

Marilyndica

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Marilandica

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Maryland Native Plant Society



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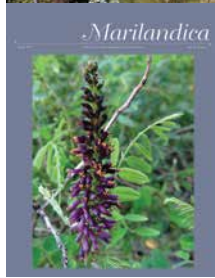
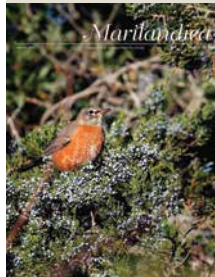
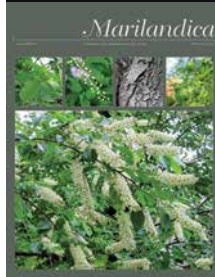
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Our Mission

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 Editor

Dear Members,

Ten years is a long time and it's also a short time. This will be my last issue of Marilandica.

Unless someone else wants to step in, this will not only be my last issue, it will be the last issue altogether. Perhaps the era of print publications has run its course. On the other hand, MNPS members have continued to say they appreciate the publication, and I have thought it important to provide our members with a tangible benefit from their membership.

If you would like to take over as editor, please contact me, and I'll do my best to help you get started. The format we developed over the years is not set in stone, and a new editor would have free rein for their own ideas.

Many thanks to all who contributed to this publication over the years: Co-editors Carolyn Fulton, Vanessa Beauchamp, and Kerrie Kyde; Tina Thieme Browne for cover illustrations in the early years; numerous local photographers who generously allowed us to use their work; Liz McDowell for her Mountain Maryland columns; many other writers too numerous to mention; and last but by no means least, graphic designer Marjorie Paul. You can view back issues on our website, mdflora.org.

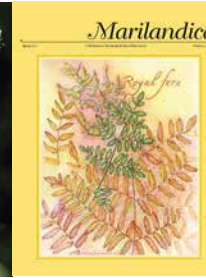
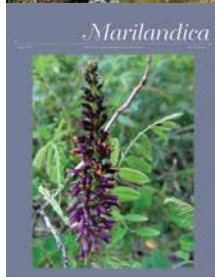
- Kirsten Johnson

Grasses in Winter

1	2			
	3	4	5	6
	7		8	
	9	10		

Front cover left to right:

1. *Sorghastrum nutans*, Photo: J Brighton
2. *Schizachyrium scoparium*, Photo: R Orr
3. *Andropogon ternarius*, Photo: J Stasz
4. *Elymus hystrix*, Photo: B Springer
5. *Cenchrus tribuloides*, Photo: W Hubick
6. *Andropogon virginicus*, Photo: E McDowell
7. *Sporobolus alterniflorus*, Photo: J Brighton
8. *Danthonia spicata*, Photo: T Bell
9. *Sporobolus pumilus*, Photo: J Hill
10. *Dichanthelium commutatum*, Photo: J Wilkinson



Invasive Grasses in Focus

Pennisetum alopecuroides (L.) Spreng, *syns: Cenchrus purpurascens* Thunberg;
Cenchrus compressus (R.Br.) Morrone, Fountain Grass, Black Fountain Grass

Miscanthus sinensis Anderson, Chinese or Japanese Silvergrass



In the last few years, I've noticed two species of ornamental grasses spreading into open areas and along roadsides. An especially unfortunate example that I'm aware of is the invasion of both species into the rare serpentine grassland at Lake Roland in Baltimore County.

Silvergrass and fountain grass are relatively new invaders. *Plant Invaders of Mid-Atlantic Natural Areas* lists silvergrass as a plant to watch, and it doesn't list fountain grass at all. Rick Darke's *Encyclopedia of Grasses for Livable Landscapes* contains useful descriptions of many silvergrass and fountain grass cultivars. He comments that certain cultivars can be "weedy," but he doesn't warn of their ability to invade natural areas.

Fountain grass is a name that can include any of the various species, varieties and cultivars of *Pennisetum*, only some of which are hardy in our area. *P. alopecuroides* is my focus here. It is native to open grasslands in Japan and much of southeastern Asia. This species appears quite variable because a number of cultivars are sold in the horticultural trade. Darke lists ten. Most of them grow about three feet in height, some shorter, some taller.

