

# Native Plant News

NEWSLETTER OF THE NC NATIVE PLANT SOCIETY

Native Plant News  
Julie Higgie, editor

Spring 2020  
Vol. 18, Issue 1

## INSIDE:

P2 President's  
Report

P4 Butterflies  
& Native Plants

P6 Chlorofiends!

P8 Scholar Reports

P9 Spring Trip

P10 Annual  
Meeting

## MISSION STATEMENT:

Our mission is to promote the enjoyment and conservation of North Carolina's native plants and their habitats through education, cultivation and advocacy.

[ncwildflower.org](http://ncwildflower.org)

## Happy Springtime Blues!

By Bettina Darveaux

Spring is always so welcomed after several months of those shortened days of winter. My April garden becomes alive with the color of blue from our cherished native plants, just pushing those winter-time blues away. I surely did not plan on this monochromatic color palette; it just seemed to happen all on its own. But I am so grateful it did, as I do love this calming, cool, flower color, especially against the myriad of green colors contributed by the foliage.

My Woodland or Wild Blue Phlox (*Phlox divaricata*) and Dwarf Crested Iris (*Iris cristata*) grow close to each other and bloom at the same time, creating a beautiful sea of blue blanketing the garden. The Woodland Phlox, with its delicate inflorescence, sways with only a slight breeze causing tiny waves or ripples in this garden sea of mine. This combination of native species looks so pretty together as their shade of blue is similar, yet the flower size and texture differ dramatically providing both harmony and interest to this serendipitous design.

I think Virginia Bluebells (*Mertensia virginica*) are one of the most beautiful native spring ephemerals we are fortunate to have, but they are so fleeting that you must make sure you get out to your garden to check on them every day. The glaucous shoots emerge rather quickly toward the end of March, followed by the beautiful helicoid cymes (flowering branches coiled snail-like, and then expanded) of mostly pink buds which miraculously transition to true blue flowers, making sure to delight us with all the purple-lavender colors in between. So incredibly spectacular! My clump does not seem to enlarge nor do I find any seedlings nearby for propagation, so this one plant of mine is very special indeed. Don't mess with my *Mertensia*!!! (Cont. on P3)



Woodland Phlox

# President's Report

## Board of Directors

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To contact Board members,  
chapter chairs and committee  
chairs, go to;

[http://ncwildflower.org/about/  
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**M**any thanks to those of you who contributed to our Giving Tuesday campaign at the end of 2019.

We raised \$6,820.00 from 43 donors. These funds will be used to provide scholarships to undergraduate and graduate students conducting research on North Carolina's native plants and habitats through the Society's Tom and Bruce Shinn Scholarship Program. The success of this campaign is due to the efforts of **Carol Fox, Diane Laslie, Larry Mellichamp, Debra Murray, Liz Wahls, DeeDee Clarke** and **Jean Woods**. My warmest thanks to all of you!



Steve Kroeger

I am pleased to announce that **Amy Tipton** has volunteered to chair our Publications Committee. Amy is the assistant director of the UNC Charlotte Botanical Gardens. Her Masters in Botany focused on native plant ID and forest ecology, but also included many classes leading to a completion of a graduate studies "Option" in aquatic ecology. Amy holds bachelor's degrees in Drawing and Art History, as well as an MFA in Printmaking. She enjoys botanical drawing. In addition, she enjoys learning about historical female botanists, ecologists and scientific illustrators. Welcome aboard Amy!

As all of you know, the Society operates as a volunteer organization. We have many dedicated experienced leaders who organize chapter events, design and produce handouts, organize field trips, oversee our native plant garden at the state fairgrounds, and conduct the day-to-day operations of our Society. I extend my thanks to you all who make the Society what it is today.

As our lives change so do those things we become involved in. Aging changes one's perception of time and what is important. At 69, I count myself fortunate. My careers in botany and then water quality were fulfilling. I survived a bout with cancer diagnosed in 2012. Now I want to move on to traveling, meditating and spending time with my family. As a result, I will not be continuing my role as President after our June membership meeting/picnic but will continue to contribute to the Society. Our annual meeting will be Saturday, June 6, at Hagan Stone Park in Greensboro. Hopefully, I will see you there!

## Happy Springtime Blues (cont.)

We cannot forget the small but mighty Bluets (*Houstonia caerulea*) this time of year. They look so delicate but yet are actually pretty tough plants. Their salverform (narrow tube with a disc of petals at the top) corollas with four lobes are of a true-blue color with a bright yellow eye. Each individual stem is miniature but they always grow in patches, and united as such, they make a large presence. I love to gently brush my hand across the flowers as I do with sporulating mosses just to feel their beauty.



