Claytonia

Newsletter of the John Clayton Chapter, Virginia Native Plant Society

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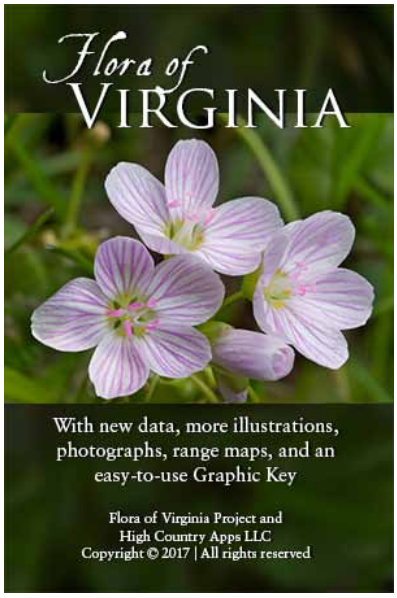
Our November 16 meeting: Bland Crowder presents "An Introduction to the Flora of Virginia Mobile App"



Bland Crowder is Executive Director of the **Flora of Virginia Project**, having been with the Project since 2007. He manages development and public relations for the Flora Project and oversees creation of the **Flora App**. He copyedited and was liaison with the publisher of the *Flora of Virginia*, for which he compiled many taxonomic descriptions and the glossary. He has B.S. and M.A. degrees in biology from William and Mary, and is a former coordinator of education, volunteers, and publications with the Chesapeake Bay National Estuarine Research Reserve in Virginia at the Virginia Institute of Marine Science. He is publications chair of the board of the Virginia Native Plant Society and a member of the John Clayton and Pocahontas chapters.

The meeting begins at **7:00 pm** in **Room B** of the **James City County Recreation Center**, 5301 Longhill Road, Williamsburg, Virginia 23188-2700. **See you there!**

From the President

After months of wondering if we had leadership for the 2018 Plant Sale, I have very good news to share with you. **Adrienne Frank** and **Sue Voigt** have agreed to be co-chairs for the sale. This is wonderful; I was getting nervous that I would be alone to chair the sale. We have a newcomer to this leadership position to join Sue, who has previous experience. We will meet and share how we have done it before, especially the new techniques we added, thanks to Patti Gray, for doing this all in one

day. It is great to have people step up to join us. Please stop and thank them if you see them at a meeting for their service to native plants. We are now complete and ready to go forth!

Fall is as always a very busy time for the garden. As soon as the weather cools, we all begin to do those tasks that we thought about in the heat of summer. As soon as I could, I cleaned many messes, moved plants and cleared paths. No, I am not finished, but I have finished one of the things I do every autumn; I look around my yard for plants to pot and ready for the sale. This way, many of the late spring emerging plants have set good roots to look good for the sale. This is how I ended up with 200 plants for the sale. We do not want too many plants of any variety, but we do want different native plants. You too can help. Please take a moment to look at the plants in your yard and see if you can share any for the sale. Put them in pots and bring them to me or ask me to come and pick them up.

Native plants take an even more important role with the article I read recently in the environment section of *The Guardian*. All of us are quite aware of the importance that insects play as both pollinators and food for wildlife. We have all been aware of the decline of some species such as butterflies. Recently gathered data from nature reserves in Germany has shown a huge decline in insects, 75% in fact—not from urban or suburban landscapes but from nature reserves. This fact is alarming. This research published in the journal *Plos One* is based on the work of entomologists across Germany who began collecting insects in 1989. At this moment the exact causes of this decline is unknown. The use of pesticides and the destruction of wild areas seem to be more important than climate change at this moment. More data now being collected. Scientists in England and Holland shared that they too are noticing the same data. Now in Germany scientists are studying all flying insects, including wasps and flies. All have declined and even in summer, when insects are at their peak, the decline was huge. One small missing scene in European landscapes and in the US are the farmland borders full of flowers. It is missing in many agricultural areas due to the effects of largescale use of pesticides. The flowers and their pollinators have disappeared. More studies are focusing on the effects of loss in flying versus non-flying insects. Do they share the same fate or not, since those that do not fly cannot leave the nature preserves and therefore are less exposed to pesticides. Another study is focusing on large versus small insects. We need to stop the loss of insects. Their loss would have terrible consequences for our crops and environment. Insects have the function of both pollinators and decomposers. We need both for a living environment. As Doug Tallamy wrote in my copy of his book, *Bringing Nature Home*: "Garden as if life depended on it, because it does".

