BotSoc News

Georgia Botanical Society

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Renew Your Membership

Thank you for your membership this past year and for helping to share our passion to better understand and appreciate our native plants and their relationship to the environment. Georgia's incredible diversity of plants and natural ecosystems are treasures worth sharing and exploring – something we've been doing since 1926. Our field trips take our members all over the state, and knowledgeable trip leaders and members help turn novices into budding botanists! If you haven't been on a field trip yet, check out the schedule on the website.

Of course, with great learning comes great fun. Our three-day annual pilgrimage allows us to study in-depth a particular area of Georgia. Field trips during the pilgrimage explore many of the best natural areas and sometimes areas that are not available to the general public. In 2019, many of you joined us in Clayton. We hope to see you for our 51st pilgrimage in and around Savannah and the southeastern Coastal Plain areas of Georgia.

Each year we work to support the preservation of native flora for the enjoyment of the public and encourage the protection of rare and endangered plant species and significant botanical habitats. Our members lead and participate in botanical surveys, organize and support invasive species control efforts in our natural areas, conduct workshops on plant identification and ecological relationships. We serve as botanical guardians for protected species, monitoring plant populations, and some of our members have even been lucky enough to discover rare plants and play a part in the preservation of their habitats.

Our Marie Mellinger Field Botany Research Grant Program is an annual program that offers scholarships to students and faculty at colleges or universities within the State (or conducting research in Georgia), private consultants, government officials, and other qualified individuals with a demonstrated interest in field botany, who are doing research on the native flora throughout the state. The primary goal of the grant program is to support field-oriented research by investigators in the state of Georgia.

Our *Tipularia* Botanical Journal is a member benefit without equal in the southeastern US. Each annual issue is packed with informative articles and beautiful pictures. We hope you enjoyed this year's selection of articles on Georgia plants and plant communities. In addition, BotSoc News, our excellent newsletter, is published six times a year and is filled with field trip information and reports, interesting articles, and book reviews.

Your membership helps us do these things and reach more people while having fun and learning as we go. Please take a moment to renew your membership and keep learning with us in 2020. It's more fun when you're with us.

Renew online at www.gabotsoc.org

IN THIS ISSUE:

President's Perspective

BotSoc News
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Editorial Office
Ellen Honeycutt
Jo Ann Buchanan

2019 was a bittersweet year for the Georgia Botanical Society. We had a great, if a bit wet, Pilgrimage in Clayton, as well as many interesting field trips through the year. Unfortunately, we also lost two of our prominent members - Maureen Donohue and Tom Patrick. Both Maureen and Tom leave huge holes in our hearts and our Society.

I hope 2020 will begin with a new determination to carry on the work of people like Maureen and Tom. We have a lot to look forward to…another slate of field trips across the state, a Spring Wildflower Pilgrimage on the coast near Savannah, a new emphasis on conservation funding and recruiting younger people to our organization, and strengthening ties with partner organizations like the Department of Natural Resources and the Georgia Plant Conservation Alliance.

This is a great time to become more involved in your Society. We need more of our members to be engaged, whether attending field trips, helping setup for meetings, or serving on committees. There's always plenty to do.

Right now we have a special need for someone to take over editing the newsletter. Ellen Honeycutt has been the editor for many years and has done a great job. She would like to move on but has been filling in as the temporary editor until we find someone to take over that position. Please contact Ellen, or one of the officers or Board members on the last page of this newsletter if you can contribute in this way.

Keep an eye out for the upcoming Pilgrimage brochure (and save the date - April 3-5!). Our Vice President Bobby Hattaway has been working hard to arrange an exciting Pilgrimage on the coast, including a trip or two to some of the barrier islands that are difficult to visit.

If you haven't yet renewed your membership, get that renewal in! If you'd like to help us with our goal of getting more young people involved in the Botanical Society, consider buying a gift membership for a young friend, family member, or co-worker. A membership is more than just

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President's Perspective (cont'd)

belonging to a group, or receiving newsletters and a magazine - you'll be giving them a gift of wildflowers, of native plant communities, and the opportunity to immerse themselves among those plants and among like-minded plant enthusiasts.

