark is tan to gray with vertical stripes. Although beautiful and easy to grow at home, JM and its cultivars are invasive and pose a

serious threat to our forests. JM provides little benefit to native wildlife and, when abundant, can displace native plant species. Localized invasive populations have been reported in the Mid-Atlantic and northeast US. The widespread use of this species in the landscape increases the likelihood that more invasive populations will appear.

At Woodend Sanctuary, Nature Forward's headquarters in Chevy Chase, JM has become incredibly invasive over the years. A history of Japanese horticulture on this old estate property, combined with urbanization and an increasing white-tailed deer population, has resulted in JM now occupying about 25% of the subcanopy in Woodend's forest. In a 2018 survey of the forest, over 800 JM individuals were recorded and it was the number one regenerating tree species in the forest understory. Despite its prevalence, the good news is that all

the species' stems are relatively small, taking up only 3% of the tree space within the forest. In comparison, tulip tree (*Liriodendron tulipifera*), a large canopy tree that reaches a height of 80-120 ft., was found to occupy 25% of all stems in Woodend's forest and dominate 89% of the tree space.

The dominance of tulip tree speaks to the young condition of Woodend's forest. Transitioning from Native American stewardship (1600s), to devastating tobacco production (1750s), and then to cultivated gardens (1920s), the forest at Woodend has been completely altered. After 200 years of intensive agriculture, the forest was allowed to regrow and begin its successional process towards a more mature state.

In this region of Maryland, older forests are typically dominated by oaks and hickories, along with other hardwood trees. During the typical successional trajectory, these forests pass through a tulip tree-dominant stage during which the first closed canopy develops.

Effectively shading themselves out of the regenerating species layer, tulip trees are slowly replaced by oaks and hickories which become more and more abundant in the forest understory. As tulip trees reach maturity and begin to senesce, gaps are created. In an undisturbed ecosystem, oaks, hickories, and other hardwood tree species would normally fill these voids to form the next generation of the tree canopy. However, as Woodend's forest was progressing through the tulip tree stage, it was interrupted by an increasing white-tailed deer population in the early 2000s that ate the young native hardwoods. As a result, Woodend's understory is now dominated by Japanese maples, which are avoided by deer and suppress natives.

In order to combat these adverse effects, Nature Forward developed management strategies to reduce Japanese maple abundance and increase native woody plants within Woodend's understory. These strategies included: 1) deer exclusion, 2) Japanese maple removal, and 3) native tree and shrub plantings.

Deer Exclusion

Exclusion of deer was selected as the first management action because this would facilitate future native tree plantings within the deer protected area. In 2018 a 10-foot tall chain-link fence was installed around 33 acres of Woodend's 40 acre property along with 21-foot wide cattle grates at the vehicle entrances. The deer population on this parcel of Woodend was immediately reduced from 33 to zero deer. At times, deer are able to re-enter the property. When this happens volunteer events are organized to herd deer back into neighboring Rock Creek Park. With deer excluded, natural regeneration is able to resume. However, in



Left to right: A dense stand of young Japanese maples with an otherwise bare understory; A pair of terminal buds at the end of a Japanese maple twig. The buds are hidden within leaf petioles throughout the summer.



areas with dense stands of JM trees, heavy shading and lack of available ground continued to exclude native plant species.

Japanese Maple Removal

Large-scale removal of JM followed successful control of the resident deer population. JM trees were only removed in areas where immediate native plantings were planned. Removal was conducted with hand saws and chainsaws followed by cut-stump treatment with a triclopyr-based herbicide. Removals allowed the native plantings to take advantage of increased light availability. Debris from the removal project was used to construct natural wattle fences to guide visitor traffic on Woodend's forest trails. Today, less than 400 JM trees remain—roughly half the population of 2018. Nature Forward is continuing to reduce JM abundance and increase the presence of native species.

Native Species Plantings

Native trees and shrubs, including white oak (*Quercus alba*), northern red oak (*Quercus rubra*), black oak (*Quercus velutina*), arrowwood viburnum (*Viburnum dentatum*), downy serviceberry

(*Amelanchier arborea*), red chokeberry (*Aronia arbutifolia*), and many other species were installed in areas cleared of JM. The tree species were chosen for their importance as forest canopy trees in this region and their importance for wildlife.

Management actions at Woodend have been successful at controlling JM and reducing its spread. You can also take actions at home and in your community to reduce the potential spread of invasive JM into our local forests and natural areas. Always consider using locally native plants from reliable growers and support policies that encourage the use of native plants in our communities. For striking fall color, some good alternatives include flowering dogwood (*Cornus florida*), black gum (*Nyssa sylvatica*), and staghorn sumac (*Rhus typhina*) (see photo on p. 5).