*The color evolution of Virginia Bluebells.*

Like the Bluets, Eastern Bluestar (*Amsonia tabernaemontana*) also has a salverform, corolla but this time with five lobes. Unlike the Bluets, Eastern Bluestar raises its pretty light blue flowers high off the ground. It prefers a moist shady habitat, although mine is getting too much shade now that my Possumhaw Viburnum (*Viburnum nudum*) has grown so large. Although I see that I now have some very young seedlings of Eastern Bluestar growing nearby, I need to transplant the mother plant to a brighter location, as it has not been flowering well these past couple of years. I do not want to miss its contribution to my happy springtime blue bonanza!

*Bettina is an at-large board director.*



*Dwarf Crested Iris*



*Bluets*



*Eastern Bluestar*

# Butterflies & Native Plants: It Can Get Complicated!

By **Will Stuart**  
(Part II of a Series)

**H**eintooga-Round Bottom Road is a 14-mile one-way, serpentine, forest road descending from mile-high Balsam Mountain, NC, to Round Bottom, TN. It becomes one of my favorite “butterflying” destinations in mid-August when the roadsides teem with Bee Balm (*Monarda didyma*), Appalachian Joe-Pye Weed (*Eutrochium steelei*) and masses of Green-headed Coneflower (*Rudbeckia lacinata*). Peak butterfly activity occurs mid-day when sunlight penetrates an unbroken forest canopy.

Last Aug. 15, I drove to Maggie Valley and then south on the Blue Ridge Parkway to Heintooga Ridge Road, arriving at the Balsam Mountain Picnic Area shortly after noon. The Eastern Tiger Swallowtail is very common here and elsewhere in the mountains in August. Statewide, the species flies from March into October, using a variety of native trees and shrubs as host plants. All males and most females are bright yellow with distinctive dark “tiger” stripes. A certain percentage of Eastern Tiger Swallowtail females are a “dark morph”, the proportion of dark females varying from location to location.

On that August afternoon, clouds were building as I started down the road. Overall butterfly numbers were disappointing, but it seemed

I was seeing an unusually large proportion of dark-morph Tiger Swallowtails.

The Pipevine Swallowtail is another common Carolina swallowtail butterfly. It is multi-brooded, flying from spring into fall. Pipevine Swallowtail host plants are limited to a few species in the Birthwort family (*Aristolochiaceae*). In mid-July I have seen newly emerged Pipevine Swallowtails mob patches of Turk’s Cap Lilies along the Blue Ridge Parkway in areas where Dutchman’s Pipe (*Isotrema macrophylla*) is common. Pipevine Swallowtail caterpillars accumulate and “sequester” aristolochic acids, toxic alkaloids that render the caterpillar and adult unpalatable, reducing predation by birds and others.



Dark-Morph Swallowtail



Intermediate Form Dark Morph

Many studies link the coloration and markings of several other large dark butterfly species to the Pipevine Swallowtail, a well-accepted example of Batesian mimicry where a harmless species is protected by its resemblance to a species that is toxic and unpalatable. The Spicebush Swallowtail, Black Swallowtail, Red-spotted Purple, and female Diana Fritillary are all generally thought to

be mimics of the Pipevine Swallowtail.

Most scientists accept that dark-morph Tiger Swallowtails gain selective advantage by mimicking the Pipevine Swallowtail. Data suggest the incidence of this mimetic form is diminished where the Pipevine Swallowtail is

## It Can Get Complicated! (cont.)

rare or absent and conversely is higher where Pipevine Swallowtails are common. Other studies suggest the selective advantage of protective coloration may be offset in part by a reproductive disadvantage, explaining why nonmimetic yellow females remain common. (I warned you it might get complicated!)



*Swallowtail Male on Joe-Pye Weed*

with a worn but unmistakable male Diana Fritillary.

The genetics and gene expression of mimetic Eastern Tiger Swallowtails have been extensively studied. By sheer coincidence I photographed a fresh and beautiful "intermediate" dark Tiger Swallowtail female along the New River the following week, a form I had read about but had never seen.