The cultivar I've been noticing is, I believe, either "Moudry" or "National Arboretum." It has dark green, glossy, relatively wide leaves, and dark purple flowers. Variety "Moudry" is named for Gerard Moudry, who was the Baltimore City's Chief Horticulturist from 1958 to 1994. He apparently provided the seed to the US National Arboretum, from plants he noticed in Baltimore. Not all the *Pennisetum* cultivars have the dark purple or "black" flower parts characteristic of those cultivars. But once you're aware of *Pennisetum*,

you'll start seeing it everywhere, in all its various manifestations.

Chinese silvergrass is quite easy to spot. It can grow over 6 feet tall, and the silvery flowers sparkle beautifully in the sunlight. It's easy to grow and hard to kill. No wonder it's so popular as an ornamental in gardens and in plantings around commercial establishments. Unfortunately, this grass spreads readily and appears to outcompete bluestems and other native grasses. If you notice a row of silvergrass meandering down a roadside, you can often trace it back to the gas station or garden where the infestation originated. Please see Margaret Park's research report on page 5 for more information about silvergrass.



Chinese silvergrass on a roadside in Montgomery County.

Control. Both fountain grass and silvergrass are extremely hard to control. They self-sow prolifically and they spread rapidly by underground rhizomes. A home gardener might win the battle against a few interlopers by

repeated digging. But unfortunately, glyphosate is the only known way to eliminate, or at least reduce, a significant invasion.

- Kirsten Johnson

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Kerrie Kyde



Kirsten Johnson



Kirsten Johnson

Black fountain grass photos left to right: Along the C&O Canal. Invading a meadow in Stony Run Park, Baltimore City. Flower in late September.

Survey of Known Plant Extinctions in the US and Canada

Editor's Note: Wesley Knapp, former Eastern Region Ecologist with Maryland's Natural Heritage Program, is the lead author of an important paper on plant extinctions recently accepted for publication in Conservation Biology. We asked Wes to tell us about it.

Way back in 2001, when I first started with the Natural Heritage Program of Maryland's Department of Natural Resources, I tirelessly studied the Program's List of Rare Threatened and Endangered Plants



A further revelation came in 2015, when I saw Reed Noss (one of the eventual coauthors of the plant extinction paper) give a talk in which he described how many plants and animals were expected to go extinct in Florida over the next 100 years (based on sea-level rise, population growth, etc.). It was then that I realized we had no understanding of how many plants had already gone extinct. Shortly after this, I reached out to a number of experts from across the country to determine if I'd missed something in my literature review. Not only



Canby's Cowbane, Tiedemannia canbyi, a coastal plain species that is highly rare (S1) in Maryland and also globally rare (G2). This is one of many plant species in danger of extinction in the coming decades. Photos: Jim Brighton.

of Maryland. I needed to better understand those rare plants, as my job was to document rare plants of the Eastern Shore. From my early studies, the plant that most captured my imagination was Nuttall's micranthemum (*Micranthemum micranthemoides*), as this is the only plant in Maryland's flora that is considered globally extinct. Nuttall's micranthemum is the opposite of charismatic megaflores. It is a diminutive and rather non-descript mudflat species of fresh intertidal streams. It was historically found at numerous locations in Maryland (both eastern and western shores) and it ranged from the Hudson River in New York to tidewater Virginia.

Before this, I'd not realized that currently extinct plants had once existed in places like Maryland. I had assumed extinction was a problem only for distant biodiversity hot spots like the Amazon basin. I then made a habit of asking botanists what plants were extinct in their region or state. Often, the question elicited a blank stare and an "I don't know." Occasionally, I'd hear a fantastic tale about an extinct plant. I can still clearly remember Gerould Wilhelm, author of the *Flora of the Chicago Region*, telling me about *Thismia americana*, a flowering plant once found in pre-industrial Chicago and not seen since 1916.



The last known collected specimen of Nuttall's micranthemum (Micranthemum micranthemoides), the only plant in Maryland's flora that is considered globally extinct.

Courtesy: Herbarium at Virginia Polytechnic Institute

had the work not been done, but everyone thought it should be done. It was exciting—and somewhat intimidating—that so many experts thought the work needed to happen, and that I should be the one to lead it.

