



THE POCAHONTAS CHAPTER OF THE VIRGINIA NATIVE PLANT SOCIETY

October, 2022



**Chapter Meeting 7:00 PM, Thursday October 6, 2022
at the Kelly Education Center of the Lewis Ginter Botanical Garden
in the Robins Room**

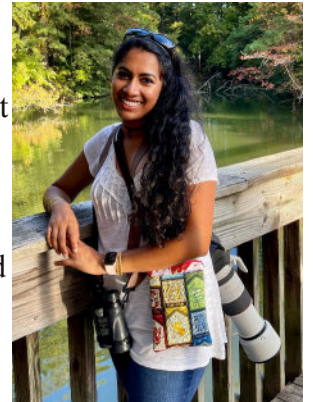
**The room is available at 6:30, come early to socialize
This meeting will also be available via zoom.**

Our speaker will be Ms. Suleka Deevi who will discuss invasive species

We are pleased to introduce you to the work of Ms. Suleka Deevi.

Are you interested in learning about invasive species? Suleka will discuss the ecological impacts of invasive species, why they could be useful in certain settings, and what to do about them. She'll talk about practical solutions to remove invasives from your yard or park and how to recognize a healthy ecosystem. She'll discuss invasives found in urban areas within Richmond and as well as invasive species taking over forests. Get ready to dive into the fascinating world of natural selection and the remarkable results that give us the world around us.

Suleka is a naturalist who teaches environmental education and loves both birds and plants but can also be found peering at amphibians, insects, and anything else! She guides at bird festivals along the East Coast, has worked as a park ranger and for nonprofits, along with tutoring science and math. She enjoys wildlife photography and its power in environmental conservation and education. As Vice President and Education Chair of Richmond Audubon, she is dedicated to bringing the joy of birding to more people, especially minorities and underserved groups. Her goal is to see a birding crowd as diverse as the birds themselves! When she isn't birding, she can be found walking along the river with her black lab or watching yard birds with her indoor cat. She is currently working on bringing Richmond its very own bird festival! Follow her @curiouschickadee and @coastside_desi on Instagram and Facebook.



This hybrid meeting (live or via Zoom) is free and open to the public. The meet and greet starts at 6:30 pm followed by the presentation at 7 pm. A short business meeting will follow the presentation.

If you choose to attend via zoom: Invasive Species

Time: 6 October, 2022 06:30 PM

Register for the Zoom Meeting:

https://us02web.zoom.us/meeting/register/tZYscu-ppz4vGdRT_TkcDJ1bY_Cu2U6IuVUn

Pocahontas Chapter President's Message

Hello Pocahontas Chapter,

Last month, I was teaching my new field assistant to tell a grass from a plant. Okay, I'm being coy. Of course, grasses are plants too. They're flowering monocots. However, grasses—along with sedges and rushes—are often overlooked by naturalists. I think this is because they're small, not very colorful, hard to photograph, and have unfamiliar, family-specific morphological terminology. When I was a budding botanist, I thought for years that graminoids required a dissecting microscope and weren't approachable in the field. Luckily, a group of botanists I worked with one summer gave me a 15x hand lens, took me by the hand, and showed me the wonderful world of grasses.

I think we should appreciate and learn grasses. They're typically a major component of an ecosystem and may dominate an ecosystem (e.g., grasslands). Grasses comprise the Poaceae family (formerly Gramineae). The grass family is the fourth largest in the world (after sunflower, orchid, and pea), with approximately 12,075 species in 771 genera (Judd et al. 2016). The family has two different photosynthetic pathways: the cool- and warm-season grasses (C3 and C4, respectively). Grass seeds, known as grains or cereals (technically caryopses), are important food sources around the world: cereals account for 70% of all farmland production and 50% of the caloric intake of humans (Judd et al. 2016). If you eat rice, corn, wheat, or most sugar additives, you're eating grass. If you drink beer, whisky, or rum, you're drinking grass (corn, barley, rye, sugarcane). Oatmeal versus grits? Both grasses. And who hasn't tried to make a digeridoo from bamboo? They can also be invasive; 13 grasses are on DCR's Virginia Invasive Plant Species List 2014.

Some grasses have really small flowers, but many can be tackled with a 14x hand lens, and maybe the occasional 20x for backup. A fingernail also helps for separating the parts. Once you learn to recognize a small number of terms and features, recognizing a plant as a grass is easy. With a little more study, many grass genera are easily recognizable. For example, the foxtails (*Setaria*), paspalums (*Paspalum*), broomsedges (*Andropogon*), and rosette panic grasses (*Dichanthelium*) are very recognizable to genus once you learn them. I've asked our editor Richard to include part of a grass key I wrote with an introduction on grass terminology.

