

Marilandica

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Celebrate the 30th Anniversary of the Maryland Native Plant Society, 1992–2022.

While the official date of founding for the society is January 17, 1992, we will celebrate this milestone in various ways throughout the year.

From the President's Lens



A goal through my year as President has been to get MNPS reconnected by reengaging with members during the monthly programs and by moving towards a return to meeting in person. We started remote Monthly Member Meets (“M3s”) in March on Tuesday nights—a week before the regular monthly seminars—and began offering them as hybrid in-person and remote in July. The

M3s have been combined with the monthly programs as of October and we ran our annual conference in September as a hybrid meeting. I'd particularly like to thank Jil Swearingen and Lauren Hubbard for all their assistance with these M3s and the annual conference.

Our MNPS meetings now take up several opportunities that have been expressed to the board over the past decade but never came to fruition. The first is that we have time for general discussion, incorporating board developments and announcements before the regular seminars. The M3s started this. This has now been incorporated into the first 30 minutes of the regular meeting time from 7:00 to 7:30 pm. The second is to record all our seminars and put them on the website. We had never previously invested in the recording equipment to do this. Thanks to the technical assistance of David Fulton-Howard we are now fully equipped with state-of-the-art camera, digital, and audio equipment. The choice of use of Zoom Webinar excludes audience participation, except through the moderator who relays the audience questions. The less expensive platform of Zoom Meeting allows member interaction with the presenter and to be seen by the in-person audience. The in-person camera and audio allow the zoom audience to see and hear the in-person interactions with the presenter. Our goal is to have everyone that feels

comfortable with meeting in-person to come to meetings rather than stay home on Zoom. These in-person/on-line meetings will continue until the worst of the pandemic is behind us and this coronavirus becomes another part of the common cold history of the world that hits everyone from time to time.

Another great missing facet offered to our membership before the pandemic is our fieldtrips. These can only restart as those fieldtrip leaders feel comfortable in taking groups to their favorite places. The five field trips offered as part of the annual conference and the recent solstice walk were the only society-sponsored trips during 2021. Field trip hosting requires some coordination. We are looking for a few volunteers to help recruit leaders, post trip details to the website and manage logistics. If you are interested in helping, please email us at info@mdflora.org.

During 2021, we were able to increase the board from 8 to 11 members, with the addition of Judy Fulton, Cassie Sherman Marks and Rod Simmons. We are looking for additional volunteers and board members to assist with many things that fell away during the past two years. If you are interested in helping with field trips, monthly programs (e.g., digital technology, editing recordings, speaker recruitment), website design, finances, or other activities please get in touch with us by sending an email to info@mdflora.org.

As this is my last “President’s Lens” I’d like to thank and acknowledge the assistance of the outgoing board for 2021: Vanessa Beauchamp, Carole Bergmann, Allen Browne, Judy Fulton, Lauren Hubbard, Cassie Sherman Marks, Karyn Molines, Sujata Roy, Rod Simmons and Jil Swearingen.

Keeping us in the loupe: Chris

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Front Cover: A few of Maryland's many native mints. Clockwise from upper left: spotted beebalm (*Monarda punctata*) – Photo: Jil Swearingen; downy pagoda-plant (*Blephilia ciliata*) – Photo: Jim Brighton; Canada horse balm (*Collinsonia canadensis*) – Photo: Jil Swearingen; forked bluecurls (*Trichostema dichotomum*) – Photo: Bill Hubick.

Paired, Squared and Ready to Dance

Celebrating MNPS Plant Family of the Year for 2022: The Mints

So, what is a mint? A mint is any member of the cosmopolitan flowering plant family Lamiaceae (or Labiatae) with about 7,000 species including many herbs, some shrubs and trees, and a few vines. A few traits that bind mints together taxonomically include opposite leaves, usually square stems, and bilaterally symmetrical flowers composed of 5 fused petals that form a tube with two lips (an upper 1 or 2-lobed lip and a lower 3-lobed lip). Species can be highly aromatic to non-aromatic and many are widely used as culinary herbs and teas. Native mints are important nectar sources for native bees and other pollinators. More importantly, mints may repel deer because deer general-



Male *Bombus griseocollis* on clustered mountain mint (*Pycnanthemum muticum*).

ly avoid them. Reasons enough to plant plenty of native mints in your yard and, while you're at it, remove those awful non-native ones.

According to Vascular Plants of Maryland, USA: A Comprehensive Account of the State's Botanical Diversity and the Maryland Biodiversity Project website, there are 94 species of mints in Maryland. The following list includes 89 species: 53 are native to Maryland, 22 species are designated as state rare, threatened, endangered, extirpated or known historically; 31 are common or not considered rare; and 36 are non-native (16 are invasive).

- JIL SWEARINGEN

NATIVE – State Rare, Threatened, Endangered, Extirpated, or Historical (22)

Purple Giant *Hyssop Agastache scrophulariifolia*
 Hairy Pagoda-plant *Blephilia hirsuta*
 American beautyberry *Callicarpa americana*
 White Bergamot *Monarda clinopodia*
 Purple Bergamot *Monarda media* (Historical)
 Basil Mountain-mint *Pycnanthemum clinopodioides* (Historical)
 Torrey's Mountain-mint *Pycnanthemum torreyi* (Endangered)
 Whorled Mountain-mint *Pycnanthemum verticillatum* (Threatened)
 Virginia Mountain-mint *Pycnanthemum virginianum*
 Nettle-leaved Sage *Salvia urticifolia* (Extirpated)
 Marsh Skullcap *Scutellaria galericulata*
 Hoary Skullcap *Scutellaria incana* var. *incana*
 Small Skullcap *Scutellaria leonardii* (Threatened)
 Veiny Skullcap *Scutellaria nervosa* (Endangered)
 Heart-leaved Skullcap *Scutellaria ovata* subsp. *rugosa*
 Smooth Rock Skullcap *Scutellaria saxatilis* (Endangered)
 Showy Skullcap *Scutellaria serrata*
 Rough Hedgenettle *Stachys aspera* (Endangered)
 Epling's Hedgenettle *Stachys eplingii*
 Hyssop-leaved Hedgenettle *Stachys hyssopifolia* var. *hyssopifolia*
 Fluxweed *Trichostema brachiatum*
 Narrowleaf Bluecurls *Trichostema setaceum*

NATIVE - Not rare (31)

Yellow Giant Hyssop *Agastache nepetoides*
 Black Horehound *Ballota nigra*
 Downy Pagoda-plant *Blephilia ciliata*
 Wild Basil *Clinopodium vulgare*
 Richweed *Collinsonia canadensis*

Common Dittany *Cunila origanoides*
 American False Pennyroyal *Hedeoma pulegioides*
 American Water Horehound *Lycopus americanus*
 Taper-leaved Water Horehound *Lycopus rubellus*
 Northern Water Horehound *Lycopus uniflorus*
 Virginia Water Horehound *Lycopus virginicus*
 Field Mint *Mentha arvensis*
 American Wild Mint *Mentha canadensis*
 Scarlet Bergamot *Monarda didyma*
 Wild Bergamot *Monarda fistulosa*
 Spotted Beebalm *Monarda punctata*
 Obedient Plant *Physostegia virginiana*
 Common Selfheal *Prunella vulgaris*
 American Selfheal *Prunella vulgaris* subsp. *lanceolata*
 Hoary Mountain-mint *Pycnanthemum incanum*
 Clustered Mountain-mint *Pycnanthemum muticum*
 Awned Mountain-mint *Pycnanthemum setosum*
 Narrow-leaved Mountain-mint *Pycnanthemum tenuifolium*
 Lyre-leaved Sage *Salvia lyrata*
 Hairy Skullcap *Scutellaria elliptica* var. *elliptica*
 Helmet Flower *Scutellaria integrifolia*
 Mad-dog Skullcap *Scutellaria lateriflora*
 Hispid Hedgenettle *Stachys hispida*
 Smooth Hedgenettle *Stachys tenuifolia*
 Canada Germander *Teucrium canadense*
 Forked Bluecurls *Trichostema dichotomum*

NON-NATIVE (*=Invasive) (36)

Yellow Bugle *Ajuga chamaepitys*
 Blue bugle *Ajuga genevensis**
 Common bugle *Ajuga reptans**