Lucile Kossodo

New Members

We welcome **Judith Alberts** of Williamsburg, **Linda Kurzmiller** of Cobbs Creek, **Mike Whitfield** of Williamsburg, and **Carol Wills** of Williamsburg to the John Clayton Chapter.

From Cortney

Notes from the Board

Finally the hot weather seems behind us and I'm sure you all are busy planting to give your natives an opportunity to overwinter. I definitely prefer planting in the fall than the spring, but I think that's a minority viewpoint.

The Board met in September and, with little pressing business, had an opportunity to discuss how our meetings are conducted, what we offer members, and how we can ensure that we make new members and guests feel welcome and provide value through membership. What do you think? If you're relatively new to VNPS, what has your experience been like? Do you attend plant walks or meetings? How do you think we can better serve members? What are other organizations doing that you've liked?

As you can tell, in addition to considering how we may be more family-friendly and offer programming for children, we are also interested in improving the organization generally. United by our enthusiasm and support of native plants, their habitats and their use, we want to find new ways to create enthusiasm among our members and really, the entire Virginia Peninsula. If you have ideas, please reach out to any Board member. It'd be excellent to hear your thoughts.

Just a reminder that the John Clayton Chapter is the host for the 2018 Annual VNPS Meeting. Keep mid-September free on your calendar, as we should soon be able to announce details. We are super-excited about the opportunity to showcase the Coastal Plain's unique flora and the area's excellent environmental work during that weekend! If you would like to help plan this signature event, please contact me. I expect that the annual conference will be an "all hands on deck" effort if it's going to be a success!

Enjoy the fall,
Cortney Will, Secretary

…and a Plant Rescue Update

The Williamsburg Native Plant Rescue Team continues to partner with local environmental organizations to re-home plants that have been rescued from development sites.

In mid-September, the team donated a truckload of plant material to Jamestown Settlement and Yorktown's American Revolutionary Museum, working with Bain Schultz, one landscape professional who enthusiastically incorporates natives

into her public and interpretative gardens. It's awesome to see more folks in horticulture embracing the use of native plants in their public and private gardens.

The team is also partnering with Master Naturalists installing gardens at Little Creek Reservoir Park as well as York County Schools, which are interested in establishing at least one new pollinator garden.

Bain Schultz with the truckload of rescued plants

Totally unrelated to digging in the dirt but necessary nonetheless, the rescue team has retained a designer to rework our very-dated logo. Keep an eye out for that on social media and the next newsletter. We're ready for a bold makeover and we think you'll like it!

Never stop digging,
Cortney

In Review—Our September Meeting


Speaker Dr. Harmony Dalgliesh, right, and VP Donna Ware

At the September 21 chapter meeting, Dr. Harmony Dalgliesh presented her research on a highly specialized topic and yet never lost the interest or enthusiasm of her audience. In fact, thought-provoking questions and answers flowed naturally during and after her prepared remarks. Clearly this discussion was of local interest and likely reflects the worldwide interest in the beloved Monarch butterfly.

As many of us are aware, the population of the monarch has declined rapidly since 2003. Dr. Dalgliesh pointed out that the population is measured in hectares and began her presentation with a slide of an aerial photo of a forest in Mexico where the orange coloration in the trees showed where monarchs were clustered.