Determining which plants were extinct was no easy task. It required us to scour the literature, talk to lots of botanists, and vet hundreds of plants in NatureServe's database that had already been listed as Globally Historic or Extinct. The most pressing immediate issue was the need to develop a way to uniformly evaluate scientific names (taxons). This was necessary because not all scientific names are equally worthy of acceptance. An apparently extinct species could actually be extinct and therefore worthy of immediate global conservation priority if rediscovered. At the other extreme, it might not be a meritorious taxon. Between these two extremes are taxons that are not universally recognized, but that could in fact have merit. We therefore developed an index to help determine which names should be included in the paper. By including a name, we are saying the name is likely to represent a reasonably well-defined species that existed at some time in the past.

We developed a novel approach we called the Index of Taxonomic Uncertainty (ITU). To calculate the ITU, we vetted each scientific plant name by reviewing the literature, mostly monographic and floristic treatments, in which each taxon was critically evaluated against other related taxa by an expert. We did not use taxonomic databases to calculate the ITU because these often reflect other published literature rather than novel taxonomic evaluations. If the authors of consulted literature universally accepted a taxon as a distinct entity, regardless of taxonomic rank, it received a score of A. If a taxon was placed in synonymy by some authors but the majority recognized it as distinct, it received a score of B. If the name was usually placed in synonymy but numerous treatments still recognized the taxon as valid, a score of C was applied. Scores of D and F were applied if a taxon was rarely recognized (i.e., <85% of the time) or never recognized after initial publication of the name, respectively. If a name did not appear as a recognized taxon in a floristic work and was not listed in synonymy, the source was not used in the ITU calculation. For our study we included extinct taxa with an ITU of A, B, or C. Taxa with scores of D and F were excluded. Some of the D and F ranked taxa could be extinct taxa, but the scientific consensus is against them. Many taxa with ITU scores of D and F would make excellent projects for graduate students.

Our data show that 65 plant taxa (51 species and 14 infraspecific taxa) are extinct from the continental United States and Canada. Only one extinct taxon is known from Canada. The distribution of reported extinction events is heavily centered in the southwestern United States. Although there could be various reasons for this distribution, we believe one of the reasons is that, as contrasted to the eastern United States, the West was botanically explored (albeit minimally) before settlers from other continents caused widespread transformation and destruction of habitats.

Of those extinct plants, 64% were global single-site endemics. This has major implications for conservation as many conservation organizations have shifted focus to large scale conservation projects, which are vital for ecosystem function. However, if the goal is to prevent extinction, then small scale conservation is critical. Two extinctions were of species known from broad geographic regions (defined as five or more states). The extinction events occurred from 34 families of plants. Some of the biggest plant families showed the largest numbers of extinction events: Asteraceae (8), Fabaceae (7), Rosaceae and Boraginaceae (6 each). However, some of the large plant families showed surprisingly few extinctions: Poaceae (2), Cyperaceae (1), Orchidaceae (1). This is most likely an artifact of sampling bias as Poaceae and Cyperaceae are notoriously under-collected.

We suspect the actual number of extinct plants is considerably higher than reported, but data limitations abound. Twelve plant species new to science are discovered each year, on average, in California alone,



Rose coreopsis, *Coreopsis rosea*. Highly rare (S1) and Endangered in Maryland, globally vulnerable (G3). This species is not considered any less rare by virtue of being available for sale in the horticultural trade.

suggesting that an untold number of plants went extinct before scientific discovery. Florida, with the highest concentration of endemic plants in the North American Coastal Plain biodiversity hotspot, likely lost many endemic plants before they were described. Our data document only four extinct plants in Florida, but it is unlikely that this hotspot would lose fewer plants than a less diverse area of similar size, such as New England (five in our data). Since 1995, four extinct species have been described or recognized as new to science from old herbarium vouchers. There are likely more undescribed and already extinct species hiding in herbaria today.

These data provide us a baseline to compare future extinction events and rates. Scientists agree that extinction rates will rise as we move through the Anthropocene Epoch. Numerous factors, including sea-level rise, climate change, and human population growth, will have massive impacts on our ecosystem and will lead to more extinction events. To prevent future extinction events, I am working with NatureServe to develop a

list of global single-site endemic plant species for *in situ* and *ex situ* conservation efforts. There are no single-site endemics found in Maryland, but that doesn't mean there isn't prioritized work to be done. Maryland has several species found at only one location, and these are the most likely to become extirpated (i.e., local extinction) at the State level.

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Wes Knapp in the field.