In my Piedmont butterflying I encounter an occasional dark-morph Eastern Tiger Swallowtail, but the numbers I found on Aug. 15<sup>th</sup> piqued my curiosity. I decided to spend the night in Maggie Valley and returned to Heintoga-Round Bottom Road the following morning, arriving under clear blue skies. I parked at the picnic area and slowly walked the first two miles, down and back, keeping a running tally of each butterfly species. Over



*Dutchman's Pipe*

nearly four hours I counted 40+ bright-yellow Eastern Tiger Swallowtails, mostly males. To my surprise, I also tallied 40 dark-morph females, many nectaring on Joe-Pye Weed. I also tallied more than 15 Pipevine Swallowtails, most preferring to nectar on the bright red Bee Balm. As a bonus, I had two encounters

As the name suggests, these handsome females are yellow with dark stripes but heavily shaded, as if sprinkled with charcoal.

With butterflying, as with botanizing, no two years are alike. Was this localized high proportion of dark-morph Eastern Tiger Swallowtails a one-time occurrence? I will plan a return visit and butterfly tally this coming August, and I will report what I find.

*Will is a professional photographer and a longtime member of the Society.*



*Pipevine Swallowtails on Turk's Cap Lily*

# CHLOROFIENDS!\*

## Bad-ass Grasses, Pt.2

By Lisa Lofland Gould



lanceolate leaves can be 2' long, with distinct white midribs and rough, untoothed edges. The loose, purplish flowering panicles can be 2' long and can produce copious quantities of seeds (over 80,000/plant in a season). A

The previous *Chlorofiends!* article focused on several clumping grasses that are increasing in North Carolina. This article will look at some of the spreading rhizomatous grasses that are (or may become) invasive here.

One bad actor is **Johnson Grass** (*Sorghum halepense*), believed to be native to the Mediterranean area but now growing on every continent except Antarctica. In the United States, it is absent in only Minnesota and Maine. It was introduced in the US around 1830, and in 1840 was sown as a forage crop in Alabama by Colonel William Johnson, after whom the grass is named. Unfortunately, it can kill both horses and cattle if eaten when wilted or stressed. Stressing causes the plant to



Johnson Grass flower panicle -Lisa Gould

produce cyanide (the same is true for some other plants, including our native Wild Black Cherry (*Prunus serotina*)).

Johnson Grass is a perennial that can grow to 8' tall, with roots up to 1/2" thick. The alternate,

plant can also develop as much as 200' of rhizomes in a year, allowing Johnson Grass to form dense stands along roadsides and in old fields, pastures, and waste places. It is considered one of the world's worst weeds, impacting agriculture (it can reduce corn and soybean yields by over 30%) and livestock husbandry, as well as displacing native vegetation and lowering plant and animal diversity. The dense colonies also create fire hazards, especially in dry years. Once established it can be very difficult to eradicate.

**Giant Reed** (*Arundo donax*), an Asian perennial, also thrives along roadsides and in waste places, as well as along streams. It can grow up to 20' tall, with huge root systems that form dense colonies and use enormous amounts of water. The hollow stems may be as much as 1.5" in diameter, and the smooth leaves can be up to 1.5' long; they tend to droop about midway up the leaf's length. A large, distinctive ligule is pre-



Giant Reed -Lisa Gould

(continued next page)

# Chlorofiends! (cont.)

sent where the leaf base attaches to the stem.

Giant Reed's US introduction was in California in the early 1800s, as an ornamental species. It has also been used for thatch, fishing poles, and mats, and planted for erosion control.

While its feathery flowering plumes do not appear to produce viable seeds here, it spreads via rhizomes and stem nodes, which can be transported along waterways. The sheer biomass of the stands increases the danger of fire, which Giant Reed's root masses are able to survive. The plant also produces a variety of chemicals toxic to both insect and vertebrate grazers, so it does not appear to have many natural enemies. It grows in warmer areas of the US and appears to be very tolerant of soil types; here in Forsyth County I have seen it flourishing in wet ditches and on the dry edge of a parking lot.

A couple of species of ornamental Asian bamboo are of concern in North Carolina. Weakley lists **Golden Bamboo** (*Phyllostachys aurea*),



A stand of Golden Bamboo

-Ann Walter-Fromson

also called Fish-pole Bamboo, as the most widely spread Asian bamboo in the state, where it is uncommon in the coastal plain and piedmont and rare in the mountains. It is the familiar tall bamboo (up to 40' or more in height) that spreads from cultivation and forms dense colonies where virtually nothing else can grow. The hollow stems ("canes") are interspersed with dark, solid joints and can be from 1" to 6" in diameter. When branches are

present on the canes, there are usually 2 at each joint. The alternate leaves are from 3" to 6" long and up to 3/4" wide. While Weakley notes that Golden Bamboo has not been observed flowering and forming seed in our area, it does spread by rhizomes and can be very difficult to eradicate once established. As one contributor to *invasive.org* noted, it is "planted but usually soon regretted". Not only are bamboo thickets devastating to native flora and fauna, but bamboo itself is flammable and can explode when burned.