Purple beautyberry *Callicarpa dichotoma*
 Lion's tail *Chaiturus marrubiastrum*
 Lesser Calamint *Clinopodium calamintha*
 Brittle-stemmed Hempnettle *Galeopsis tetrahit*
 Ground Ivy *Glechoma hederacea**
 Yellow Archangel *Lamium (Lamiastrum) galeobdolori**
 White Deadnettle *Lamium album*
 Henbit *Lamium amplexicaule**
 Spotted Henbit *Lamium maculatum**
 Purple Deadnettle *Lamium purpureum**
 Common Motherwort *Leonurus cardiaca* ssp. *cardiaca**
 Gypsywort *Lycopus europaeus**
 Common Horehound *Marrubium vulgare**
 Lemon Balm *Melissa officinalis*
 Water Mint *Mentha aquatic**
 Longleaf Spearmint *Mentha longifolia*
 European Pennyroyal *Mentha pulegium*
 Spearmint *Mentha spicata**
 Apple Mint *Mentha suaveolens*
 Rough Mosla *Mosla scabra*
 Catnip *Nepeta cataria**
 Oregano *Origanum vulgare*
 Beefsteak Plant *Perilla frutescens**
 Cutleaf Selfheal *Prunella laciniata*
 Eurasian Selfheal *Prunella vulgaris* subsp. *vulgaris**
 Kitchen Sage *Salvia officinalis*
 Meadow Sage *Salvia pratensis*
 Lanceleaf Sage *Salvia reflexa*
 Wild Clary Sage *Salvia verbenacea*
 Woolly Hedgenettle *Stachys byzantina*
 Marsh Hedgenettle *Stachys palustris*
 Lemon Thyme *Thymus pulegioides*
 Beach Vitex *Vitex rotundifolia**

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MNPS Annual Conference 2021 September 25–26



This year's conference focused on the rare plants and communities within the Baltimore-Washington corridor that are threatened with destruction if the proposed Superconducting Magnetic Levitation or "Maglev" train project is approved. The 2020 conference had to be online-only due to covid restrictions. Using Zoom Meeting technology, this year's meeting was a hybrid remote and in-person event, held at the Hilton Garden Inn in Greenbelt, Maryland. There were 220 registrants with 44 attending in person and 176 participating remotely. Morning refreshments, pre-made lunches, and a fabulous banquet dinner—featuring an array of delicious Indian entrees and desserts—was catered by Krazi Kabob. Recorded presentations are available through Youtube and the MNPS website.

Saturday morning talks included **Bill Harms**, speaking remotely from upstate New York, on *Patuxent Research Refuge: High Vascular Plant Diversity in a Natural, Yet Urban Setting*; **Ida Hartvig**, presenting remotely from Denmark, on *Patterns of Hybridization and Fungal Use*

in the Fringed Orchid; and **Rod Simmons** who presented in person on *Endangered Pine Barrens Communities of the Beltsville Agricultural Research Center*. The Saturday evening banquet featured **Ian Caton** who presented on *Rare Plants and Plant Communities of the Mid-Atlantic*. On Sunday morning, **Douglas Tallamy** presented remotely from his home in Delaware on *The Nature of Oaks*—based on his newly released book by the same name.

Five fabulous field trips were offered on Saturday and Sunday afternoons and included: *U.S. Geological Survey Native Bee Inventory and Monitoring Lab and Native Plant Nursery* (**Sam Droege**); *Sawmill Creek Park and the Historic Glen Burnie Bog* (**Rod Simmons**); *Greenbelt Forest Reserve* (**Damien Ossi**); *Greenbriar Park* (**Rod Simmons**); and *U.S. Fish and Wildlife Service's Patuxent Research Refuge* (**Helen Lowe Metzman**, **Robert Ferraro**, and FWS supervisory refuge biologist **Sandy Spencer**). There were about 93 field trip attendees.

-JIL SWEARINGEN



Left: Grass-leaved golden aster (*Pityopsis graminifolia* var. *latifolia*), native from Texas to Delaware and Maryland and adapted to sandy interior habitats, is uncommon in Prince Georges and Anne Arundel counties. Center: Helen Lowe Metzman explains the importance of the sand habitats on the refuge. Right: Shaggy blazing star (*Liatris pilosa*) being visited by a male *Bombus impatiens* bumblebee.

Additional pictures from the 2021 MNPS Conference can be found at <https://mdflora.org/Photo-Albums>.



At the USGS Native Bee Inventory and Monitoring Lab, Sam Droege explains why native plants like the various goldenrod species he is growing, are essential for native bees.

Cristina Nicoporciukas



Jil Swearingen

Rod Simmons leads participants on a botanical adventure of the Glen Burnie Bog, discovered by Forrest Shreve around 1910, during his field trip to Sawmill Park in Glen Burnie MD.



Cristina Nicoporciukas

Field trip participants studying the native plants at Patuxent Research Refuge.



Rod Simmons explains why the powerline right-of-way habitat at Sawmill Park hosts many important native plants.

Jil Swearingen

Background: American chestnut *Castanea dentata*, Jil Swearingen

Not So Dirty After All

Cities like Baltimore, MD are highly contaminated with heavy metals like lead and chromium, but it turns out that not all organisms are affected equally. Some weedy plants can store these metals in their leafy green tissues at very high concentrations – a phenomena called *heavy metal hyperaccumulation*. This adaptation is often counter-intuitive with what most people think of when they hear about plants cleaning up the soil, as the more common plant response would be to store these toxins in their roots. Heavy metal hyperaccumulation, then, is a great solution for phytoremediation on heavily contaminated industrial sites or brown fields. However, it can have serious implications for homeowners interested in growing vegetables, children's playgrounds, and the

If Baltimore was as contaminated as previous research has shown, then these plantains should hyperaccumulate. What we're actually finding is ... they just are not taking up heavy metals and storing them at all.

weeds are especially common in lawns in places like public parks, residential yards, roadside verges or curbs, and street medians. If Baltimore was as contaminated as previous research has shown, then these plantains should hyperaccumulate. What we're actually finding is that despite the fact that these weeds are growing in contaminated lawns that exceed government cleanup standards, they just are not taking up heavy metals and storing them at all. For example, all of the sites are considered iron-contaminated, a metal that all three species are known to hyperaccumulate, yet none of them achieved abnormally high concentrations. Another way to check the quality of the soil is to look at the soil microarthropod community – microscopic bugs that live underground responsible



Broad-leaved plantain (*Plantago major*) and Rugel's plantain (*Plantago rugelii*) overtaking a curbside verge with dandelions. Both are nearly identical except for the characteristic coloration of the base of the plant: red-purple for *P. rugelii* and white or pale-green for *P. major*.



Narrow-leaved plantain (*Plantago lanceolata*) in bloom, taking over the sidewalk underneath a railing.

growing community of urban foragers – all of whom are more likely to come in contact with and ingest these weedy leafy greens. This is further complicated by the fact that these weeds aren't even all that uncommon – it's likely you have some of these species, such as dandelion, chicory, and plantain, in your lawn right now.

Our study focused specifically on plantains (*Plantago major*, *Plantago rugelii* (Fig. 1), and *Plantago lanceolata* (Fig. 2)), which are globally common hyperaccumulators found in cities across the world. These

for decomposing dead plants, which are sensitive to soil conditions like temperature, moisture, pH, and metal toxicity. Curiously, there are more microarthropods under one species, *Plantago lanceolata*, than the other two species and control soils (i.e. soil beneath the grass). However, they don't appear to relate to heavy metal contamination, which suggest they may just prefer the root architecture of this species.

So this begs the question – is Baltimore really all that dirty? For these plants, it certainly isn't.

~ ERIC YEE

Eric Yee is a 2021 Maryland Native Plant Society Grant Recipient

Vascular Plants of Maryland, USA: A Comprehensive Account of the State's Botanical Diversity

What plants are found in Maryland? Which are rare? What is worth conservation? It seems like an easy question to answer. There are many places an interested party could go to look up what plants are present, but as you'd quickly discover, nobody agrees.

The story of the Maryland Checklist starts 14-years ago just after the birth of my daughter, Sidney. I was home on paternity leave, and she was just 3-months old. At that age, she didn't do much beyond eat, sleep, and excrete fluids. This left me a lot of time on my hands to ponder the flora, needs, and future aspirations. This is when I started the Checklist. It had been kicking around in my head for a few years before I ultimately made the decision to begin this project as I was frustrated by the inconsistencies I'd find in different floras, manuals, or other sources of data, attributing a plant (or not!) in Maryland. This came to a head one day when I got the new *Flora of North America* vol. 24 *Cyperaceae* for Christmas. It was one of the few things I requested from Santa that year and as a fledgling botanist with an intense interest in the underappreciated plants, sedges really piqued my interest. I was shocked to see that one of the most common species of spikerush's, the Long-tuberculed Spikerush (*Eleocharis tuberculosa*) was omitted from Maryland. This error motivated me to do two things. I first volunteered to be a regional editor for the *Flora of North America Project* and second, I decided to compile a checklist of the Maryland Flora to help improve the understanding of the State's Flora.