Ecological Impacts of *Miscanthus sinensis* – A MNPS Grant Project

Invasive Miscanthus sinensis in the serpentine area of Lake Roland Park in Baltimore County.

K. Johnson

Invasive plant species are worrisome for many reasons. They are known to outcompete native species, which can have adverse effects on the health of ecosystems and the services they provide, and potentially increase costs to agriculture on a global scale.

Miscanthus sinensis sinensis (also known as Japanese silvergrass, Chinese silvergrass, *M. sinensis*, and susuki; hereinafter *M. sinensis*), a C4 bunchgrass, was introduced to North Carolina in 1893 and to Washington DC in 1894 (Dougherty et al. 2014). Spread into natural areas along the East Coast was reported in the early 20th century and was documented in West Virginia by the 1940's. Currently, *M. sinensis* is sold in most commercial plant nurseries. It is a common landscaping plant, with over 50 cultivars, more than any other ornamental grass in the United States (University of Minnesota 2019).

Studies have positively correlated the success of this species with disturbance, showing that invasions are more likely in deforested and fragmented areas (Stewart et al. 2009). Ezaki et al. (2008) showed *M. sinensis* to be resistant to heavy metals, creating the potential for this plant to prosper in areas where the soil is contaminated with heavy metals (Yesilonis et al. 2008) and in serpentine grasslands, which have naturally high concentrations of heavy metals (USDA 2017). This species may also affect soil chemistry. A Japanese study identified some nitrogen-fixing bacterial endophytes exclusive to *M. sinensis*, which indicated that the species could potentially contribute to higher rates of nitrogen fixation in soils where it successfully invades (Miyamoto et al. 2004). If *M. sinensis* contributes to higher nitrogen levels in serpentine soils, this could make it easier for other metal-tolerant plants to invade. In California, a study found that fertilizer applied to patches of a serpentine grassland led to plant invasions and eventual invasive dominance by exotic grasses within two years (Huenneke et al. 1990). Thus, if *M. sinensis* is introducing nitrogen into serpentine barrens soil, this could result in a positive feedback loop of grass invasions.

My research is concerned with the potential impact of *M. sinensis* on natural ecosystems via effects on plant diversity and soil characteristics at several sites in the Mid-Atlantic region, including both serpentine and non-serpentine sites. The purpose of the project was to better understand the ecology (e.g., competitive ability, growing conditions, soil nutrient dynamics, and plant community dynamics) of *M. sinensis* in the Mid-Atlantic, and thus to provide information to state and local agencies seeking to control the spread and impact of this species.

To summarize my results:

- In contrast to the research in Japan, I did not find evidence of nitrogen-fixing symbionts, as nitrogen concentrations were similar underneath and at some distance from *M. sinensis* individuals.
- My biodiversity survey showed some significant associations between *M. sinensis* and higher exotic species richness and diversity,

with a stronger correlation on serpentine soil.

- The occurrence of *M. sinensis* was negatively associated with native species richness and diversity.
- *M. sinensis* negatively affected the growth of a native bunchgrass in a controlled experiment.

Although we do not know exactly when this species invaded each of the research sites, the invasion is likely to have been relatively recent as densities as a whole were low. With time, we may see increased effects as *M. sinensis* continues to spread. This pattern would follow the “invasion meltdown hypothesis,” which postulates the facilitation of further invasion due to currently established invasives. These results together suggest that this species may facilitate growth of other exotic species while repressing growth of native species. Although these effects were only observed in the immediate vicinity of individual *M. sinensis* plants, my findings indicate that native plant communities may be at further risk as this species becomes more common in the landscape.

– Margaret Park, Graduate Student

Department of Biological Sciences, Towson University

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Landscaping with Native Plants

Audience Questions from Two Zoom Webinars. Compiled by Anne DeNovo, lightly edited for clarity.

At all of our Zoom webinars, the audience has posed thoughtful questions for our presenters by typing them in the Q&A box. Many of the questions have focused on the impact of native plant gardening and landscaping on plant and animal communities, both inside and outside our gardens. Here are two examples:

From *Native Planting and Yard Landscaping: An Insect's Point of View* with Dr. Karin Burghardt, Assistant Professor of Entomology, University of Maryland, on August 25, 2020.