**Arrow Bamboo** (*Pseudosasa japonica*), a native of Japan and Korea, is currently rare in NC, but Weakley expresses concern about its invasive potential, and notes that the bamboos in general are "seriously under-represented in herbaria, since they rarely flower and are impractical to press"; he feels the bamboos are probably more common in the Southeast than his maps currently show.

Arrow Bamboo has palm-like leaves and can reach from 12' to 20' in height. It can grow in full sun to shade and is also cold-hardy and tolerant of salt spray (it has naturalized as far north as New York and Connecticut). Arrow Bamboo is sometimes grown in containers but can form dense thickets where it is allowed to spread, with the accompanying fire danger and loss of biodiversity.

As always, GO NATIVE!

*Chlorofiends!* is a regular column in Native Plant News. If you have information or comments on invasive species in North Carolina, please share them with Lisa Gould ([lialgould@gmail.com](mailto:lialgould@gmail.com)).

*Weakley information:* Weakley, Alan. *Flora of the Southern and Mid-Atlantic States*, Working Draft of 29 May 2015, UNC Herbarium, Chapel Hill NC.

\*Thanks to Jim Butcher's *The Dresden Files* for the column title.

# Scholarship/Grant Reports

## THANK YOU!

The **Giving Tuesday** campaign this year focused on the Society's **Shinn Fund**, which grants research proposals to graduate and undergraduate students working on native plants. Many members contributed generously during the campaign, donating enough money to fund seven additional awards! For students at universities and colleges across North Carolina, these grants are a huge boost to their research projects. The six awardees from the 2019 granting cycle are studying a range of fascinating topics, from native flora on mountainous cliff faces and in remote regions of Grandfather Mountain State Park to ecological studies of rare species. We look forward to granting proposals from students in 2020 with funds in part made possible through your contributions. Also, a big thanks to all the folks that organized the Giving Tuesday campaign!

### By **Crystal Cockman**

Using funds from a **B.W. Wells Stewardship Grant**, Three Rivers Land Trust (TRLT) hosted workdays to remove invasive Chinese Privet from the banks of the Yadkin River in our Two Rivers Project area in Davie County. To tackle the severe infestation, we purchased three backpack sprayers, equipment that can be used to treat invasives on other properties, as well.



TRLT staff and volunteers labored in the summer heat to cut down the privet and spray the stumps with a herbicide specifically chosen such that it will not impact water quality in the sensitive bottomland habitat. By directly coating the stumps, no other vegetation was harmed by the application. We eagerly await the recovery of native habitat in the openings that were previously shaded out by the privet.

*Crystal is the TRLT Conservation Director.*

### By **Ellen Quinlan**

Sand-myrtle (*Kalmia buxifolia*) is found on rocky outcrops in the southern Appalachians, monadnocks of the Carolina Piedmont, pine savannas of the Carolina Coastal Plain, and the New Jersey Pine Barrens. These plants encounter frequent environmental stress in each of these habitats, mostly related to moisture levels. With funds from a **Shinn Grant** given by the NCNPS, we sampled plants in each region to reconstruct the evolutionary history of *K. buxifolia* to understand why it is currently found in such widely separated populations. Surprisingly, the species is much older than expected, and our results point to four potential Pleistocene refugial sites, the most ancient of which is Mount LeConte. We also measured water-use efficiency in each population, as plants must adapt to the unique microclimatic challenges in each region. Knowing both the evolutionary history of the species and how efficiently plants use water in the different regions allows us to better predict how the isolated populations will respond to climate change.