The story of monarch migration is fascinating, and many of us have likely seen the photos of the monarchs that migrate from Canada to Mexico, where they cluster together by the thousands. The biggest threat to monarchs is this habitat loss in Mexico, with logging being the primary reason for the decline in the one species of fir the monarchs cluster around. Storms, to a lesser extent, also contribute to this habitat

loss. Monarchs then face more threats when they leave Mexico to travel to their breeding grounds in our south and Midwest. Here, the threat is the loss of the common milkweed plant where the monarchs lay their eggs. Major reasons are mowing down milkweed and planting genetically modified "round-up ready" crops that allow farmers to spray for "weeds" (milkweed being one) without killing their crops. The problem is that 90% of monarch caterpillars are adapted to eat only milkweed for their food. Interestingly, the common milkweed plant contains substances called cardenolides that are toxic to insects that eat it. However, the monarch caterpillar—and only a few other insects—are resistant to this toxin, and by eating the leaves of the milkweed the monarch caterpillar itself becomes toxic to those that would otherwise eat it. Continuing with the migration story, the monarchs go through several generations in the US before the generation that flies north to Canada is hatched. Abundant milkweed is necessary, therefore, to support them.

To advise restoration and replanting efforts and to understand what other factors contribute to decline in milkweed, Dr. Dalgliesh and her team conducted wide ranging studies and collected extensive data focused on answering several questions:

How does being eaten (herbivory) by the caterpillars affect survival, growth, and reproduction (both sexual and asexual) of milkweed? How do those factors affect the population of milkweed? Also, is milkweed the same in Virginia as in Nebraska? From the monarch's perspectives, is where we get the seeds to replant milkweed important?

To answer these questions, her team sampled 55 populations ranging from Oklahoma to North Dakota and from Georgia to Maine. Here in Virginia four sites were selected and extensive data collected. For example, the number of stems of milkweed still alive in December, the number of seeds produced, and the number of buds along the adventitious roots. One site, Yorktown, was hit hard by herbivory and the milkweed population was decimated. Was it from mowing too soon? What caused so much leaf loss? The answer was, surprisingly, that longhorn milkweed beetles were eating the roots!

Dr. Dalgliesh also showed us the regional data representing the differences in spatial variation for many factors such as nitrogen, cardenolides, and cellulose (height and weight). Obtaining this data represented a great deal of time and effort. Interestingly, after putting these varying plants in the same greenhouse environment, their regional differences began to reduce, and the genetic data from the plants showed a "mixed" population. More data is coming in soon, and we will be sure to have Harmony back to bring us up to date! **Cathy Flanagan**

Recent Walks and Other Events

Eat a Peach…or a Persimmon: College Landing Park on September 16

A crowd of plant people came out to College Landing Park on September 16 for a tour with Helen Hamilton. As always, you don't need 150 acres to find lots of interesting plants, of all kinds, but the grasses were a big part of this site. We took our time wandering around the marshes, steep little hills, lawns, and the edges, discovering native and non-native plants from top to bottom.

The walk's participants gather for a photo.

One of the most interesting things we saw was wild rice. Yes, wild rice. Just off the parking lot of a little pull-out in Williamsburg. For me, that just didn't compute at first. But there it was! You can see it sticking its head up in the middle of the photo. That started a conversation about the edible plants that are found along the edges of the James River and its tributaries.


Wild Rice (*Zizania aquatica*)

Helen described something called a "breadbasket," which is a term for an area that is particularly rich in food sources for Native Americans and other people smart enough to recognize them. The definition of "breadbasket" is, according to a diagram Helen sent me, a marsh of less than 10 acres, with 30% wild rice and 50% tuckahoe (aka arrow arum) or cow lily (aka yellow pond lily, p. 118 in Helen's book). In Helen's words, "Marshes large enough and rich enough in tubers and seeds that several extended families could be fed for weeks if not months on the harvest. All 3 of these plants are freshwater species, found in the inner coastal plain where salty water does not reach."