Members of the public are welcome to visit Woodend Sanctuary (8940 Jones Mill Rd Chevy Chase, MD 20815) to see the forest restoration project. Please contact Nature Forward Habitat Manager and (new) MNPS Board Member Bradley Simpson at: bradley.simpson@natureforward.org.

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Help Reduce the Threat of Potential Plant Invaders

By **BRADLEY SIMPSON** and **SARA TANGREN**

The National Capital Partnership for Regional Invasive Species Management (NatCap PRISM) was formed to coordinate the cross-boundary fight against invasive species in D.C. and all surrounding counties. NatCap PRISM is a multi-jurisdictional partnership that includes governmental and non-governmental organizations from the District, Maryland (Montgomery and Prince George's County), and Virginia (Arlington and Fairfax County). Part of NatCap PRISM's mission is to monitor the presence of species that could qualify as 'early detection and rapid response' species, known in the invasive world as EDRR species. These species are new to the region and have the potential to invade our natural areas. It is during this stage that it is most efficient to remove invasives—see the "Invasion Curve" below.

NatCap PRISM collects information on EDRR species through the community science apps iNaturalist and EDDMapS. Anyone can use the apps to record sightings of unknown, suspected, or invasive species. If you are using iNaturalist, observations are automatically recorded to various projects, such as NatCap PRISM's, if they meet the project's criteria for taxa and location. Find out more about the NatCap PRISM project by visiting the project page on iNaturalist (inaturalist.org/projects/invasion-detectives-national-capital-region). Here, you can also find a list of taxa that are being monitored by the NatCap PRISM network. So, by simply making observations of suspected invasives with iNaturalist, you can play an important role in invasive control.

You can also become a volunteer Invader Detective. Invader Detectives have a more active role in the monitoring of EDRR invasive species by participating in volunteer events to locate specific target species. If you are outside of the above counties

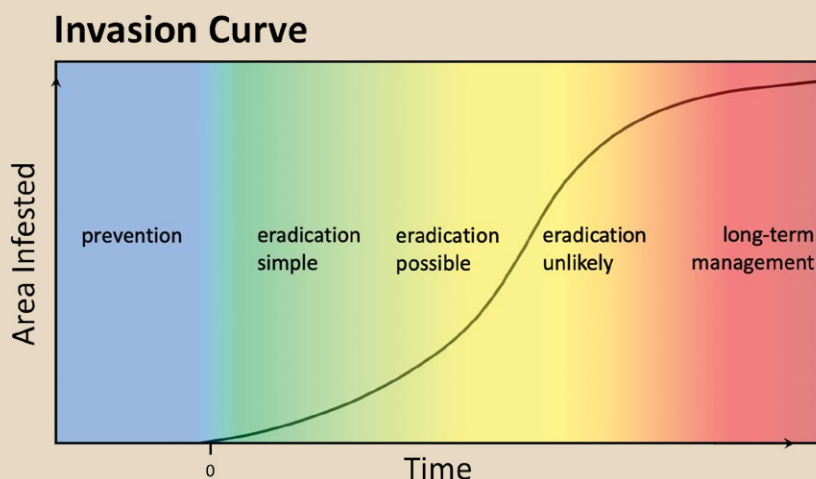
Holly olive (*Osmanthus heterophyllus*) may appear similar to our native American holly (*Ilex opaca*) but can be distinguished by its opposite leaf arrangement. This new non-native species is beginning to spread rapidly in the DC region. Photo by Bradley Simpson.



Christmas berry (*Photinia villosa*) boasting a striking red fall color. This invasive species looks very similar to our native red chokeberry (*Aronia arbutifolia*) and is beginning to spread quickly along Rock Creek in Montgomery County and DC. Photo by Bradley Simpson.

you can still report potential invasive species through EDDMaps. For more information on how you can help stop the spread of these invasive species please contact Sara Tangren at stangren@mwcog.org.

For more information on plant species already designated as invasive in Maryland and vicinity, see the Mid-Atlantic Invaders Tool at: invasive.org/midatlantic.



Prevention is always the most cost-effective and ecologically effective way to fight invasive species (the blue zone). However, once species are introduced to an area, eradication is only simple during a 'lag period' when an invasive species' population size remains small (the green zone). Once the population begins to rise, eradication becomes increasingly difficult and more expensive (yellow to red zone). The Invader Detectives program finds and manages potentially invasive species while they are still in the 'green zone'. Graphic by Sara Tangren

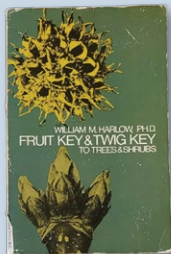
Excellent Winter Tree ID Books

BY BRADLEY SIMPSON

Winter Tree Finder

by May Theilgaard Watts (1970)

This deceptively small book is a great introductory tool for identifying common deciduous trees east of the Rocky Mountains and north of Florida. It is an inexpensive and handy pocket-sized key that is best used to identify trees in winter. Illustrations and general range maps are provided for each species. A 5-inch ruler is available on the back cover of the guide. Our favorite for beginners and hikers.