Q: When it comes to native plants that support insect diversity, it seems like a losing proposition for a home gardener: the insects eat the garden plants... Do we have to view the garden as if its purpose isn't for beauty and nurturing the plants but rather for preserving insects and insect-eating animals?

A: From the data we've looked at, you don't have to choose between beauty and insect conservation. It appears that when you create gardens that support diverse insect communities, you are creating a resource base that allows native predator populations to become larger and prevent insect pest outbreaks... In a garden, what you don't want is for one pest species to become so abundant that it defoliates plants to the point where people notice. In general, studies find that people don't notice until defoliation reaches about 10% of the total leaves... And studies of yards with diverse plantings find that they weren't getting close to that. Instead, what they found was about 6-8%, which is below the esthetic damage level... Now, in vegetable gardens in particular, you may have to supplement predator communities with plants known to be good supporters of parasitoids and wasp predator species. These species often kill insect herbivores, but also need pollen and nectar. In my garden, I planted a mixture of flowers that provide nectar and pollen to parasitoids and predators, to encourage them so that I have a large enough population to prevent outbreaks.

There has been a decent amount of evidence coming out of various labs showing that this form of pest management, called conservation biological control, is a good way of decreasing pest herbivore outbreaks, while maintaining the vast majority of other insects we rely on for ecosystem services. So it is not a dichotomy between a completely defoliated landscape where insects are eating everything or a beautiful landscape with no insects. It may take a few years, but once you have a number of these important

community members present, you'll create a diverse system that can exist sustainably for a long time.

From *Native Grasses for Use in Home Gardens and Native Meadows* with Dr. Sara Tangren, September 29, 2020.

Q: [Dr Tangren talked about the value of Indiangrass, *Sorghastrum nutans*, leading to this question.] Are there shorter cultivars of Indiangrass?

A: There are cultivars of most or all of the native grasses. The height of Indiangrass [3–8 feet] is ecologically important. It's important for Indiangrass to reach a certain height to get the pollen into the wind.

It's important for birds that are taking the seed from the Indiangrass. And height is important for Indiangrass's ability to compete with other plants in meadows. All of that has been determined by many thousands of years of these plants evolving in the same place and the same habitat and constantly adapting to each other.

So I invite you to consider that if you want a shorter grass, that you choose a species that is a shorter grass, rather than genetically modifying a species to be shorter than it is naturally. This is because the pollen from your garden, which is carried on the wind, will reach wild plant populations. And these modified genes will be transmitted to wild plant populations. This can have all kinds of consequences.

You would think there would be some sort of testing program to see if it's safe to genetically modify our native grasses and sell them. There will be many, many cultivars of Indiangrass and other native grasses sold in Maryland alone this year. So this is not a minor issue.

The other thing to know about cultivars of native grasses, if you're interested in planting native meadows, is that many cultivars of native grasses were intentionally bred to be more aggressive than their wild counterparts. If you are planting a native meadow and you use cultivars of native grasses, many of them will completely crowd out your wildflowers... If they would make sterile cultivars of native plants, that would be different, because the pollen couldn't cross-pollinate and have these potentially negative impacts on wild populations.



Both these webinars are available for free viewing on the MNPS YouTube channel and on the MNPS Facebook Page.

Mountain Maryland Notes

By early February the calendar for the Western Mountains Chapter was posted on the MNPS web site. By late March the sad process of cancelling one activity after another had begun. Volunteer work days, field trips, speakers, and the annual native plant festival could not be held. This has been unlike any year in memory, so a different kind of nature article seems appropriate. What follows are a few seasonal native plant moments from Garrett County in 2020.

In early spring, several hundred red spruce, *Picea rubens*, from the West Virginia Highlands Conservancy were ready for planting at New Germany State Park. The trees didn't understand that people were sheltering at home due to Covid-19, they just needed to have their roots in the ground. So a few experienced folks previously involved with planting red spruce on public lands in Garrett County were contacted. These independent teams scheduled appointments to collect their trees, dibble bars, and planting assignments. Thanks to the volunteers and park staff, all of the trees were successfully planted and the humans stayed safe from the virus.

The native plant garden at New Germany State Park has continued to thrive over the years, thanks in part to an activity called "Weed or Wildflower?". Every two weeks throughout the summer, volunteers bring gloves, kneeling pads, and weeding tools to tend the garden. While working, information on plant identification and the importance of native plants is shared (along with jokes and local news). Though no formal sessions could be held this year, past participants freely offered their time and energy, and worked alone or in socially distant pairs to maintain the garden.