I hope to see all of you this year out on a mountain trail, a Coastal Plain bog, or knee deep in trilliums along a Piedmont creek. We'll have fun adding some southern twang to those Latinized names!

Hal Massie

Botany Byte

Here's a term worth understanding: dioecious (dy-EE-shuhs). Dioecious refers to the floral parts of a plant not being perfect in a single plant (that is, it can't reproduce by itself). This is easiest to remember as having separate female and male flowers on different plants. You might be familiar with people saying that you need a male and female plant to get fruit (such as for hollies (*Ilex*)). Other native plant examples include: maples (*Acer*), willows (*Salix*), persimmon (*Diospyros*), juniper (*Juniperus*), spicebush (*Lindera*), and sassafras (*Sassafras*). The opposite of dioecious is monoecious.

Shown in the photo to the right, these are the male (staminate) flowers of spicebush (*Lindera benzoin*). Notice the tiny pollen-tipped anthers; pollen is part of the male flower and it will need to be transferred over to the female flower (usually by an insect but in some cases - *Salix* and *Juniperus* - the wind plays a role).

The Botanical World –Why I Chose Botany as a Career

By Bobby Hattaway

A while back Jackie Miller, previous editor of this newsletter, asked members to consider writing about how they became interested in plants. I have thought about her request for some time and perhaps the passing of Tom Patrick prompted me to finally attempt it. That's because as botanists pass on, they are not being replaced. In fact professionally trained field botanists are rare. Fortunately there are a few good self-trained botanists to fill this ever increasing void. I tell my story not to "beat my drum/chest," but to encourage plant enthusiasts not to give up when they get frustrated in their pursuit of botanical studies.

As a youngster in a "redneck" South Georgia rural setting, plant studies were something that girls fooled with and, if boys did it, they were usually thought of as sissies. Nevertheless tending the garden was one of my chores. Though mother never pushed me into the plant world, she did have me accompany her into our 99 acres in the spring to look for shrubs that we might label with a ribbon for relocation to our yard in the winter months. She explained that they would be dormant then and would more likely survive the move. The main species we moved was *Chionanthus virginicus* or, as she called it, Granddaddy's Beard. It is also known as Fringe Tree.

Mother was a nurse and she really wanted me to be a doctor. By that I mean an MD, not a PhD. Our local high school science program in north Bryan County did not really have a memorable plant component in the science curriculum. When I went to college in the fall of 1966, I pretty well knew I wanted to pursue biology. I do not remember even seeing a microscope till I went to what we then called North Georgia College in Dahlonega (now it is UNG). I eventually realized that mastery of the microscope proved to be pivotal for success in biology in general and botany in particular. In those days, one or two general botany courses were still required to receive a degree in biology. Pre-med students and their advisors did not like that as it often ruined their Grade Point Average (GPA) and may have adversely affected their med school applications. That is because, in general, most biology students made lower grades in the plant part of the biology curriculum than the zoology part, at least at NGC. Much of that had to do with the fact that people tend to dislike or even fear what they do not understand and plants were often in that category (at least in the mind of the typical student). I think that is still true today.

I finally learned that for the secondary education program in many, if not most, Georgia schools, botanical studies were in the minority in science curricula, but I did not realize then that the situation was better then than it would be in the future, including present day. To be blunt, emphasis on plant studies has gotten progressively worse in the early 21st century with less appreciation for plants now than the late 1980s. The reasons for that are the subject of another story – the Decline in Botany in the US – but now back to my botanical journey at North Georgia College.

Grade-wise, I did well in the animal part of our biology curriculum at the college. One of my favorite non-botany courses was (animal) Embryology. More than any other biology course, it taught me how to think 3D when looking at slides under the microscope. For example, it might take 100 slides or slide sections to go sequentially from the anterior (front) end of an earthworm to the posterior (tail) end. After doing that, you could visualize organ-wise what a trip through the length of an earthworm would look like. This skill later proved useful in botany labs when looking at cross-sectional slides of *Lilium* (Lily) ovaries to find the ovules at the basal end, each with a single egg inside.