Once you get the basic features down, a particular challenge in the east are the "weird" genera with modified, often infertile parts. These include the *Andropogoneae* (broomsedge) and *Panicaceae* (panics) tribes and some finger grasses. An excellent tool for determining which grass parts are what is the Minnesota Wildflowers website (www.minnesotawildflowers.info). This site has great closeup pictures with labels. Look up the "anatomy of an Echinochloa spikelet" figure for an example.

The broomsedge group is ubiquitous and easily seen from a car. Look at old fields and ditches in the fall, and you'll likely see broomsedge (*Andropogon virginicus*), little bluestem (*Schizachyrium scoparium*), and plumgrasses (*Erianthus*).

The panic tribe is also ubiquitous. The panic grasses, formally lumped into Panicum, are now Panicum, Coleataenia, Dichanthelium, and other genera. Common panics include beaked panic grass (*Coleataenia anceps*), tall flat panic grass (*C. rigidula*), spreading panic grass (*Panicum dichotomiflorum*), switchgrass (*P. virgatum*), and deer-tongue grass (*Dichanthelium clandestinum*). The rosette panics (*Dichanthelium*) are really tough. Many require micrometer measurements to key out. While some people buy a weight-lifting set during their midlife crisis, I got a micrometer slide for my dissecting microscope to learn the *Dichanthelium*. I have not learned them.

So, checkout the attached grass guide and the family specific parts described. Grab some grasses (including the roots) and see if you can figure out what you're looking at. The main parts to learn are the following: ligule, spikelet, floret, glume, lemma, and palea. Specifically, the main trick is determining how many florets comprise the spikelet. A very common and noticeable grass this time of year is purpletop (*Tridens flavus*). It's the tall, shiny, purple grass on roadsides and median strips. It's a "normal" grass and has 4-9 florets per spikelet.

Lastly, grasses can be beautiful. Some years ago, I made my partner, Lucy, a 15-species bouquet of native fall flowering grasses. She still has it.

Matt Brooks, President, Pocahontas Chapter, VNPS

The Pocahontas Chapter of the Virginia Native Plant Society

serves the counties of Amelia, Charles City, Chesterfield, Dinwiddie, Goochland, Hanover, Henrico, King William, New Kent, Powhatan, Prince George and the cities of Ashland, Hopewell, Colonial Heights, Petersburg, and Richmond. It meets the first Thursday of September through April at 7:00 PM in the Education and Library Complex of the Lewis Ginter Botanical Garden, unless otherwise stated.

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Grasses: Identification Tips and Terminology.—One of the great things about grasses is that most of them are identifiable long after they are dead and the flowering stage has passed. While identification of sterile specimens using vegetative characteristics can be difficult, many grasses retain their seeds for some time after ripening. After learning a grass species by fertile characters, it is often possible to recognize fertile individuals in the field by gestalt and a few vegetative characteristics. The principal terms used to describe grass morphology are: ligule, spikelet, floret, glume, lemma, and palea (Figure 1). These structures can vary enormously between genera. For example, what looks like a glume in one genus, may actually be a modified, sterile lemma in another genus. Be aware of these deceptions as you are keying and be sure to pay attention to genus-specific descriptions.

The individual flower of a grass is called the floret and after it has formed into a fruit it is called a caryopsis. You will rarely or never see a grass plant with just one floret. Most grasses have varying types of inflorescences consisting of smaller clusters of florets called spikelets. A spikelet may have many florets or just one. It is important to remember that for a single grass specimen, the overall flowering part of the plant is a typical inflorescence such as a panicle, spike, raceme, or just about any type of inflorescence or combination of inflorescences. An inflorescence term used primarily for grasses is raceme. A raceme refers to one of the inflorescence branches consisting of repeating pairs of sessile and pedicellate spikelets. A raceme is typically enclosed in a distinctive sheath.

After determining the overall inflorescence type, the next challenge is recognizing the individual spikelets. What makes a spikelet a spikelet is that each is subtended by two glumes. Glumes are bracts that often look just like the florets, except they are always sterile, consisting of only one bract each. Below the glumes is the pedicle of the spikelet and above the glumes are the florets. Keep in mind that a key feature of many grasses is the occurrence of only one floret per spikelet meaning that each spikelet will consist of only two glumes and one floret and will probably be short. Also, many grasses may have reduced or absent glumes; this can cause great confusion and is best dealt with as you learn which genera have these extreme characters. On the other hand, a spikelet may consist of many florets per spikelet and each spikelet will have two glumes with many florets above it.