Left: *Tsuga*, a local canine volunteer, performs a quality control check on planted red spruce, *Picea rubens*.
Right: A newly emerged monarch butterfly, *Danaus plexippus*, uses Allegheny monkey-flower, *Mimulus ringens*, to unfurl its wings.



As autumn arrived, it was clear that in-person meetings were still a no-go for the Western Mountains Chapter. Luckily, the MNPS 'mother-ship' came to the rescue, providing the technical assistance and skilled volunteers needed to transform the meetings to a Zoom webinar format.

The October program, Grass Identification for Dummies Like Us: How to Get Started Figuring Out Grasses, featuring Kevin Dodge from Garrett College, was a resounding success (as were all the MNPS webinars this year). Three local attendees were so inspired by his program that they played hooky the following day to key-out grasses in the New Germany area. Wearing masks and armed with both

versions of Lauren Brown's *Grasses: An Identification Guide* and Sarah Chamberlain's *Field Guide to Grasses of the Mid-Atlantic*, they engaged the sedges, rushes, and grasses that they'd previously ignored.

It's early November in Garrett County and winter is well on its way with only the oak and beech trees still holding some leaves. Colorful leaves blanket the ground interrupted by clumps of evergreen Christmas fern, *Polystichum acrostichoides*. Woolly bear caterpillars recently seen crossing local roads in droves have disappeared under fallen leaves where they will over-winter. Family, friends and neighbors look forward to virtual hugs being a thing of the past. In the meantime, they bundle-up and head outside. They know that a winter walk in forest or field will still provide moments of joy, if one just takes the time to look.

Wishes to all for a peaceful and healthy holiday season!

- Liz McDowell

Western Mountains Chapter Chair



Broomsedge bluestem, *Andropogon virginicus*, is just one of the grasses identified by amateur botanists inspired by Kevin Dodge's program.



Woolly bear caterpillar, *Pyrrharcia isabella*, on its way across a gravel lane in search of a winter home.



With a little imagination, each leaflet of *Christmas fern*, *Polystichum acrostichoides*, resembles a tiny Christmas stocking.

Book Review: Grasses, Sedges, Rushes: An Identification Guide

As many of our members know, MNPS will be continuing and expanding this year's plant theme in 2021. We will include not only grasses, but also sedges and rushes. How fortunate that Lauren Brown's *Grasses: An Identification Guide*—out of print for several years—has been reissued in a revised edition co-authored with Ted Elliman, the author of *Wildflowers of New England*. This revision, entitled *Grasses, Sedges, Rushes: An Identification Guide*, contains Brown's beautiful, original drawings, plus updated plant names, color photographs, a few new species, and expanded descriptions. Even with all this added content, the book is still a compact size that is easy to carry into the field (or your back yard).

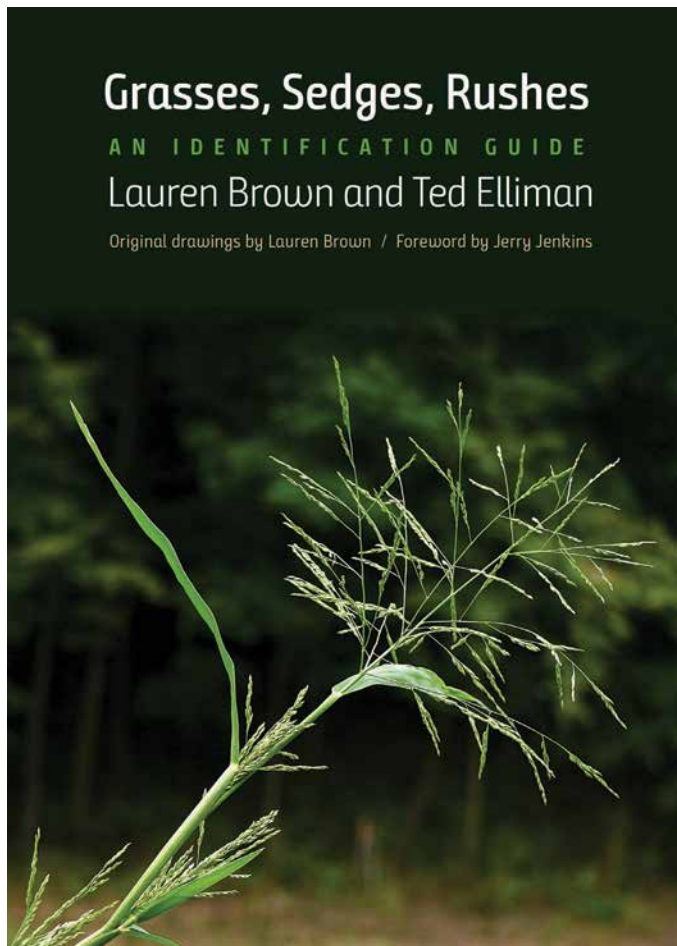
This is an easy-to-use identification guide that simplifies a complex subject. It covers common species in the Northeast and the Midwest. This book covers the most common and widespread grasses and sedges found on our roadsides, in our backyards and in nearby meadows. More than 100 species of grasses are included, out of the almost 1,400 species in the United States. Brown has also provided an extensive bibliography of books, identification manuals and websites for