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Why Botany (cont'd)

Despite success in animal courses, I struggled with the grade part of the plant courses. There were only three such courses at North Georgia then – General Botany I, General Botany II, and Local Flora. The last was an elective with the first two as prerequisites. Initially I had no plans to take Local Flora because, in spite of best efforts, I only made C's in the first two botany classes. This is despite making mostly A's in other biology classes including microbiology. However, those two C's were numerically 79.9 and 79.8 respectively and I would have expected them to be B's since those grade averages were above 79.5. In my mind, a B would have been respectable.

The person that taught the plant courses, as well as some sections of the general biology courses, was Mr. Ben Sanders. He was widely known around campus as a professor in biology to be feared and he was known as Uncle Ben. Many of us remember his haunting laughter in the hall of the biology building after he put together an exam or posted grades on the door. Initially I do not think he thought much of me. For example, he would say to me, "Hattaway I don't care if you get a 79.9, I am still going to give you a C." As I said above, he did indeed do that as well as for the 79.8 in the second General Botany class.

'Uncle Ben' Sanders

By the time I enrolled in the third plant course – Local Flora – I was one of only about eight students left (as I said, this course was an elective) and I believe Uncle Ben's attitude towards me changed. Though I never considered myself all that bright, I strived to be tenacious and I was still trying to figure out why grade-wise – though I worked so hard in botany – the effort just did not show up. Well I actually made an A in Local Flora! I am not quite sure how that happened except that during the course that spring, Uncle Ben had a heart attack and died. An administrator that had a background in botany, Mr. Woody (I think of Woody's Gap fame since he lived in Suches), took over the course about midway through.

Ironically the biology faculty leaned on me as an undergrad to run the botany labs and give some of Uncle Ben's lectures. Despite my struggles in his classes, I do not think I would have initially had the patience to stick it out in botany if it had not been for him. I think having to teach his material taught me that I really did not know much until I had to communicate it to others. And it was not until then that I truly mastered the material. I knew by then, I wanted to teach botany. Part of the reason I wanted to teach botany had to do with not wanting to see others go through what I had gone through and a lot was about demonstrating to myself and others that this subject did not have to be that hard if approached correctly. Plus even back then, I could see botany was probably always going to be the biological underdog and I have always fought for the underdog (and still do). Fortunately botanists are like Marines – all you need is a few good ones! The truly good ones are those who want to share. I am not sure how good a botanist I am, but I strive to be.

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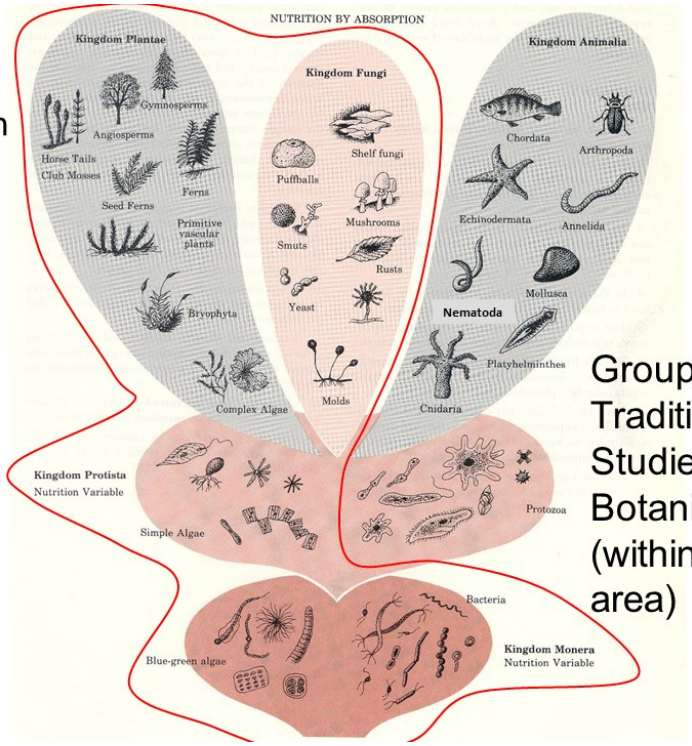
Why Botany (cont'd)

Being a male graduate from North Georgia back then usually entailed getting not only a college degree but also receiving an officer's commission in the US Army or other military service. I was commissioned as a 2nd Lieutenant in the Army Medical Department in 1970. The biology major and chemistry minor fostered that appointment. However, upon graduation, I was scheduled to go on active duty for a minimum of two years. My concern was that the botanical fire I had started in me would wane if I did not soon continue to fan those flames and that meant going on for an advanced degree sooner than later.