I made small incremental progress on the checklist and around 2005 or 2006 I realized more hands make lighter work. I invited my good friend and mentor, Rob Naczi to be a collaborator on the project. We eventually finalized the work and despite many delays, the work was ultimately published by the Smithsonian Scholarly Press in the Smithsonian *Contributions to Botany* series. Another press who had accepted

our work before we went with the Smithsonian Press wanted to charge over \$100/copy! We withdrew the Checklist from this publisher as we wanted it to reach as many people as possible. We can't be more thrilled with how the product looks and that the book is a free PDF for anyone who is interested.



Trillium pusillum var. *virginianum* from Worcester County.
Photo: Wesley Knapp.

Ultimately, this checklist provides the first complete, vouchered account of Maryland's vascular flora. In total, we discuss 3,525 taxa and document 2,918 established taxa for the state of Maryland, 71.8% of which are native and 28.2% of which are introduced. Of the native species, 737 (25.3%) are tracked by the Maryland Natural Heritage Program as of conservation concern. We exclude 324 taxa reported from Maryland by previous authors and provide justifications for these exclusions.

This work is not the end or complete! The flora is ever changing. I am in discussions with collaborators Jim Brighton and Bill Hubick, of the Maryland Biodiversity Project, to maintain an accounting of

additions to the Knapp & Naczi Checklist on the Maryland Plant Atlas website (www.marylandplantatlas.org). This will allow future discoveries to the Maryland Flora to be accounted for in a single place. Perhaps when enough additions or changes to the flora have been compiled an updated version of the Checklist could be published. That is a question for the future. What is known today is that we have a full accounting of our flora and a way to vet additions. I look forward to what botanical discoveries are yet to be found and what changes to the flora will come.

- WESLEY KNAPP

Pokeweed: Much Maligned but Marvelous Native

“Get rid of it. It’s ugly, it’s taking over the flower garden.” A tall somewhat asymmetrical sturdy plant with gently curved stalks and soon to be pendulous clusters of berries — the dreaded pokeweed (*Phytolacca americana*). She who must be obeyed has spoken. What to do?

I send an Instagram message to Margaret Renkl, author of *Late Migrations*, and an occasional New York Times columnist, one of which was an homage to pokeweed. Happily, she responds quickly to



Pokeweed flower racemes.

the defense. “Nature is fundamental life; domestic flowers are culture. Surely we can make room for both.” Fundamental life gives me a powerful argument and room to negotiate.

Pokeweed is much maligned due to the poisonous character of its berries, leaves, root and stalks. The red to purple to deeply black berries are formed on elongated clusters known as racemes from the Latin racemus or “bunch of grapes.” The berries are an important food source for birds including migratory birds and several small mammals (raccoons, opossums, fox and white footed mice) that are not affected by its toxins. A southern Appalachian delicacy, the early spring shoots are edible with exquisitely careful preparation. It is celebrated with festivals where oldtimey experts boil the young shoots at least twice using fresh water each time to serve up “poke sallet.” I’m not asking my wife to eat it. My kids are launched and I’ve taught my grandchildren to never eat the berries or even touch the plant. To me it is fundamental life- not only do I enjoy watching birds harvest the berries but the denuded stalks provide post frost homes for many

insects. Some moth and butterfly larvae feed on it.

Phytolacca (from the Greek phyton for plant and lacca for crimson lake) robustly grows 4-10 feet tall and needs no care. It thrives in stressful conditions. Often just called Poke from the Algonquin “puccon” it flourishes in vacant lots, on roadsides and anywhere it finds sun, including my flower and vegetable garden. Several sources cite its use by indigenous Americans as a purgative, an emetic and



Pokeweed in full glory.

even a vermifuge. There are also accounts of use as a dye for horses and a narcotic tea. It is widely spread by birds and can take over an otherwise cultivated bed if allowed. It is native to Eastern North America and has been immortalized in the country ballad *Poke Salad Annie*, penned by Tony Joe White and covered by Elvis.

Most suburban communities and many urban ones are homes surrounded by swathes of chemically maintained lawns that provide no sustenance for our native species and no pollination opportunities for insects to help us grow food. Is it asking too much to allow a plant, born by the random largesse of a bird to coexist with our yards?

My boss agreed to let the pokeweed stay in several spots in the yard as long as I removed it from the flower beds. A more than fair compromise.

~ CARL GOLD

Carl Gold is a recently certified Maryland Master Naturalist and can be reached at cgold@carlgoldlaw.com.

Exploring Medicinal Natives: Elderberry

As the world has sought to improve public health of the population and change the trajectory of the COVID-19 disease, alternative medicine solutions have become more closely researched in clinical settings, as well as being pontificated upon in various expert groups. Much of this research has shed light on plants that have been used for centuries, going beyond ethnobotanical recognition.

Perhaps one of the most prominent plants on the subject front-line of this research has been **Elderberry** *Sambucus nigra*, a close cousin of the Maryland native **American elder** *Sambucus canadensis*, which is a deciduous flowering shrub that has been found humbly growing in the Maryland landscape since the very beginning. It is important to note that while the American elder shrub *S. canadensis* differs in species from the more widely researched Elderberry tree *S. nigra*, the key botanical difference is in the color of the fruit which is directly related to an increased bioavailability of a desired anti-inflammatory medicinal compound in our native American elder (Finn et al., 2008).

S. canadensis is a shrub that is on the larger side, growing upwards of twelve feet tall. The serrated, opposite arranged leaflets are what you may see a majority of the warm season, but around June, clusters of small white flowers form and eventually give rise to deep-purple berries (A. Krochmal & C. Krochmal, 1984).



Corinna Ratner

An Elderberry shrub in peak bloom.

The shrub can be found in forests, along the road, or even out in the open, however it should be noted that *S. canadensis* can be a little elusive.

This plant has a long natural and ethnobotanical history with humans. Native Americans and early pioneers would use all parts of this plant in various applications to treat painful swelling, skin disease, and even for fever reduction (A. Krochmal & C. Krochmal, 1984). *Sambucus spp.* was also traditionally used to treat respiratory disease, warranting the modern research that is being conducted for the possible treatment of COVID-19 (Wieland et al., 2021). Some of the most relevant research has found *Sambucus* plants stimulate the immune system and prove valuable in the prevention and reduction in duration of certain respiratory diseases, such as the common cold (Tiralongo et al., 2016). However, its specific use in the treatment of COVID-19 is undetermined and still being researched.

Elderberry supplements can be found at just about any health food store, particularly as demand increases as a result of the mounting research. While it is imperative consumers do their own research and due diligence when merely considering herbal medicine treatments, it sure is neat to know that one of the botanical leaders in the interest of natural immunity boosts can be found in our Maryland landscapes.

~ CASSIDY PRU

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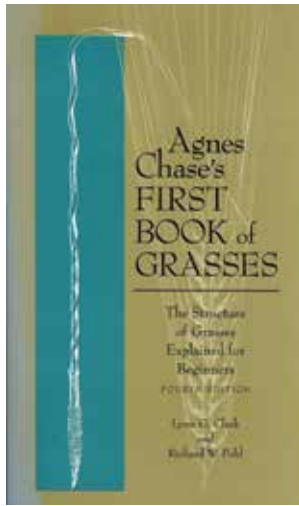
The Botanists Before Us: Agnes Chase

All Flesh Really Is Grass

As we close out our two-year run on grasses and graminoids as plants of the year, it seems fitting to recognize some of the experts who laid the groundwork for our understanding of this important group. The USDA publication “Grass: The Yearbook of Agriculture 1948” is a treasure trove of articles about grasses from the perspective of experts and land managers over seven decades ago when our national landscape was vastly different. The book includes articles about grasses in agriculture, forage grass crops for livestock, managing rangelands for livestock, pasture grasses, grasses for lawns, golf courses and playing fields, and even a little bit about natural grasslands. The issue is kicked off by a monumental overview of grasses written by Agnes Chase (born Mary Agnes Meara in 1869)—“The Meek That Inherit the Earth.” We are reprinting it here as a tribute to her outstanding life and legacy.

In addition to being one of the first female botanists and agrostologists in the USDA, she was an excellent botanical illustrator and played an important role in women’s suffrage. Agnes was hired as a botanical illustrator in 1903 by the USDA Division of Agrostology in Washington, DC, in the Division of Forage Plants. In 1905, she began working for Albert Spear Hitchcock, another famous botanist and agrostologist, who

quickly recognized Agnes’ talents as both an illustrator and grass expert, initiating a fruitful collaboration. From 1910–1917, they coauthored two publications on North American panic grasses (genus *Panicum*) and a flora “Grasses of the West Indies” based largely on Agnes’s field work in Puerto Rico in 1913. When Hitchcock requested that \$45 in funds remaining from a biological survey of the Panama Canal zone he conducted in 1911 be given to Chase to support her fieldwork, a Smithsonian official responded “I doubt the advisability of engaging the services of a woman for the purpose [of the expedition].” Thankfully, we have come a long, long way!