further research. You can start with this book, then jump to something more technical if you want to dig deeper.

Most plant keys are based on the detailed characteristics of the flowers, for valid reasons. But this can be frustrating, especially for a person who is new to the specialized terminology of grass floral structure. Brown focuses on general shape, color and texture. The identification key is a good place to start because it challenges the reader to look carefully at the plant's salient characteristics. The accompanying line drawings help the reader know what to look for. After getting to know this book, the user will never again claim that "grasses all look alike."

In October, Kevin Dodge gave us a fun and informative presentation, primarily using this book. His talk was titled "Grass Identification for Dummies Like Us: How to Get Started Figuring Out Grasses." If you missed it or would like to see it again, it is available on the MNPS YouTube channel, and also on the MNPS Facebook Page. Author Lauren Brown is scheduled for a presentation in April.

~ Marney Bruce



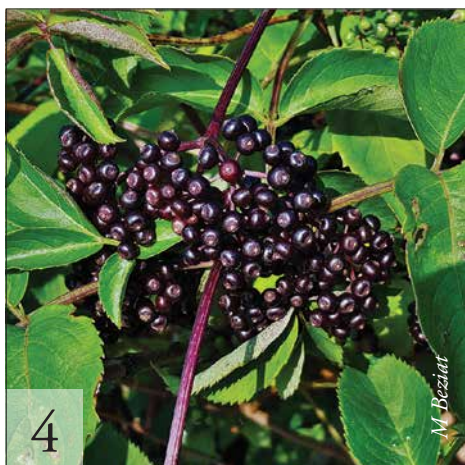
Grasses, Sedges, Rushes: An Identification Guide,
by Lauren Brown and Ted Elliman.
ISBN: 9780300236774,
Publication Date: August 18, 2020, 272 pages

GRASS, SEDGE OR RUSH?

Answering this question is the first step in identifying a grass-like plant. The old saw comes in handy: "Sedges have edges, rushes are round, grasses have joints, and there's enough to go around." The joints of grasses are nodes in their otherwise hollow culms (stems). The stems of rushes are round in cross-section; those of sedges are triangular and therefore have edges.

Poison Fruit

Can you match these (mostly) Maryland native plants with their names?
All of them bear fruit that is poisonous to humans – but nutritious for many animals.



- A. Black Cherry, *Prunus serotina*. Rosaceae. The seeds, leaves, twigs and bark contain cyanogenic glycosides, which are transformed into toxic hydrocyanic acid when eaten. The cherries are drupes.
- B. American Holly. *Ilex opaca*. Aquifoliaceae. The fruits (drupes) can induce vomiting and diarrhea.
- C. Black Elderberry, *Sambucus canadensis*. Adoxaceae. The “berries” (drupes) are edible only after cooking.
- D. Jimsonweed, *Datura stramonium*. Solanaceae. All parts of the plant are poisonous, causing hallucinations and other symptoms. (Not native to North America, likely spread from Central America.)
- E. Pokeweed, *Phytolacca americana*. Phytolaccaceae. All parts of the plant, including the berries, can cause cramps, vomiting, convulsions and death.
- F. Doll’s Eyes, *Actaea pachypoda*. Ranunculaceae. The berries are the most poisonous part of the plant, and their ingestion can lead to cardiac arrest and death.