Fruit Key and Twig Key to Trees and Shrubs

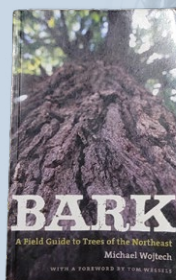
by William M. Harlow (1946)

As declared in the title, this book offers two separate identification keys: one for fruits, one for twigs. The fruit key covers 120 deciduous and evergreen species while the twig key covers 160 deciduous species. Because this guide was produced almost 80 years ago, it does not include the more recently introduced non-native species. It remains an excellent and easy-to-understand resource for identifying woody plants in winter with black and white pictures of many features. It does not include a ruler so you might want to draw your own.

Bark: A Field Guide to Trees of the Northeast

by Michael Wojtech (2011)

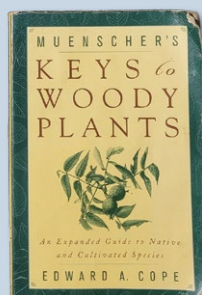
This unique field guide prioritizes bark characteristics as an identification tool for trees found in the northeast region of the US. It is not a comprehensive guide for the trees of Maryland and does not offer any keys. However, it provides a detailed description of how bark forms and how this knowledge can be used to identify trees. Those who learn better when they understand underlying mechanisms will cherish this book. High quality colored images of bark are provided, along with both 8-inch and 20-cm rulers.



Muenschner's Keys to Woody Plants:

An Expanded Guide to Native and Cultivated Species

by Edward A. Cope (2001)



This book is more complete than the others on this list but it is more challenging to use. It offers three keys and includes native, naturalized, and landscaped trees, shrubs, and woody vines found east of the Mississippi River. There are separate summer and winter keys to genera. Each genus has its own key using summer features and for common genera, a winter key to species is provided. Each couplet in the key uses multiple features, rather than just 2, to separate options. This book relies heavily on botanical terminology and has no pictures! It is a must-have for the advanced tree hunter. Both 6-in and 15-cm rulers are provided.

A majestic white oak and a young flowering dogwood stand out in the leafless forest of Patapsco State Park. Photo by Bradley Simpson.

Araliaceae (Ginseng family)

Photo by Bradley Simpson

By JIL SWEARINGEN

Have you ever seen American Ginseng, or 'sang', in the wild? Do you know how to tell the introduced and invasive Japanese Aralia from our native Devil's-Walking Stick? The Maryland Native Plant Society board has selected the Ginseng family for its 2025 family. The Araliaceae is a diverse group of mostly tropical plants with 1500-1900 species worldwide. Inflorescences are in umbels, as are those of the Apiaceae, the 2024 family of the year. We only have

16 members of Araliaceae in Maryland including 10 native, and 6 non-native, (all of which are invasive). The plants have alternate leaves, flowers in umbels, and many are aromatic. How many are you familiar with?

Ecological importance. The flowers are an important source of nectar for native bees, wasps, butterflies, and other pollinators, as well as the non-native European honey bee. The fruits are an important

food source for small mammals and migrating birds.

Economically important and State rare species. American Ginseng (*Panax quinquefolius*) is a popular medicinal plant that is highly regulated to ensure its continued existence. It is a Species of Conservation Concern in Maryland with the designation 'S2S3 (State rare) Vulnerable'. Chinese Ginseng (*Panax ginseng*), a close relative native to China, is not found in Maryland.

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Native Species

Common Name	Scientific Name	Distribution in MD
Bristly Sarsaparilla	<i>Aralia hispida</i>	Garrett Co.
Wild Sarsaparilla	<i>Aralia nudicaulis</i>	Throughout
American Spikenard	<i>Aralia racemosa</i>	Western shore to mtns
Devil's-Walking Stick	<i>Aralia spinosa</i>	Throughout
American Marsh Pennywort	<i>Hydrocotyle americana</i>	Throughout
Floating Marsh Pennywort	<i>Hydrocotyle ranunculoides</i>	Throughout
Many-flowered Marsh Pennywort	<i>Hydrocotyle umbellata</i>	Coastal Plain
Saltpond Marsh Pennywort	<i>Hydrocotyle verticillata</i>	Bay counties
Dwarf Ginseng	<i>Nanopanax trifolius</i>	Throughout
American Ginseng	<i>Panax quinquefolius</i>	Throughout