Chase’s First Book of Grasses published in 1922.

In John James Ingalls’ article “In Praise of Bluegrass” that precedes Agnes Chase’s in the 1948 yearbook, he distills the role of grasses thus: *“The primary form of food is grass. Grass feeds the ox: the ox nourishes man: man dies and goes to grass again; and so the tide of life, with everlasting repetition, in continuous circles, moves endlessly on and upward, and in more senses than one, all flesh is grass. But all flesh is not bluegrass. If it were, the devil’s occupation would be gone.”* [Ingalls was a Kansas senator 1873–1891 (not a scientist) and his article was published in the Kansas Magazine in 1872]

~ JIL SWEARINGEN

Information Source: https://en.wikipedia.org/wiki/Mary_Agnes_Chase



Mary Agnes Chase seated at a desk with herbarium specimen sheets, c.1960.
Black and white photographic print.
Repository: Smithsonian Institution Archives



Mary Agnes Chase Collecting Plants, Brazil 1929. Photographic print
Repository: Smithsonian Institution Archives

THE MEEK THAT INHERIT THE EARTH

AGNES CHASE

OF ALL PLANTS the grasses are the most important to man. All our breadstuffs — corn, wheat, oats, rye, barley — and rice and sugarcane are grasses. Bamboos are grasses, and so are the Kentucky bluegrass and creeping bent of our lawns, the timothy and redtop of our meadows.

If such different-looking plants as bamboo, corn, and timothy are all grasses, what is it that characterizes a grass? It is the structure of the plant.

All grasses have stems with solid joints and two-ranked leaves, one at each joint. The leaves consist of two parts, the sheath, which fits around the stem like a split tube, and the blade, which commonly is long and narrow. No other plant family has just this structure. Clover and alfalfa, built on a very different plan, are not grasses. The seed heads of grasses are still more distinctive. The minute flowers are borne on tiny branchlets, often several crowded together, always two-ranked, like the leaves.

The grasses specialize in simplification; only rarely do they have nonessentials.

Being wind-pollinated, their flowers need no gay colors, no fragrance, no honey to attract insects. The flower consists of a single pistil with one ovule, two styles, each with a feathery stigma, and three (rarely one or six) stamens. Only three, or two, delicate little scales (lodicules) remain of the floral envelope, the calyx and corolla, of other flowers. These minute flowers are borne singly or two to many together in spikelets, which are really little flowering branches. The hypothetical flower-bearing branchlet is never elongated, as shown in figure 3 for the sake of comparison. The palea is immediately above the lemma, and the flower immediately above the palea. The axis of the spikelet (rachilla) is jointed as is the culm of a grass, and the lemmas (specialized leaves reduced to a blade-like sheath) are two-ranked as are the leaves.

The flowers have to do with perpetuating the species. Most grasses flower every year. But some perennials, which spread by specialized underground stems (rhizomes or rootstocks), may cover extensive areas, especially in salt or brackish marshes, without flowering regularly; bamboos flower mostly at intervals of a few to many years.

The root, stem, and leaves constitute the vegetative part of the plant, and are concerned with the life of the individual plant.

In grasses the vegetative parts are more uniform and characteristic than in most other families. If one has the stem and leaves of a plant, he can decide readily whether or not it is a grass. The only plants that may reasonably be mistaken for grasses are the sedges

— the culms are not jointed and are commonly three-sided, and the leaves are always three-ranked.

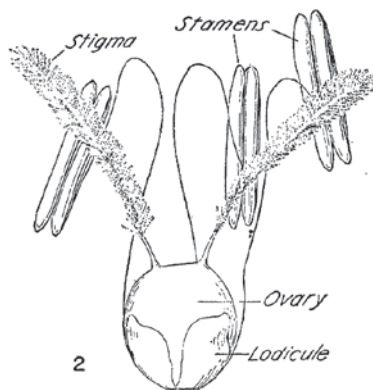
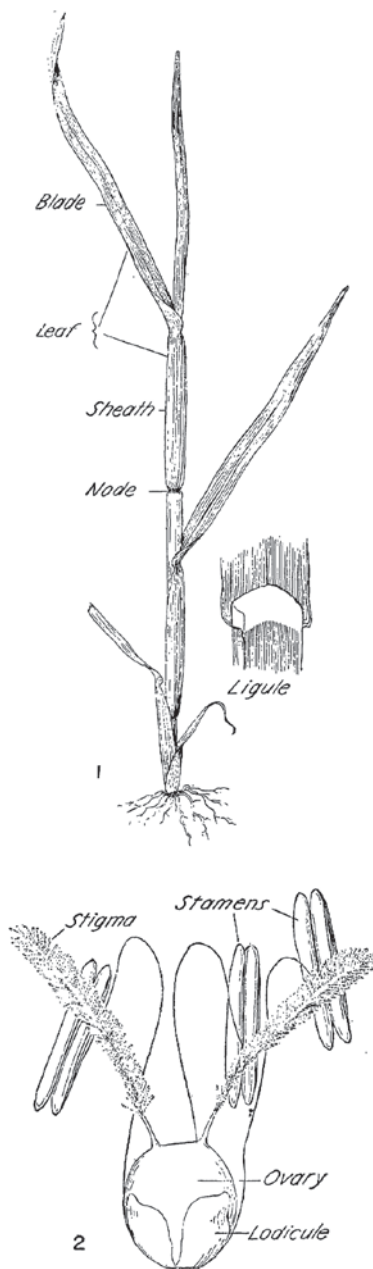
In grasses, specialization takes place mostly in the spikelet. By its vegetative characters a given plant is shown to be a grass, but it is the spikelets and their arrangement which indicate the kind of grass it is. The spikelet of cheat or chess (figure 5) is shown as seen naturally, the two glumes at the base, the florets (lemma, palea, and enclosed flower together) borne on opposite sides of the jointed rachilla, and the flower concealed. The palea with two nerves, its back to the rachilla, subtends and usually surrounds the flower. The glumes bear no flowers and are without paleas. This simple fundamental floral structure is subject to all manner of modification, but every organ found in the most highly specialized spikelet is to be interpreted as an elaboration or reduction of some part of this structure. The floret is the unit of the spikelet; the spikelet is the unit of the inflorescence.

The spikelets of wheat (figure 6) are sessile, that is, borne directly (without pedicel) on opposite sides of a stout axis, being placed flatwise against it; those of Italian ryegrass (figure 7) are borne in like manner but are placed edgewise to the axis.

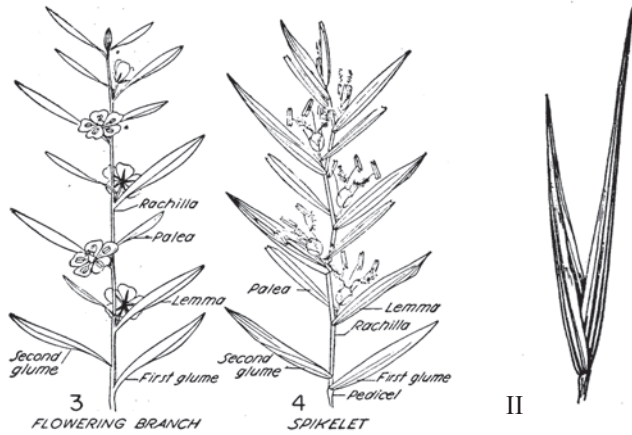
In wild oats (figure 8), the glumes are enlarged and the fertile florets are but two, with an additional sterile one. The lemmas bear a stout twisted bristle (awn) from the back near the base. In timothy (figure 9), the spikelet has but one floret, which is enclosed in a pair of rigid-pointed glumes. In bluejoint (figure 10), the one floret is surrounded by long silky hairs at the base and the lemma bears a slender awn from the back, and a segment of the rachilla is produced beyond the base of the palea, suggesting that this spikelet is derived from a form with more than one floret. In the needlegrasses, the lemma bears a stout twisted awn from the summit (figure 11), and in three-awn grasses the awn is divided into three branches (figure 12).

In all grasses mentioned so far the structure is simple and all florets in a spikelet are alike. In some groups single spikelets may contain two very different kinds of florets, at least one perfect (that is, enclosing a flower having stamens and pistil, and perfecting a grain) and one or more reduced sterile florets. The grama grasses (*Bouteloua*) have spikelets of this kind (figure 13). In this and allied genera the spike-

lets are borne in spikes; that is, sessile, as in wheat (figure 6), but all on one side of the rachis, not on opposite sides as in wheat. (The axis of a single spike or of a branching panicle is termed axis; that of a secondary spike or raceme is termed rachis.)