Surprisingly the Army allowed me to pursue a Master's degree in Botany at the University of Tennessee before I went on active duty. Back then, if you wanted to pursue a doctorate, the norm was to get an MS or MA first. I was not sure then if I wanted to go for a PhD, but I wanted to have the option if I made up my mind later.

The old 5 Kingdom System



Groups Traditionally Studied by Botanists (within red area)

I am pleased to say that those C's under Uncle Ben turned into mostly A's in the Botany Department at UT Knoxville. (Sadly now the Botany Department has been replaced with a Horticulture Department.)

I received the MS in Botany at UTK in 1973 and, after doing some military duty, I eventually pursued a PhD in Botany at Pennsylvania State University. They gave me a choice of having the degree in botany or biology. For me that was a "no-brainer."

As I near the end of this story, I have to admit – by today's standards for degrees in plant sciences – I am sort of a dinosaur. But I am proud of that. That's because today's graduates in advanced plant studies are specialists. I trained to be and still am, a general botanist. Botany and Plant Biology are not the synonyms they once were. Today the latter is relatively narrow in that it encompasses only higher plants.

Botany traditionally not only covered higher plants but algae, bryophytes (mosses liverworts & hornworts), pteridophytes (ferns and their allies), fungi and even earlier, bacteria. That, I finally figured out, was a principal reason botany was so hard – i.e., the scope was so broad in terms of the organisms it covered. Back then life was divided up into a 5 Kingdom system and botany covered four of those, leaving the animals in the remaining kingdom. See the accompanying diagram which "cedes" a fraction of the old Kingdom Protista – the Protozoa – to the Animal Kingdom.

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Why Botany (cont'd)

Studies in fungi and bacteria later evolved into separate courses – Mycology and Microbiology respectively, and my ability to master them helped me in both my military and academic careers. Though I do not consider myself a specialist, field botany is what I enjoy most. But historically I have more classroom teaching time as a microbiologist than a botanist. That is because micro was and is such an important part of medicine. Because of that, it is easier today to get a college teaching job as a microbiologist than as a botanist.

It is ironic that our society today values the study of plants so little. If asked, most people will tell you plants are an important part of the food chain, but will totally forget about the 20% of the atmosphere they breathe which is oxygen – a by-product of photosynthesis. Both plants and animals use that oxygen to respire – i.e. to burn glucose.

My intent here was to tell how I got interested in plants and – despite frustrations you might have now and then as you study them – you are not alone. At the same time, I tried to remind you of the importance of plants in our world and the fact we need people to be curious about plants.

I am certainly not the first to say this, but plants should be valued for what they do, not just want they look like. I know our organization puts a lot of emphasis on the latter (i.e. looks) but ultimately life in our biosphere would not be the same without the physiological activity of green plants. And ecologically, plants lay the foundation for the entities that we recognize as ecosystems or biomes – e.g. Tropical Rain Forest or the Prairie (an example of the Grassland biome).

The author, Bobby Hattaway, explaining how to identify two different species of silver plume grass (*Erianthus alopecuroides* and *Erianthus giganteus*) after the BotSoc holiday party on Dec 7th. Photo by newsletter staff.

Spring Wildflower Pilgrimage 2020: April 3-5, 2020

Look for the pilgrimage brochure to arrive in mid January. As reported in the November newsletter, our hub will be in Port Wentworth. Currently our motel hub is called Holiday Inn Express, but by pilgrimage time it should be called the Wyndham Wingate. In the meantime, feel free to contact Bobby Hattaway via email at botanikman@g-net.net with any questions.