Once you have determined the overall inflorescence type of your grass and identified the individual spikelets via the glumes, you are ready to look at the floret. The floret consists of two bracts called the lemma and the palea that surround the pistil and stamens (florets can be uni- or bisexual, but, except for the seed, the actual reproductive structures are rarely used in identification). The lemma is typically the larger, outer bract and is important for identification.

The palea is smaller and “inside” the lemma. Often, only the lowest part of the lemma and palea will overlap and this is where you must look to determine which bract is the outer one and thus the lemma. The lemma and palea are often nerved with longitudinal lines and this is very important for identification. The lemma, palea, or glumes may also have awns, which are needle-like appendages. Florets may be glabrous or pubescent and the pubescence may cover most of the floret or may be restricted to one nerve. Two other principal terms used when describing florets are dorsal-ventrally compressed and laterally compressed. These terms refer to the plane of compression of the caryopsis or floret. If the seed is flattened, so that the seam formed where the lemma and palea meet runs along the thin edge of the seed and not the widened top and bottom parts, it is dorsal-ventrally compressed (e.g. *Paspalum*). If the seed is more rounded and the seam where the lemma and the palea meet does not form a thin edge then it is laterally compressed (e.g. *Poa*). Look at the central nerve of the glumes, lemma, or palea depending which ones form the outermost bracts. If the spikelet is dorsal-ventrally compressed, than the outer bracts will not be folded along the central nerves; if the spikelet is laterally compressed, than the central nerve of the bracts will be keeled or will at least serve as the creasing point for the fold of the bracts.

The expanded portion of a grass leaf is called the blade; where the blade attaches to the stem is called the node. The blade typically clasps the stem, fully surrounding the stem before it broadens and deviates from the stem. This clasping part of the blade is called the sheath. Where the sheath becomes the blade at the node there is another structure called the ligule. The ligule is a thin strip of tissue located on the inner part of the sheath where it becomes the blade. The ligule can be viewed by pulling back the top of the sheath from the stem and looking at the spot

where the leaf changes from sheath to blade. The ligule is one of the most important vegetative parts for recognizing grasses. Even if a grass keys out without relying on the ligule, it is always a good idea to make a note of the ligule shape, size, and texture for future identification of sterile specimens. In many grasses, the ligule may be minute or absent.

General Tips for Collecting Grasses.—Always collect the roots of a grass you plan to identify. One of the most useful ways to determine similar species is by the presence or absence of rhizomes. Carry a trowel to facilitate the collecting of the underground organs. A good 15x hand lens is crucial and access to a dissecting microscope is handy, but do not fall victim to the classic excuse used by many in thinking that grasses are identifiable only in the lab with a microscope! Although this is true in some cases, most grasses can be identified to species level with just a hand lens.

You will surely come across a couple tricky plants that may look like a grass at first. If you pick a grass and the flower parts are in whorls of threes, it is probably not a grass but rather in the Juncaceae. If the stem is triangular in cross section, if each seed is subtended by one or more bracts, and you cannot seem to pinpoint the basic floret and spikelet structures, then it may be in the Cyperaceae.