Blue Mistflower
(*Conoclinium coelestinum*)

Are you a good plant, or a bad plant? Sometimes, it's tough to tell. I took some pictures of one plant we saw, a blue mistflower, which turned out to be a good one. It's been popping up all over my yard, and I hadn't yet had the time to identify it…just brought little pieces indoor for the mini-vases. Now, I know it's native, so that's one less thing to gnash my teeth over.

Then there are the bad-good plants, like the one here. So lovely in the fall, with berries for wildlife, and yet…yet…so dreadfully horrid to those of us who are sensitive to it. I gave myself poison ivy two years in a row…in January, while removing English ivy from trees. Did you know you can get poison ivy through a cotton t-shirt? No problem!

Poison Ivy (*Toxicodendron radicans*)

Persimmons!

Don't repeat where you heard this, but there are two persimmon trees at that site. I spotted them when we were on our plant walk, and remembered that Stewart Ware had once mentioned, in an unguarded moment, that the persimmon trees there produced good-tasting fruit. So, I went back today (October 19) and looked for the fruit. Well, there they were. But they were high up, and surrounded by some of the meanest-looking greenbrier vines I had ever seen. There was no hope of getting any fruit from the branches.

Then, using my binoculars (not just for birds anymore), I peered through the vines onto the ground underneath, and saw…a persimmon on the ground! Once that was in my cross-hairs, the greenbriar became nothing but an annoyance; I crept through the tangle and gently picked it up. Next…a taste? But shouldn't I wash it first? Ummmmm…no. I decided it was either going to contribute to my microbiome, or kill me. The good news: It was really sweet and soft and yummy, and I am still alive (for now, anyway). I found a few more on the ground, drawing a little blood, but for a good cause.

Kathi's ripe Persimmons
(*Diospyros virginiana*)

At that point, I was starting to feel guilty for taking fruit away from the wildlife, so I tossed a few back into the tangle and took off before I had any more time to contemplate it. I spat the seeds out, not saving them because I knew they would not

germinate. Stewart told us, in a Master Naturalist training session, that they needed to go through the digestive system of a raccoon to become viable. I briefly toyed with the idea of letting them go through my digestive system to find out if it would work, but thought better of it. My microbiome has its limits, too.

The Good Book

So, here's Helen and Gus' book, which you can see has already had some wear, but that's what books I use look like. It's particularly handy on a walk like this (e.g. local), since pretty much everything we saw was in there, including many of the "bad" plants…Stay tuned for the persimmon-seed sequel.

Her well-worn copy of *Wildflowers & Grasses of Virginia's Coastal Plain*

Text and photos: **Kathi Mestayer**

Donna Ware Teaches Us about *Solidagos* on September 30

"Have you heard a friend make this statement? Don't put those tall yellow flowers in any beds around your house. It's ragweed and will give you allergy problems which won't end!! Well, that's not quite true," **Donna Ware**, the head myth buster, quietly shared. It might not be ragweed, but a member of the Goldenrod family. A group of flora learners were at Freedom Park's Botanical Garden on Saturday, September 30th to learn more about *Solidago*, which means to be whole or healthy, and was used often as a renal health remedy.

Slender Flat-top Goldenrod or Slender Fragrant Goldenrod, *Euthamia caroliniana* (formerly known as *E. tenuifolia* or *Solidago tenuifolia*)

The focus of this particular walk, talk, and learn was the goldenrod (*Solidago*) species native to the Peninsula of Virginia. Those flowers—some past their prime, some sunny yellow, some tall, and some flat—piqued our interest with every twist and turn through the garden. Many forms of the plant were being touched, smelled, and ogled. This posse of learners included members of the Historic Rivers Chapter of Virginia Master Naturalists and some members of the current basic training class (Cohort XII). Everyone was warmly welcomed and encouraged to ask questions. Ms. Ware gently quizzed us to share our observations of each different plant and compare it to ones we had previously seen. "Does this one have spikes like a punk rocker or is it flat like a table? All *Solidago* have simple alternate leaves and

are herbaceous. Is the basal rosette of leaves cylindric or elongate/pyramidal? Are the flowers heads secund (arranged on one side only) or not?" These were a few of the questions we were able to answer as we looked at flowers and leaves.