1. The parts of a young shoot;
2. The flower of a grass plant.



3. Diagram of leafy flowering branch, the flowers and bracts arranged as are those in grasses. Figure 4: Diagram of grass spikelets for comparison. II: The floret of needlegrass (*Stipa*).

In grama grasses, of which there are 17 very valuable forage grasses in this country, the lemmas of the sterile florets are greatly altered (figure 13, C, D). The fertile and sterile florets fall together, the sterile with their long hairs and awns serving to disperse the seed. Bermuda-grass, goosegrass, the cordgrasses, and Rhodesgrass are familiar examples of this group.

The most curious is buffalograss, in which the male (staminate) and female (pistillate) spikelets are usually borne on separate plants and are so different in appearance as to suggest no relationship (figure 14). The hardened second glumes, grown together at their bases on a short, hardened rachis, form little hard white heads which are borne near the ground, much overtopped by the leaves. Buffalo-grass is dominant over vast areas of the Great Plains from the Canadian border to central Mexico. The foliage cures on the ground and furnishes yearlong grazing. Its tough sod, held together by interlacing stolons, or runners, was used by the early settlers in making their sod houses. There were no dust bowls while buffalograss held the soil.

The millets and their

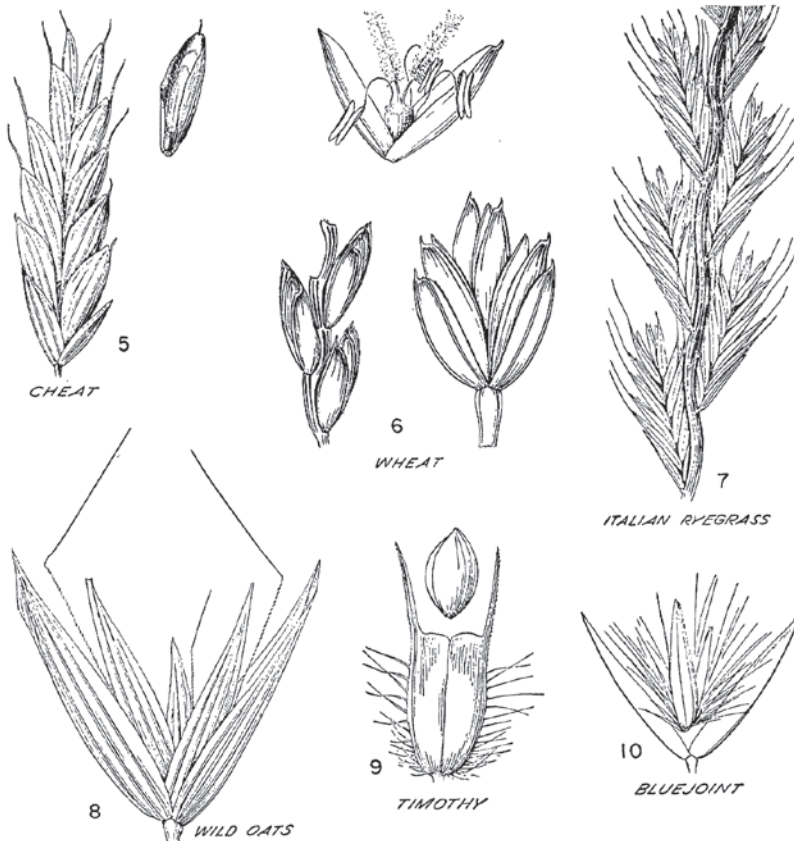
relatives form a group characterized by spikelets which fall entire, and which are dorsally compressed. They have one perfect floret and below this a sterile floret represented by a sterile lemma. This sterile lemma and the second glume are similar; in some earlier works on grasses these have been referred to as a pair of glumes, and the small first glume was called an "accessory valve." The fertile floret is hardened and permanently encloses the grain which germinates within it and sends its rootlet through a thin place in the back of the lemma and its shoot out the summit between the lemma and palea. These are shown (figure 15) in the spikelet of broomcorn millet. Witchgrass, a weed of the cornfields, switchgrass, Guineagrass, and many others have this structure.

The genus *Panicum*, with 160 species, is the largest one in the United States. In true millets, introduced from the Old World, and their native allies, the spikelets are much like those of *Panicum* but are surrounded by bristles, which are sterile, reduced branches of a contracted panicle. A further specialization of sterile branches is seen in the sandbur. Here the bristles grow together into a sort of spiny cup which contains from 2 to 5 spikelets (figure 16). The grains of the sandbur germinate within the spikelets and send out rootlets and shoots between the spines. In the *Sorghum* tribe the spikelets fall entire as in *Panicum* and its group, but here it is the glumes which are hardened and enclose the entire floret. The

spikelets are in pairs at each node of a jointed rachis — one is sessile and perfect and the other pedicellate and usually sterile; the pair fall together with the rachis-segment and pedicel. Bluestem of the prairies (figure 17) and broom-sedge of the Southeast show this arrangement. In sorghum the racemes of spikelet are reduced to a few segments and are borne in a panicle. In sugarcane and plume-grass both spikelet of the pair are perfect.

They are so hidden in the copious long silky hairs that it is difficult to see their structure.

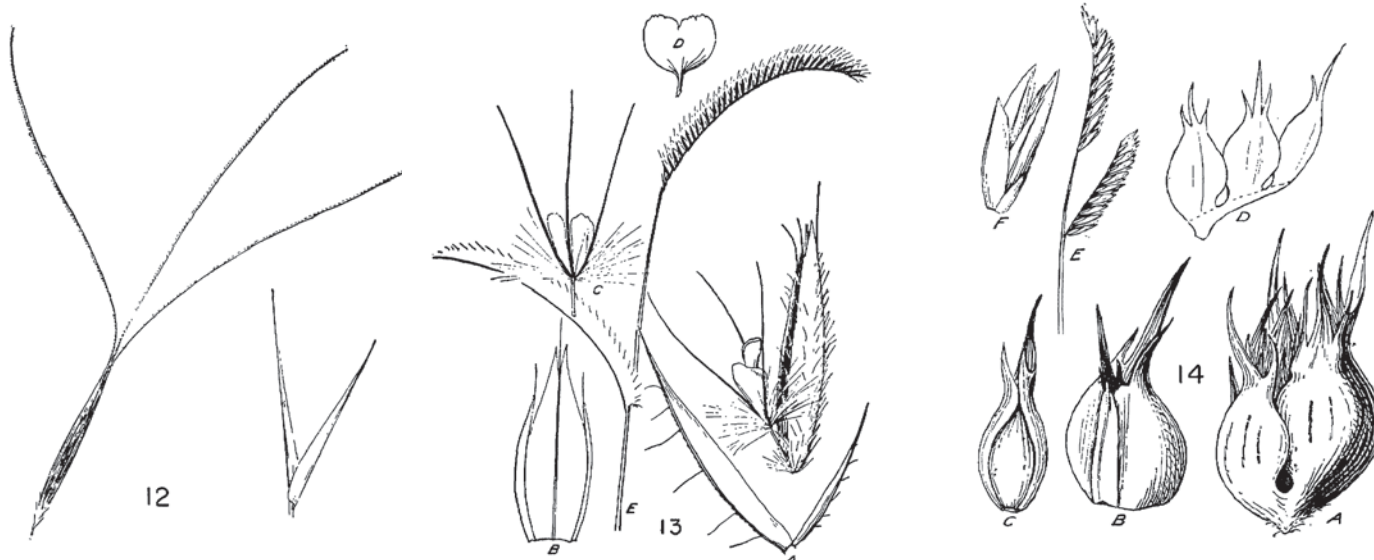
The most highly specialized grass in the world and the most useful is maize, or Indian corn. The staminate and pistillate spikelets are borne in different parts of the plant — the staminate, in the terminal tassel; the pistillate, crowded in 8 to 16 rows (always an even number)



5. Spikelet of cheat; floret showing palea and rachilla segment. Figure 6: Spikelet of wheat with segment of axis; three segments of spike, showing arrangement of spikelets, flat against the axis; spikelet open. 7: Part of spike of Italian ryegrass, showing arrangement of spikelets, edge to the rachis. 8: Spikelet of wild oats. 9: Spikelet of timothy, floret above. 10: Glumes and floret of bluejoint.

on a greatly thickened axis (the cob), forms the ear, which terminates a shortened branch and is enveloped by numerous leafy bracts or husks from the summit of which the long styles and stigmas of the flowers (the silk) protrude (figure 18). The staminate spikelets show much the same structure as those of bluestem and sorghum, and the pistillate are exceptional only in their

Grasses owe their dominance to their ability to make a living under all conditions where flowering plants can live at all and to their usually abundant seed crop and its wide dispersal. The seeds are carried far and wide by the wind. Some years ago, entomologists exposed insect traps from an airplane to learn how high insects were carried by air currents. Numerous grass seeds found



12. Glumes and floret of three-awn grass (*Aristida*). 13. Grama grass: (A), Glumes and fertile floret, sterile florets attached; (B), lemma of fertile floret displayed; (C), (D), lemmas of first and second sterile florets; (E), spikes showing arrangement of spikelets. 14. Buffalograss; (A), Pistillate spike; (B), pistillate spikelet; (C), ripe floret; (D), diagram of pistillate spike; (E), staminate spike; (F), staminate spikelet.

arrangement on the axis, standing at right angles to it. Rarely in grasses does the grain protrude beyond the glumes as it does in maize, but it also occurs in pearl millet and in the native Diarrhena.