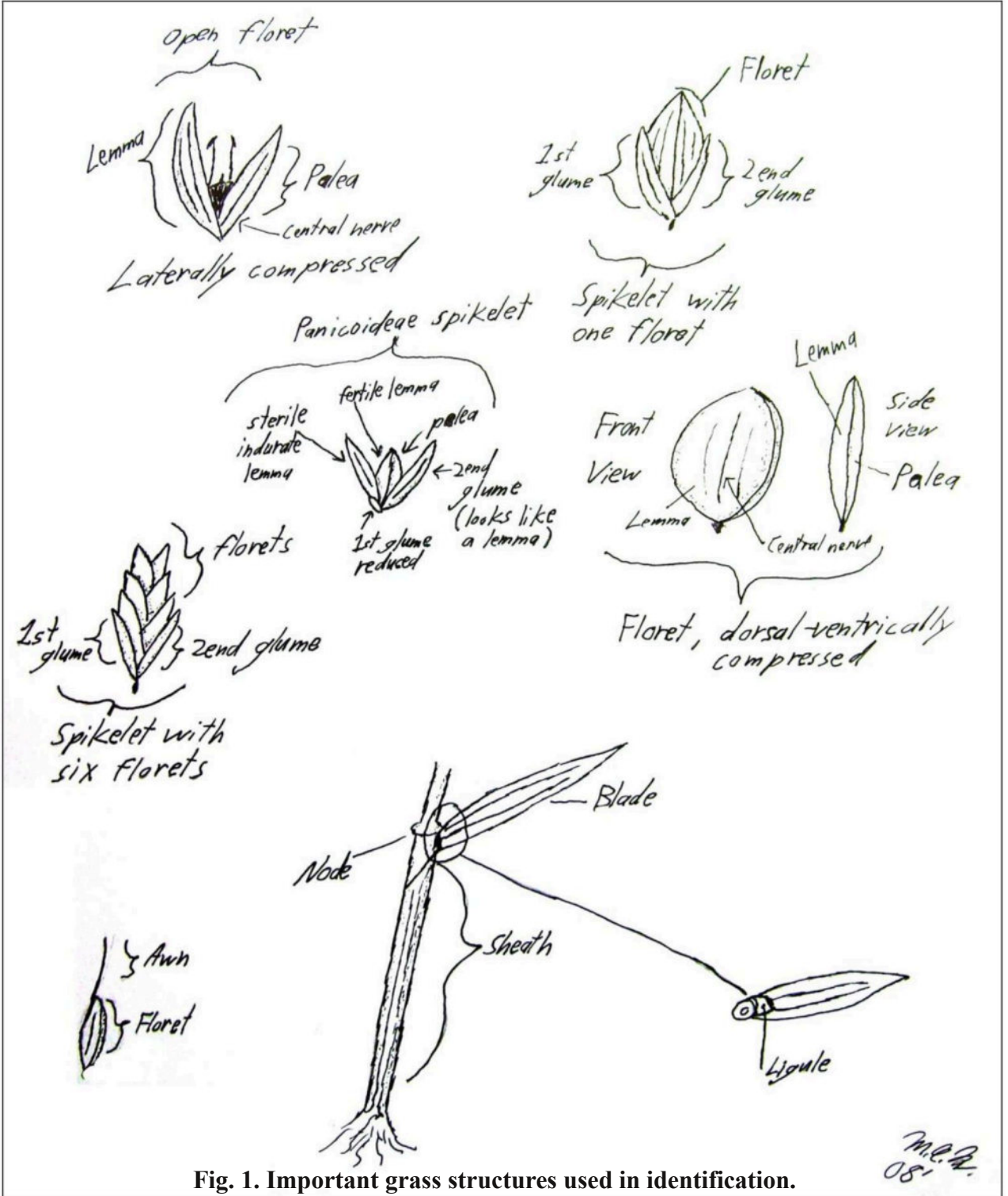


Fig. 1. Important grass structures used in identification.

Plant of the Month by Jason Aldrich

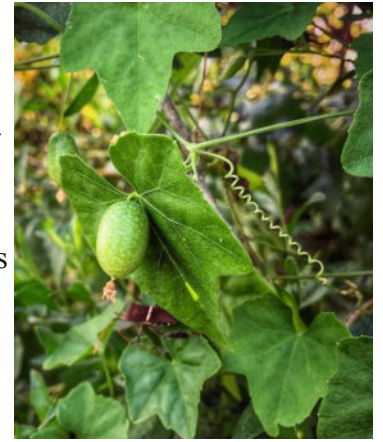
Melothria pendula, a cute little cucumber belonging to the tropical and subtropical family Cucurbitaceae, is a rare temperate species known colloquially by many names, including: Melonette, Creeping Cucumber, Guadeloupe Cucumber, Squirting Cucumber and Cucamelon. It is native to and common in the Southeast ranging from Pennsylvania to Texas and are found to be a delicate albeit aggressive climbing vine in the south and central coastal plain, central Piedmont and, less frequently, into the southwest mountains of Virginia; specimens can be commonly found in floodplain forests, alluvial swamps, mesic upland forests, and disturbed habitats.

The palmate leaves of *Melothria p.* resemble that of the garden variety cucumber or English ivy, with tendrils borne at the axils; the small yellow flowers are up to 8 mm wide, have 5 petals and are Pistillate or Perfect .

Its tiny, watermelon-esque fruits dangle from a long pedicel, giving them the epithet “pendula”, and are about 1.5 cm long with roughly 15 flattened seeds within. They are best harvested unripe in summer, when they are a light dappled-green color, and taste just like a cucumber! They must be avoided once they have ripened and turned black, a stage at which they become the mother of all laxatives.

These delicious natives are abundant in our area, but are threatened in parts of the midwest, as well as extirpated in Indiana.

I consider *Melothria pendula* to be a delightful character well-deserving of its place in our habitats as well as our hearts.



Events:

Sally Taylor at our booth at the state Fair.



Minutes of the VNPS Pocahontas Chapter September Meeting, 01 September 2022, 7:00 PM at Lewis Ginter Botanical Garden.