By the time the tour and education session came to a close, all of us had been graciously gifted with a wealth of information. We had gained a new respect for the often maligned Goldenrod and were ready to share our information with others. Thank you to Donna Ware and the John Clayton Chapter of the Virginia Native Plant Society for sharing time and talents with others in the community who strive to be keepers of our environment and world.

Connie Reitz, Virginia Master Naturalist

A Stonehouse Garden Walk on October 14

Sue Voigt led a walk around the garden at Stonehouse Elementary that Saturday. Participants were members of the Master Gardeners, Williamsburg Garden Club, and Master Naturalists.

JCC members Gary Driscole and Adrienne Frank signed the walk sheet, but they spent their time digging plants and helping with weeding & mulching. They are regular helpers at Stonehouse, and have many plant walks under their belts!

Helen Hamilton

October 14's group, from left:
Leader Sue Voigt; Master Gardeners Ruth Schultz, Liz Graner, and Bev Baker; Pat Walsh of Garden Clubs of Williamsburg and her husband; Master Naturalists Kurt Kunas and Nancy Gore

All About Liverworts

I am becoming fond of liverworts after struggling with the identification of mosses. Both are bryophytes, plants that get their water and nourishment directly from the substrate. They do not have tubes for carrying water and nutrients, soaking water and minerals into leaves of only one layer; under a microscope the leaf cells are transparent.

Mosses have leaves arranged around what looks like a stem in a spiral arrangement, and to see the structure of the leaves it is necessary to scrape them with a razor blade and prepare a microscope slide with coverglass. But liverworts have only two leaves arranged opposite each other, and maybe a row of underleaves on the ventral surface. Often identification can be done with only a dissecting microscope—no scraping and microscope slide preparation.

Many liverworts reproduce by forming nonsexual gemmae, cups at the tips of shoots or scattered along leaves or attached to the leaf margins. Like ferns and mosses, liverworts depend upon a watery environment for the sexual component of their alternation of generations.

Liverworts come in two varieties: leafy and thalloid, that is, with pairs of leaves along the shoots or flat green ribbons. The name comes from Anglo-Saxon words that mean "liver" and "plant." Several flat forms have branching that could resemble the lobes of a liver.

A major identification feature of the leafy forms is the shape of the leaves—most are rounded, with smooth edges or cut into lobes with short or long arms. Very common in our area are species of the family Cephaloziaceae, whose leaves have two triangular lobes, cut about ½ the length of the leaf.

One of the few liverworts with a common name is Rustwort (*Nowellia curvifolia*), a tiny liverwort that covers downed trees without bark (decorticated) in the ravines in Freedom Park and elsewhere. The shoots carry pairs of distinctive leaves, cut deeply into two lobes which curve widely—one author compared them to billowing sails. These are really small, but can be distinguished with a good hand lens. In winter the perianths (female reproductive bodies) mature to fragile, transparent stalks bearing a glossy black capsule that breaks open into four red valves to release spores.



Left, Rustwort on a dead tree branch; right, its perianths


Bazzania trilobata

A liverwort with the charming name *Bazzania trilobata* is not often seen here; with such a musical genus name, no common name is necessary. This is a big plant, standing erect to 1–2 centimeters. The leaves have three notches on the tip and they curl downwards, very much resembling a millipede.

I have found Woolly Wort (*Trichocolea tomentella*) in only two locations in our area, both along streams at the base of large trees.


Wooly Wort

Someone named this liverwort for its appearance—the leaves are tiny, and apparently cover fat branches, looking like an angora sweater.

Thalloid liverworts are less common, growing in mucky swamps and muddy banks along small, slow streams. Male and female reproductive structures are often easier to see than those of leafy liverworts. Common in the right habitats in our area, the ribbons of *Pallavicinia lyellii* carry antheridia (male) in two rows in each side of the midrib. The cylindrical female thallus is upright on the ribbon and when mature produces a thin stalk with capsule.