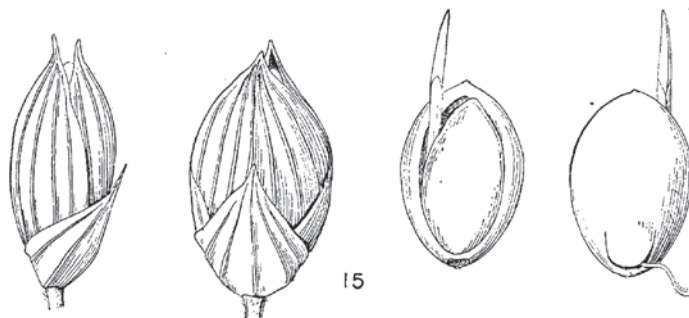
Grasses have been so successful in the struggle for existence that they have a wider range than any other plant family; they occupy all parts of the earth and exceed any other in the number of individuals. They reach the limits of vegetation (except for lichens and algae) in the polar regions and on mountaintops. They endure both cold and torrid desert conditions, form the main part of the vegetation of vast prairies, plains, savannas, and steppes of both hemispheres, and occupy great stretches of marsh and tidal flats, where they are building up the land. Bamboos, the largest of grasses, form extensive forests and dense jungles.

Mostly low in stature and relatively inconspicuous, grasses attract but little attention — but they are the meek that inherit the earth. They form the third largest family of flowering plants, exceeded in number of species only by the aster family and the orchids. But in the number of individual plants, grasses far outnumber all others and have a wider range than any other family of flowering plants.

in the traps were given to me. The flat hairy spikelets of Vasey-grass were captured at a height of 4,000 feet. This grass was introduced into Louisiana from South America some sixty years ago and is now spontaneous from Virginia to southern California. Seeds, such as those of the common reed, the plumegrasses, most of the beardgrasses, and many others which are surrounded by long hairs, fly like thistledown.

Many grasses are adapted to dispersal by animals; such seeds as those of needlegrasses and three-awn grasses (figures 11 and 12), and others with needlelike bases attach themselves to the hair or fur of animals or the clothing of man. In the sandbur (figure 16), barbed spines serve the same purpose. The needle-point seeds, especially the florets of some weedy annual bromes and the spikelets of wild barleys, are harmful to grazing animals — the barbed points work into the mouth parts, nostrils, and eyes and cause serious injury. The barbed spears of needlegrasses and of some others catch in the wool of sheep, and the awns, twisting and untwisting in dew and sunshine, drive the barbed point through the wool into the skin.

Grasses have spread over continents and across the seas by the agency of man, often unintentionally. Guinea-grass, Bermuda-grass, and molassesgrass (in the Tropics) are common wherever



15. Broomcorn millet: Side and back view of spikelet; two views of germinating grain.

slaves were unloaded in the Americas. These African grasses, which were used for bedding for slaves and as feed for such animals as were carried, were unloaded with the slaves and ballast, and soon took possession of suitable areas. Grasses spread along old trade routes and have come in as impurities in imported seeds. Seeds of a strange millet were found in 1932 by seed analysts in millet imported from China. It proved to be *Setaria faberi*, an annual related to green foxtail (wild millets are called foxtails or bristlegrasses in this country). By 1917 it was found from New York to North Carolina and west to Missouri and Nebraska.

One of the cordgrasses, *Spartina pectinata*, has filled up vast stretches of marshland in the Middle West, converting it into rich black prairie. But eons before that, during the Miocene, when our Great Plains were being uplifted, the common reed must have stretched across the continent. Dr. A. P. Dachnowski, peat specialist for many years in the Department of Agriculture, found that the peat deposits throughout the Mississippi Valley and west to the Rockies are composed largely of the remains of this reed. Since this is a circumpolar species, it is probable that the flat lands of Finland, northern Russia, and Siberia were built up by this grass.

Along the north Atlantic coast and at the southern end of Lake Michigan are great hills of sand piled up by wind and wave. Unless held by vegetation, these sand dunes travel inland, a thin layer of the upper, driest sand blowing up the windward and sliding down the leeward side. The dune thus advances a few inches to a few feet in a year.

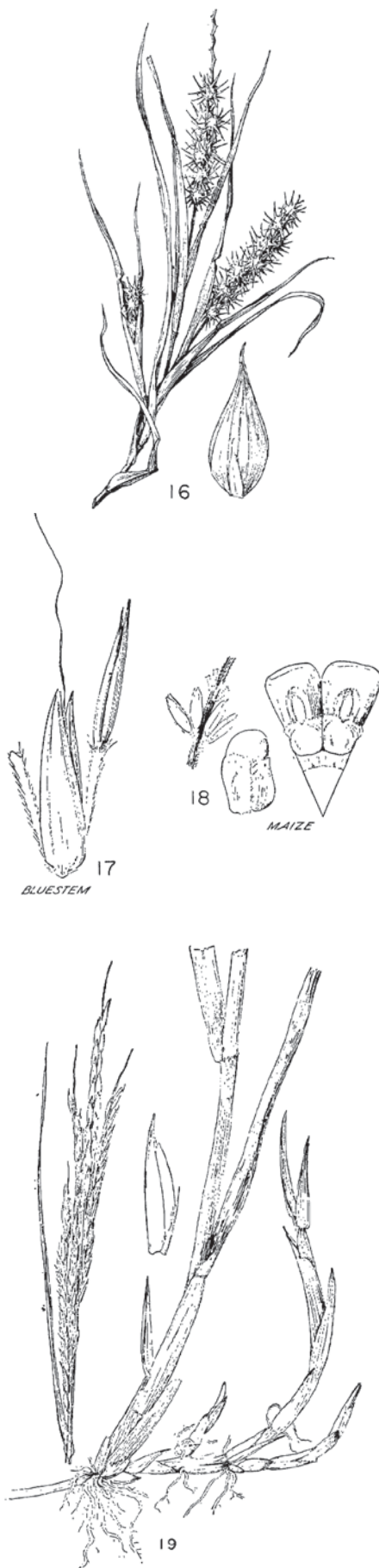
Grasses with strong rhizomes flourish on these windswept sands and serve to hold them. The principal species is beachgrass. The sand-laden winds are checked by the clumps of beachgrass and drop their sand; this raises the level of the dune about the grass, which is able to grow upward indefinitely, rooting at the buried nodes. A related European species, *Ammophila arenaria*, is planted extensively in northern Europe to hold the drifting sand along the coast. Along the Baltic, in Denmark, the Netherlands, and along the French coast of the Bay of Biscay, a great line of barrier dunes protects the land behind them. Trees are planted in the lee of the dunes, but they cannot endure the severe conditions of the seaward side. The dunes are constantly guarded and, if a break occurs, tufts of grass are planted to hold the barrier. Our cordgrasses have for ages been building

meadowland on mud flats and tidal estuaries in the Gulf of St. Lawrence, Chesapeake Bay, San Francisco Bay, and the lesser inlets. These grasses thrive in the soft mud, submerged at high tide; their stout rhizomes form a firm network ever pushing seaward on the shallows of the Continental Shelf. The coarse grass impedes the oncoming waves, causing the water to drop its silt; thus the grass protects the shore while building up the floor until it becomes marsh-meadow and, finally, dry land; at that time the cordgrass dies out and leaves the land ready for cultivation. Much of tidewater Virginia was built up by the cordgrasses.

Smooth cordgrass, which ventures farther into the water than other species, extends its land building from Newfoundland to Texas (figure 19). A few years ago when oysters were being transplanted from the Atlantic to the Pacific coast, this grass was accidentally, but fortunately, introduced with them. By 1945 it formed a flourishing colony at Willapa Refuge in Pacific County, southwest Washington.