Non-native Invasive Species

Common Name	Scientific Name	Distribution in MD
Japanese Aralia	<i>Aralia elata</i>	Coastal Plain, Piedmont
Five-leaf Aralia	<i>Eleutherococcus sieboldianus</i>	Coastal Plain, Piedmont
English Ivy	<i>Hedera helix</i>	Throughout
English Ivy/Irish Ivy hybrid	<i>Hedera helix/hibernica</i>	Throughout
Lawn Marsh Pennywort	<i>Hydrocotyle sibthorpioides</i>	Coastal Plain, Piedmont
Prickly Castor Oil Tree	<i>Kalopanax septemlobus</i>	Coastal Plain, Piedmont

Devil's-Walking Stick (*Aralia spinosa*) provides pollen, fruit, and cover for wildlife. Photo by Pru Foster.

Umbellievably Challenging Plant Match



1. Queen Anne's lace (*Daucus carota*)

Plants to 6 ft tall. Stems with short coarse hairs. Leaves 1-8 in long, compound, finely divided; petioles sheathed. Flower umbels flat, 1-5 in wide with 30-60 floral rays. Biennial. Non-native and invasive (native to Europe and southwest Asia). Slightly toxic to cattle, may irritate skin.

2. Water hemlock (*Cicuta maculata*)

Plants to 6 ft tall. Stems stout, glabrous. Leaves 4-12 in long and 3-10 in wide, bipinnately to tripinnately compound, leaflets lanceolate; petioles sheathed. Flower umbels broad, 2-5 in across; each umbel with about 20 floral rays. Perennial. Native throughout the United States. Extremely toxic.

3. Poison hemlock (*Conium maculatum*)

Plants to 5 ft. Stems hollow, covered with small purple spots; smooth. Leaves 4-16 in long, tripinnately (sometimes 4-times) compound, petioles sheathed. Flower umbels 1.5-2.5 in wide with 10-15 floral rays. Biennial. Non-native and invasive (native to Europe and North Africa). Highly toxic.

4. Hairy angelica (*Angelica venenosa*)

Plants to 6.5 ft. Stems densely tomentose. Leaves 4-8 in long pinnately or bipinnately compound, petioles broadly sheathed. Flower umbels 2-6 in with 16-35 floral rays. Perennial. Native to the eastern United States.

5. Giant hogweed (*Heracleum mantegazzianum*)

Plants to 20 ft tall. Stems hollow, 6 in across with purple streaks and splotches. Leaves very large, lower leaves to 5 ft wide, with 3 to 5 deeply lobed leaflets, petioles sheathed. Flower umbels to 2 ft across; each umbel consisting of 50 or more floral rays. Biennial. Non-native and invasive (native to the Caucasus Mountains). Do not touch! Toxins can burn skin and cause blisters and lesions.

6. Cow parsnip (*Heracleum maximum*)

Plants to 10 ft. Stems pubescent to tomentose. Leaves up to 1.5 ft wide, petioles broadly sheathed. Flower umbels 4-8 in, across, flat, with 12-30 floral rays. Perennial. Rank-smelling. Native to the Northeast and throughout the Appalachian Mountains as well as the western US.

Notes:

1. A floral ray is a branch of an umbel (see arrow in image).
2. A sheathed petiole is flared at the base and may partly surround the stem.
3. All species, except for giant hogweed, serve as host plants for the larvae of the black swallowtail butterfly (*Papilio polyxenes*).
4. Measurements are approximate.

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Marilandica

Maryland Native Plant Society
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Registration is required. Field trips are listed on the website: mdflora.org

MNPS Monthly Programs (Last Tuesdays, 7:00-9:00pm)

Registration is required. Talks start at 7:30pm. Programs are by Zoom and are recorded, unless indicated otherwise. Zoom opens at 7pm for board update and Q&A. To register, go to mdflora.org.

Oct. 29 Rod Simmons. *Uncommon to Rare Apiaceae in Maryland*

Nov. 26 Diane Beedle. *Engaging Communities to Plant Natives and Pull Invasives*

Jan. 28 Bradley Simpson. *Introduction to Winter Tree Identification*

Feb. 25 Clara Thiel. *Rare Plants & Ecosystems of Mountain Maryland*

Mar. 25 Dominic Quattrocchi. *Charles Branch Conservation Park*

Apr. 29 Mark Brownlee. *Native Plant Lawns*

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Autumn colors glow along the Goldmine Trail above Great Falls. Photo by Pru Foster.