Pallavicinia lyellii

What good are liverworts and mosses? Without producing chemicals that dissolve the substrate, they make a home for tiny insects and vascular plant seedlings—true pioneer plants. Text and photos: **Helen Hamilton**

A Wildflower Quiz from Pat Baldwin

Match each plant's common name in the left-hand column with its botanical name in the right-hand one. *(Answers are at bottom of next page.)*

Fog Fruits	**1**	**A**	*Asclepias tuberosa*
Wild Cotton	**2**	**B**	*Impatiens capensis*
Pepper Root	**3**	**C**	*Smilacina racemosa*
Indian Fig	4	**D**	*Podophyllum peltatum*
Apricot	**5**	**E**	*Orontium aquaticum*
Rock Geranium	**6**	**F**	*Dentaria lacianata*
White Snakeroot	**7**	**G**	*Liatris spicata*
Chigger Weed	**8**	**H**	*Ageratina altissima*
Fairy Wand	**9**	**I**	*Houstonia caerulea*
Wild Potato	**10**	**J**	*Lippia lanceolata*
Button Snake Root	**11**	**K**	*Gelsemium sempervirens*
Gravel Root	**12**	**L**	*Passiflora incarnata*
Agueweed	**13**	**M**	*Eryngium yuccifolium*
Cowitch	**14**	**N**	*Chamaelirium luteum*
Venus Pride	**15**	**O**	*Hibiscus moscheutos*
Kicking Colt	**16**	**P**	Spring Beauty
Throatwort	**17**	**Q**	*Eupatorium fistulosum*
Snake Corn	**18**	**R**	*Opuntia humifusa*
Never Wet	**19**	**S**	*Eupatorium perfoliatum*
Racoonberry	**20**	**T**	*Heuchera americana*

John Clayton Chapter Calendar

Thursday, Nov. 16 **7:00 pm: John Clayton Chapter meeting** at the **James City County Recreation Center**, 5301 Longhill Road, Williamsburg, Virginia 23188-2700
Bland Crowder, Executive Director of the **Flora of Virginia Project**, will speak on
"An Introduction to the Flora of Virginia Mobile App." (See Page 1.)

No plant walks are scheduled for November and December.

Keep a lookout for announcements about additional walks and other events in the local newspapers and on our website at **www.vnps.org/john clayton**.

Here are the answers to Pat's puzzle on Page 11. (Hope you did better than the editor!)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
J	O	F	R	L	T	H	A	N	P	M	Q	S	K	I	B	G	C	E	D

Below is a membership renewal form. Please contact Membership Chair **Cathy Flanagan** at 757-879-1997 or at **flanagan.catherine@gmail.com** with questions about your membership.

Membership Form for John Clayton Chapter, Virginia Native Plant Society

(Place checks in the boxes below next to your selections.)

I am a ☐ **new member** of the John Clayton Chapter ☐ **renewing member** of the John Clayton Chapter

Name		
Address		
City	State	Zip
Email*	Phone*	

☐ I would like to receive my newsletters electronically at the email address above.

Membership dues

☐ Individual ($30) ☐ Family ($40) ☐ Patron ($50) ☐ Sustaining ($100) ☐ Life ($500)

☐ Student ($15) ☐ Associate ($40) —for groups who designate one person as delegate

I wish to make an additional contribution in the amount of $ ☐ to John Clayton Chapter ☐ to VNPS

☐ This is a gift membership; please include a card with my name as donor.

I have ☐ time ☐ a little time ☐ no time to help with activities.

☐ I do not wish to be listed in a chapter directory.

**Please Note:* John Clayton Chapter does not distribute any of our membership information to other organizations. It is used only by the officers and chairpersons of our chapter.

Make your check payable to **VNPS** and mail to: VNPS Membership Chair
400 Blandy Farm Lane, Unit 2
Boyce, VA 22610