A striking example of land building is going on today on a gigantic scale along the English Channel and the North Sea. The traveler on a ship entering Southampton today will see vast green meadows stretching into the sea. Two generations ago these were bare mud flats. *Spartina townsendii* (called ricegrass by the English), nearly related to our smooth cordgrass, was first observed on the Southampton salt marshes in 1870; it now occupies the tidal flats for 150 miles.

"These bottomless muds, though they stood empty of vegetation probably for thousands of years," F. W. Oliver wrote, "found no plant capable of solving the problems of invasion and establishment till *Spartina townsendii* came and made light of the task." ■



16. Branch of sandbur; spikelet, enlarged.
 17. Pair of spikelets of bluestem with rachis segment and pedicel.
 Figure 18: Maize or Indian corn: Pair of pistillate spikelets attached to rachis (cob), the mature grains much exceeding the glumes, second glume and embryo side of grain showing; single pistillate spikelet soon after flowering, the stigmas fallen; 2 pairs of staminate spikelets on fragment of rachis (tassel).
 19. Smooth cordgrass (*Spartina alterniflora*): Base of plant showing rhizomes; inflorescence; spikelet, enlarged.

Fashion Meets Gardening: Seersucker Sedge

You can't imagine how devastated I was upon learning that as of 27 June 2012, "Seersucker Thursday" in the United States Senate was to be discontinued. And very soon overjoyed to learn that it was reinstated due to popular demand. PHEW!!!

If you're not familiar with the fabric known as seersucker, I'll share a little background with you. Seersucker is a cotton fabric that was developed during the British Colonial Period in their warm weather colonies like British India. The fabric is woven in such a way as to create a wrinkly, puckered effect that consequently keeps most of the fabric away from the skin, thus facilitating heat dissipation. The most common pattern is a blue and white vertical stripe.

Now, I have a feeling that with the preceding pre-amble, you may be under the impression that you've accidentally picked up a fashion magazine rather than a gardening publication? Bear with me, that brief foray into the world of fabric is about to attain some relevance momentarily, actually in the next paragraph.

Carex plantaginea is definitely my most favorite sedge. A sedge is a grass-like plant but is not a true grass or member of the Poaceae (Grass) family. There are many native grass-like plants and they're usually separated into 3 categories, Grasses, Rushes and Sedges. There's even a little rhyme to help you identify which category a plant falls into and it goes like this:

"Sedges have edges
Rushes are round.
Grasses are hollow.
What have you found?"

While many species of sedge are difficult to identify, *Carex plantaginea* is distinctly easy as it's the widest of all the sedges and has unique "puckered" foliage similar to the texture of, yes, you guessed it! Seersucker!!! In fact, the common name for *Carex plantaginea* IS "Seersucker Sedge" J. Here in West Virginia we have well over 100 species of *Carex*, many of them have great garden potential and I've been trialing and evaluating several species for a few years now.

This remarkable and useful plant takes up its residence in almost every state east of the Mississippi River and almost every province in

Canada. It typically grows in moist, rich soil in deep shade to dappled sunlight. As a garden plant, it can adapt to drier soils almost as well as its preferred native soils. Leaves attain widths of one inch and wider and an average plant takes on a round form of about twelve inches in

diameter (I'm not fond of the word "clump").

I've found *Carex plantaginea* to be a versatile native substitute for the aggressive and overused Asian Liriope and Ophiopogon.

Caterpillars of several woodland butterflies feed on the foliage without any visible damage. The seeds are an excellent food source for woodland birds including Meleagris gallopavo, "The Wild Turkey".

Carex plantaginea provides a bold, textural accent for shade gardens. Its striking, glossy, lime green, almost chartreuse color brightens even the darkest shade. I mass them as a groundcover around trees and stumps and as a border along garden paths. It's also perfect when grouped or massed in wildlife gardens. They're extremely effective in providing erosion control on moderate to steep banks and roadsides. Deer don't seem to pay any attention to them during the growing season, but are kind enough

to clean up the old foliage for you during the winter.

You'd be hard pressed to find another plant with all these virtues and no drawbacks to play with in your garden.

~ BARRY GLICK

Barry Glick, a transplanted Philadelphian, has been residing in Greenbrier County, WV, since 1972. His mountaintop garden and nursery is a Mecca for gardeners from virtually every country in the world. He writes and lectures extensively about native plants and Hellebores, his two main specialties, and welcomes visitors with advance notice. He can be reached at barry@sunfarm.com, www.sunfarm.com, or 304.497.2208.



Above: *Carex plantaginea* a round stump.
Right: Seersucker fabric.



Hog Island, Phragmites Invasion and Research

There are 180-degree viewsheds along the trails at the **Smithsonian Environmental Research Center (SERC)** that haven't changed much since Captain John Smith sailed by more than 400 years ago. And then there are views where you can almost watch invasive reeds creeping across a salt marsh, overtaking the native cordgrasses over time.

The SERC campus in Edgewater, about 10 miles south of Annapolis, comprises 2,650 acres of forests, wetlands and marshes along 15 miles of protected shoreline on the Rhode and West Rivers. More than 200 scientists use this site as a laboratory for long-term and cutting-edge ecological research to understand the causes and consequences of change in the environment of the Chesapeake Bay as well as other areas around the world where land meets water.

Park at the Reed Education Center to follow the newly renovated

Java History Trail to the boardwalk that takes you across a salt marsh to Hog Island. You'll see the invasive phragmites (*Phragmites australis* ssp. *australis*)—the tall Eurasian reed—on one side and the native marsh grasses on the other. At Hog Island, you'll experience an old-growth forest festooned with white oaks and mountain laurels, notably distinct from the forest habitat on the mainland. If you're diligent, you might come across some of the many native orchids that are the subject of research by SERC scientists.

You can become one of the hundreds of citizen scientists who actively help out with research projects in the field or in the lab. Citizen Scientists work with researchers to investigate a wide range of topics including environmental archaeology, forest biodiversity, invasive species distributions, and water quality issues. For more information, log onto the SERC website.

- JEFF HOLLAND



The trail to Hog Island at the Smithsonian Environmental Research Center ends at the mouth of Muddy Creek.

Smithsonian Environmental Research Center
647 Contees Wharf Rd, Edgewater, MD 21037
<https://serc.si.edu/>

Open Monday – Saturday, 8:30 a.m. – 4:30 p.m.
Closed on Sundays and Federal Holidays.
No pets allowed.

Reverse Habitat Loss, Biodiversity Degradation & Ecosystem Decline

Support Homegrown National Park

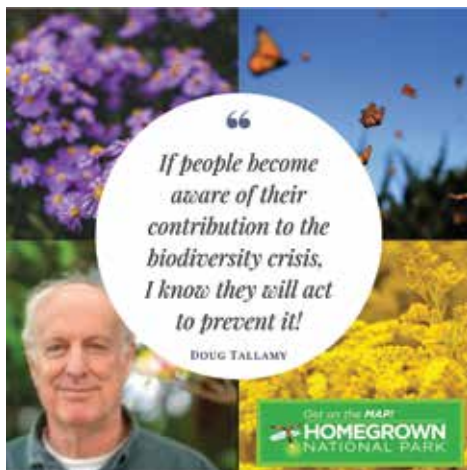
We're facing a global crisis. Every human being on the planet depends entirely on the quality of earth's ecosystems. Yet we've compromised their ability to support life by producing oxygen, cleaning water, controlling flooding and pests, converting sunlight into food, pollinating crops, moderating severe weather, building and protecting topsoil and removing atmospheric carbon.

Conservation strategies that focus on protecting natural resources on dedicated public lands, such as national parks, state parks and preserves, and national forests and wilderness areas, are necessary but not sufficient to stem the loss of species. They are too small and disconnected from one another to sustain plants and animals through natural population fluctuations. To support entire life cycles of local biodiversity, viable habitats need to be restored within the human-dominated landscapes that separate these protected areas.

The silver lining is that EVERY SINGLE ONE OF US has the power to regenerate biodiversity and restore wildlife habitats. And we can do it now. Today. We don't have to wait for permission, legislation or technological breakthroughs.

Every individual who owns or has influence over land can remove invasive plants and replace lawns and other unproductive plants with native species, contributing to conservation corridors that support wildlife habitats. At its core, the challenge is to shift our relationship with nature from adversarial to collaborative.

Homegrown National Park™, a 501(c)(3) nonprofit organization, formed in 2020 to address this urgent need. Inspired by the vision of University of Delaware entomologist and New York Times bestselling author Doug Tallamy, and co-founded by Tallamy and Michelle Alfordari, our mission is to create a new global culture — or HABI-TAT™ — of planting native plants and removing invasives to regenerate biodiversity and ecosystem function.