Reference: Foster, S. and R.A. Caras, A Field Guide to Venomous Animals and Poisonous Plants. (1994). Houghton Mifflin.

ANSWERS
1.E., 2.A., 3.B., 4.C., 5.D., 6.F.

2021 MNPS Research Grants

The application deadline will be in March 2021. Details will be posted in January on the MNPS website, mdflora.org.

MNPS allocates funds for empirical, hypothesis-driven research relevant to Maryland’s native plants. The projects must concern Maryland native vascular plants, bryophytes, and/or their habitats. The project may concern the effects of invasive non-native plants on Maryland native plants. Projects in various different fields may be appropriate, for example: botany, ecology, entomology, genetics, education, environmental restoration, horticulture, and silviculture. A committee of local educators and scientists reviews the applications and administers the awards. The research grant program relies for funds on member contributions and dues. Our website allows donors to specify that their donations are to be used for research.

Upcoming Events

As of now, all MNPS events are being held virtually. Field trips are indefinitely suspended. Watch the website and your email inbox for the resumption of field trips next spring or summer (we hope). Unless otherwise noted, all programs are free and open to the public.

Programs

November 24, Tuesday, 7:30 PM by Zoom 

Restoring Wild Rice Marshes, the Anacostia River's Filters

Jorge Bogantes Montero of Anacostia Watershed Society

December 1, Tuesday, 7:30 PM by Zoom 

Annual Meeting – Members Only.

Annual Meeting followed by presentations from two members: Bob Warren-Catoctin Mountains Seepage Swamp; and Dwight Johnson-Ferns Along the Gunpowder

January 26, Tuesday, 7:30 PM by Zoom 

Diversity of a Serpentine Grassland at Bare Hills: A 20-year Study

Dr. William Hilgartner

February 23, Tuesday, 7:30 PM by Zoom 


Fire Ecology and Environmental Restoration

Deborah Landau of The Nature Conservancy

March 30, Tuesday, 7:30 PM by Zoom 


Wildflowers - what, where, wow!

Katya Tregub-Emrick

April 27, Tuesday, 7:30 PM by Zoom 

Grasses, Sedges, Rushes: An Identification Guide

Lauren Brown, Author

May 25, Tuesday, 7:30 PM by Zoom 

Gardening for Pollinators and Wildlife

Alonso Abugattas of Arlington County Department of Parks and Recreation

Pivoting to Meet the Challenge: MNPS Webinars

The pandemic put a temporary end to our well attended monthly evening programs at a library in Montgomery County as well as our popular schedule of field trips. We haven't been able to resume field trips, but dedicated volunteers figured out quickly how to use Zoom webinars to broadcast our presentations. It has been a steep learning curve for us, but we have been gratified by the enthusiastic responses, the many compliments and the generous donations MNPS has received. Hundreds of people have participated in each of our webinars. Although the webinars aren't as interactive as Zoom "meetings," participants can ask questions of the presenter through the Q & A feature.

Like almost all MNPS programs and field trips, these webinars are free to everyone. We put a lot of time and money into producing them and making them available as recordings. The recordings are available on the MNPS YouTube channel and on the MNPS Facebook page about two weeks after the broadcast.

We couldn't have done this if it weren't for our dedicated tech support volunteer, Lynn Parsons, who has contributed many hours of her time and expertise.

Before the pandemic, we often wondered how to make our offerings more widely available to people beyond a small geographic area in Montgomery County. The disruption to our normal routine was unsettling, but it has opened a path to the future. Even when we can meet together again, we will continue to offer online programs for all to enjoy. We are now sharing programs from our Western Mountains chapter, and in the future, we will be able to share programs from chapters in other parts of the state. We will also be able to invite speakers from outside Maryland, since they will no longer need to travel.

We have an exciting program of speakers lined up for January through May 2021.

- Marney Bruce, Program Committee Chair

Please, don't plant anything in your garden or landscape that isn't native to your region. Please. Just don't. While there exist non-native landscape species not currently known to be invasive, we must remember that it can take years or decades for a species to reach the point where we recognize its invasiveness. By then it's usually too late to control it. Let's not take chances.

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

Marilandica

A Publication of the Maryland Native Plant Society



Year of the Grasses

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