Society News

Here are some photos from our holiday party on December 7th at Newman Wetlands Center. The food was great and the company was spectacular! Thanks to Charles Seabrook for these photos.

Row 1: Hal Massie and Dani Davis; JoAnne Romfh; Row 2: Rich Reaves and Ellen Honeycutt; Sue Richmond with Bretta Perkins.

Row 3: Marshall Adams, Charles Hunter, Jim Drake; Bobby Hattaway talks about the 2020 Pilgrimage.

Newman Wetlands Center (cont'd)

Some flora photos from the Dec 7th post-lunch walk at Newman and plume grasses brought by Bobby.



Top: Fall colors on *Chasmanthium sessiliflorum*; seedbox (*Ludwigia alternifolia*); seed capsules of another species of *Ludwigia*.


Top: Seeds of two plume grasses (*Erianthus giganteus* on left, *alopecuroides* on right) brought for show and tell; leaves of *Nyssa ogeche*, not native to the property. Bottom: Christmas fern (*Polystichum acrostichoides*) and the aquatic mosquito fern (*Azolla*).


The Native Garden

Foamflower

An occasional series on using native plants in the home landscape.

By Ellen Honeycutt

Tiarella cordifolia L.

Found in moist environments in North Georgia woodlands, this native perennial is also perfectly at home in the garden where clumps increase and provide showy spring floral displays.

Common Names: Foamflower, heartleaf foamflower

Taxonomy: A member of the saxifrage family (Saxifragaceae), *Tiarella* is a diminutive of the Greek word *tiara* meaning turban. The genus name refers to the unequal seedpods. The epithet refers to the heart-shaped leaves. Other members of the saxifrage family include: astilbe (*Astilbe*), alumroot (*Heuchera*), miterwort (*Mitella*), and saxifrage (*Micranthes*).

Habit: Foamflower is an erect perennial with a spring-flowering spike of tiny, white-pink flowers that grows up to 14 inches tall. The mostly basal leaves are heart-shaped, with tiny hairs and occasional dark markings (which are sometimes used to select ornamental cultivars).

Characteristics: The flowering stems have several smaller leaves. It might spread by runners (stolons) to create new plants, but it also spreads by seeds and germinates well in the moist, mossy environments of its preferred habitat.

Left: a close up of the flower spike. Right: *Tiarella cordifolia* at the Pocket of Pigeon Mountain.

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Upcoming Field Trips

Jan 18 10:00 AM	**Winter Woody Walk** A casual stroll among deciduous hardwood trees and shrubs will give us plenty of opportunity to practice our woody plant identification using bark, old leaves and bare twigs at Big Trees Forest Preserve in Sandy Springs.	**Directions**: Meet in the parking lot at 7645 Roswell Rd, Sandy Springs, GA 30350 **Facilities:** Yes. **Walking**: Easy, wear sturdy shoes. **Bring**: Water, snacks, camera, notebook.	Ellen Honeycutt ehoneycutt @bellsouth.net 678-576-5667 (c)

Foamflower (cont'd)

Habitat and Distribution: Foamflower is mostly found in north Georgia, although BONAP shows one reported occurrence in Clay County. I have seen it on many a BotSoc field trip along moist streambanks in wooded areas. Areas with a bit more sun have bigger clumps with more floral stems but the underlying moisture is key, especially in more sun.

In Cultivation: Leaf forms can vary, resulting in deeply lobed leaves and leaves with dark markings. Nurseries have propagated these forms to create cultivated varieties. In addition, hybrids from crosses with *Heuchera* have created other cultivars sold as *Heucherella* crosses (foamy bells).

Left: *Tiarella cordifolia* in a garden setting next to a pond. Right: A naturally-marked plant found in Cloudland Canyon State Park.

Society Contacts

NONPROFIT ORG.
U.S. POSTAGE PAID
ATHENS, GA
PERMIT NO. 1

115 Farm Dale
Roswell, GA 30075
www.gabotsoc.org

OFFICERS and BOARD MEMBERS

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