Homegrown National Park's mission is to create a new global culture of planting native plants and removing invasives to regenerate biodiversity and ecosystem function.

Our initial goal is to mobilize Americans to convert 20 million acres of private land — equivalent to half the area now dedicated to lawns — to productive native plant communities, creating “homegrown national parks.” This would represent an area larger than the Everglades, Yellowstone, Yosemite, Grand Teton, Canyonlands, Mount Rainier, North Cascades, Badlands, Olympic, Sequoia, Grand Canyon, Denali, and Great Smoky Mountains National Parks combined. Homegrown National Park would be the biggest park in the country!

YOU CAN DO YOUR PART by creating native plant communities, whether in one square foot of potting soil or on dozens of acres, then getting on the Homegrown National Park MAP! The map shows each person's contribution to Homegrown National Park and gauges progress toward the 20 million-acre goal.

The planet is at a tipping point. The need to reverse the degradation of biodiversity and ecosystem function is urgent. Five or ten years from now will be too late. PLEASE ACT NOW and JOIN US on the MAP!
- LAURA JEWETT

Of Human Sprouts & Seedlings: The Care and Training of Earth's Future Stewards



Author's granddaughter Madison.

Just as the mighty oak begins as a tiny sprout pushing through the soil, so grows the character of those who will see this world into futurity. The study of human brain development shows that the first few years of life are when we gain and retain the most knowledge. Even being exposed to concepts like the importance of native plant species to insects and overall biodiversity could prove beneficial.

There are many opportunities for pre-school and school-age children to get to know nature. Because it is so important to start while very young, there needs to be more for infants and toddlers. Educator/author David Sobel said "...allow children to love the Earth before we ask them to save it." I am adding, "Or at least teach them not to be afraid of it."

Exploring the outdoors with someone who loves and cares for them is the start of a beautiful relationship with nature. Thus begins a lifelong respect for, love of, and commitment to the care for our home and all its creatures. I hope you are able to take a child outside to experience the warmth of the sun, the patter of rain on an umbrella, and the colors and scents of your garden this fall and winter.

- GERRY LOCKWOOD

Indigenous People of the Chesapeake Bay Area And the Native Plants That Sustained Them

Paleo-Indians were the first inhabitants of the Chesapeake Bay region—arriving more than 10,000 years ago from other parts of North America—drawn in by the abundance of wildlife and waterways. By 1,000 B.C., there were more than 8,000 Native Americans, or “American Indians” associated with about 40 different tribes living in Maryland. Among these are the *Accohannock*, *Assateague*, *Choptank*, *Delaware*, *Matapeake*, *Nanticoke*, *Piscataway*, *Pocomoke*, and *Shawnee*. Tribes of similar traits and interests often created allegiances and political bodies for protection and commerce.

There are no Indian reservations in the state of Maryland. Most Native Americans were forced to leave Maryland during the 1700's, when eastern tribes were being displaced by colonial expansion. Maryland was home to several different Indian tribes when English settlers arrived in the seventeenth century. The Algonquian-speaking Indians of the Chesapeake Bay and coastal areas included the *Nanti-*

coke, *Piscataway*, *Assateagues* and *Pocomoke* Indians. Iroquois-speaking groups such as the *Susquehannocks* lived in the Piedmont and mountain regions.

The Maryland Native Plant Society is interested in learning more about the indigenous peoples that lived here, their cultures, and their uses of native plants. This article is the first of a series that will be published in the coming issues of *Marilandica*. If you are an expert on this subject and would like to contribute an article or give a presentation for a monthly program, please email me at info@mdflora.org

A table “*26 Native Plants Used by Indigenous Peoples in Maryland and the Chesapeake Bay Area*” summarizing some of the plants and their known uses by native tribes, is posted on the MNPS website at mdflora.org

~ JIL SWEARINGEN

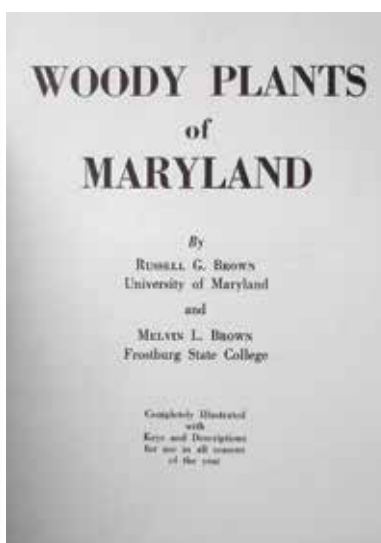
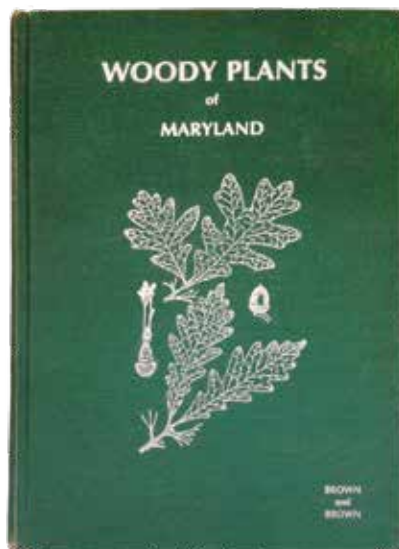
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Indigenous Peoples of the Chesapeake. https://www.chesapeakebay.net/discover/history/archaeology_and_native_americans

Native Americans in Maryland: A Resource Guide. <https://lib.guides.umd.edu/mdnativeamericans>

50th Anniversary of Brown & Brown's Woody Plants of Maryland (published in 1972)

MNPS is proud to acknowledge this major milestone for a treasured and widely used floristic reference on Maryland's woody plants.

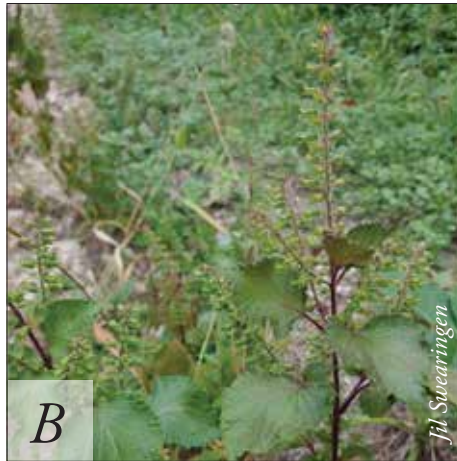


MNPS Call for Volunteers

We're looking for volunteers to help with the following:

- 1) Monthly programs: We need volunteers to help with running of programs by Zoom; editing of recorded talks for posting to YouTube and MNPS website; set up and running of in-person programs when held; and finding speakers.
- 2) Field trips: We need volunteers to help recruit leaders and coordinate field trip registration and logistics.
- 3) Website design: We are looking for a skilled website designer to help improve the organization and accessibility of our website.

PLANT MATCH: MINT CONDITION



A: White bergamot *Monarda clinopodia*. B: Beeftick plant *Rerilla frutescens*. C: Field mint *Mentha arvensis*. D: Hoary skullcap *Scutellaria incana*. E: Ground ivy *Glechoma hederacea*. F: American water horehound *Lycopus americanus*.

Marilandica

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MDFlora.org



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Jil Swearingen

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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.

UPCOMING EVENTS

Presentations will be offered by Zoom and possibly as in-person, depending on the status of covid at the time; a decision will be made at least a week in advance of the program and notification will be sent to all registrants.

Registration is required to get the Zoom link. Visit MDFlora.org for additional information.

Join us for our
**MONTHLY
PROGRAMS**

January 25, Tuesday, 7:00 PM

Steve Dryden and John Parrish: *Biological Diversity in the Piney Branch Valley*

February 22, Tuesday, 7:00 PM

TBD

March 29, Tuesday, 7:00 PM

Melissa McCormick & Ida Hartvig: *Speciation in North American Fringed Orchids (Platanthera), a Tale of Fungi and Hybridization*

MNPS-sponsored Field Trips in 2021

With covid concerns lifting last summer, we offered the first society-sponsored field trips since February 2020: five as part of the annual conference on September 25 & 26 (see conference summary for details) and a sixth, the Winter Solstice Field Trip and Hooley at Chapman Forest on December 19, led by botanist Rod Simmons. Attendance of all six field trips was met with great enthusiasm, with 94 on the conference field trips and 65 on the solstice walk. Covid safety precautions were followed during field trips and included wearing masks when gathering closely. Otherwise, individuals could decide to wear a mask or not according to personal preference. Photos of the field trips are available at: <https://mdflora.org/Photo-Albums>