Presentation

Robert Gabay with the Chimborazo Native Food Project spoke on his organization's work in the community, their successes and challenges, and the future of the community orchard.

Chapter Business Meeting

Board Members Present

Matt Brooks, Jason Aldrich, Alli Baird, Lisa Hamilton, Richard Moss, and Rachel Fortin.

Agenda Items

- October Plant of the Month- Jason volunteered to do the plant of the month and will send the information to Richard.
- Plants for Fair Display- The needs for plants to display at the state fair was discussed. The group recommended a call for plants to the chapter at large if we don't have enough from the board members who offered their own. Matt will send this out.
- Tent with Logo- The purchase of a vendor-style tent with a logo was discussed and received positively by the board. Matt will look at custom vendor-style tents for purchase.
- Chapter T-Shirts- deferred the topic to be revisited next month
- September-December Field Trip Schedule- Richard recommended a site in Powhatan County, near the Belmede Plantation, belonging to the Drexell Morrell Center. They are developing a nature trail and want advice about what is there. He will reach out to them and follow up with more information.

New Business

- The topic of an honorarium for speakers was brought up. The amount of \$150 was recommended by Lisa and brought as a motion. The motion passed unanimously to give an honorarium of \$150 to each month's speaker for this year.
- The topic of December and January meetings not being held over the past couple years was brought up. In years before this, the chapter had meetings elsewhere instead of skipping them in December/January (due to the Lewis Ginter Botanical Garden event challenges posed). Jason's suggestion of potentially hosting meetings at a library was well received by the group. Jason will call the Libbie Mill Library to see if they could potentially host our chapter meetings.

Action Items

- Matt will send out a call for plants for the state fair to our chapter.
- Matt will look at tents for purchase.
- Jason will call the Libbie Mill Library about hosting meetings in December and January.
- Richard will contact the Drexel-Morrell center for more information on a field trip there.

Meetin Adjourned.

Rachel Fortin, Secretary

Preliminary field trip to the Drexell-Morrell Center in Powhatan, VA. by Richard Moss

This property consists of house built in 1892, a field, and about 50 acres of woods with several small streams.

What we saw:

On the edge of the field there was either yellow crownbeard (*Verbesina occidentalis*) or wingstem (*Verbesina alternifolia*). Both are tall, have yellow flowers and winged stems. Crownbeard has opposite leaves, wingstem has alternate leaves. I didn't get close enough to determine which it was.

1. In the field was some purple false foxglove, probably *Alalinis tenuifolia*.

We explored the woods in the side nearest the house and saw several things of interest.

There were lots of ferns including 2. ebony spleenwort (*Asplenium platyneuron*), 3.

Christmas fern (*Polystichum acrostichoides*), and a number of 4. grape ferns probably



Sceptridium dissectum, this one with some Christmas ferns.

5. There were several patches of pawpaw trees (*Asimina triloba*).

6. A saddleback caterpillar (*Acharya stimulea*) on a leaf. (They sting)

7. A rather large tulip poplar tree (*Liriodendron tulipifera*) with a beech tree (*Fagus grandifolia*) in the background.

8. A very fine but shy box turtle.

Due to threatening rain we did not get to the other half of the woods which are more open with larger trees.

I think the property is worthy of a native plant field trip but probably in the Spring when more plants are in bloom.



Field Trip to Poor Farm Park in Hanover County, VA on September 25th, 2022

Joey Thompson trip leader, photos by Matt Brooks and Richard Moss.

The trail we explored runs through several different soil types and has a variety of flora.

See the photos below for some of what we saw.

1. Our group. 2. Grape fern (*Sceptridium dissectum*) next to elephants foot (*Elephantopus tomentosus*).



3. Left: False Solomans seal (*Maianthemum racemosum*) with (center) a golden rod. 4. Striped wintergreen (*Chimaphilia maculata*) with heartleaf (*Hexastylis virginica*) below 5. A spectacular group of golden rods. *more photos on next page*



- 6. Mullen (*Verbascum thapsus*)
- 7. Meadow beauty (*Rhexia virginica*)
- 8. Cardinal flower (*Lobelia cardinalis*)
- 9. Square stem monkey flower (*Mimulus ringens*).
- 10. Native Virginia Dayflower (*Commelina erecta*).
- 11. Hepatica (*Hepatica nobilis*).

Below are some of the grasses we identified at the park

- 1. *Argostis prennans*
- 2. *Coleataenia anceps*
- 3. *Coleataenia stipitata*
- 4. *Eriogrostis spectabilis*
- 5. *Sorghastrum nutans*
- 6. *Dichanthelium Sp.*
- 7. *Tridens flavus*
- 8. *Panicum dichotomiflorum*