*Ellen is a PhD student at Western Carolina University.*

## More Scholarship/Grant Reports

By **Amy Boyd**

We used grant support from the NCNPS **Alice Zawadzki Land Conservation Fund** to conduct a floristic study of the Christmount Preserve, a 358-acre private nature preserve that is owned by the Christmount Christian Assembly in Black Mountain. The preserve has a history of logging, like almost all of the forests of the region, but the flora is remarkably intact and appears largely undisturbed, with few invasive plants present and a rich diversity in the understory, including Dwarf Chestnut

(*Castanea pumila*), American Lily-of-the-Valley (*Convallaria pseudomajalis*), Tiny Anemone (*Anemone minima*) and Dutchman's Breeches (*Dicentra cucullaria*). Since 2010, the preserve has been under conservation easement held by the NC Clean Water Management Trust Fund and monitored by the Southern Appalachian Highlands Conservancy. I, along with three student interns, spent the past year conducting a thorough floristic inventory of the vascular plants found on the property, as well as mapping plant communities. The preserve is largely a mosaic of rich cove forest, acidic cove forest, and montane oak-hickory forest, with small patches of Pine-oak Heath on the ridgelines of the surrounding mountains. A total of 192 plant species in 81 families have been identified thus far, though the work will continue into this summer.

*Amy is Professor of Biology at Warren Wilson College.*



By **Marietta Shattelroe**

Bent Avens (*Geum geniculatum*) is a perennial herb restricted to the high elevations of three mountaintops between North Carolina and Tennessee. With the support of the Society's **Shinn Grant**, I investigated the life history, pollination biology and genetic diversity of this delicate member of the Rose family. Data from my census of 13 sub-populations show that the most robust populations occur along shaded stream banks, but plants can also grow in a variety of habitats, including grassy balds and trails. Population sizes were smaller than previous reports of thousands of individuals, but I found high genetic diversity across my sample area. I also initiated an in-depth study of one population to document life history traits for the species and assess over the long term how vulnerable the population is. My results will guide future researchers in conserving and managing the species.

*Marietta conducted her studies at Appalachian State.*



### The 2020 NCNPS Spring Outing

is May 1-3 in the Bryson City area of the Great Smoky Mountains National Park, a world-renowned preserve of wildflower diversity. This event will include:

**HIKES:** Hikes will be in both the Great Smoky Mountains National Park and in the Nantahala National Forest.

**SILENT PLANT AUCTION:** We hope to continue our legacy of plant auctions. Donations of unusual and hard-to-find plants are requested. Proceeds will support Society operations.

**LODGING:** A block of rooms is being held until April 27 at the Sleep Inn in Bryson City at a rate of \$119/king or \$129/2 queen beds plus taxes. Call the hotel at 828-488-0326 and mention the Society.

**MEALS:** Participants are responsible for obtaining their own meals.

**QUESTIONS:** Call **Diane Laslie** at 336-337-0705 or **Paula LaPoint** at 919-545-4256.

# Society Happenings

## Fun With Ferns

By Lynda Waldrep

No, this is not a how-to article. Anyone wishing to grow ferns from spores has multiple places on the Internet, not to mention many good books, in which they can find advice. My purpose in sharing my experiences is to encourage people to try growing native ferns from spores, not just for the fun of it, but also because many natives are not readily available in the trade.

Starting with purchased spores in 2013, and moving to spores from my friend and NCNPS member **Mark Rose**, I have been able to successfully grow the native Walking Fern (*Asplenium rhizophyllum*) followed by a nice batch of American Hart's Tongue Fern (*Asplenium scolopendrium* var: *americanum*). My next adventure may be Southern Woodfern (*Dryopteris ludoviciana*), which I hope will be easy to grow. Mark has also given me some spores from Climbing Fern (*Lygodium palmatum*) but the books say they need to be sown fresh, so we will try and not be unhappy if noth-

ing happens, even after a full year.

The key to success, I feel, is patience. Some spores may take up to a year to germinate, while others become apparent in only a month or two. Of course, sterile containers and water, plus moisture to grow out the

"sporlings" all help, too. Consult any good fern book, and you will have step-by-step information. Hopefully, by the June 6<sup>th</sup> picnic I will have a few ferns hardened off and ready to share with NCNPS members. But in the meantime, find some spores and grow your own!



*Walking Fern 'baby'. Meet her and her friends at the annual meeting!*

## Triad Chapter

Publicity really helps! Our local newspaper placed our monthly notice in the Special Events section in January, resulting in **68 attendees** for the Triad Chapter's Jan. 8 program. It was a milestone for us, and it demonstrates that many people are interested in natives, if we can only connect with them. **Adam Webb's** program on how he became interested in natives and, in four years, created a Native Plant and Certified Wildlife Habitat on his one-plus acre lot in Summerfield, was well received. We also had quite a few people join on the spot! Continue spreading the word about natives!

Lynda Waldrep

## 2020 Annual Meeting

**Saturday, June 6, 10 a.m. to 3 p.m.**

Hagan Stone Park, Greensboro

Bring a side dish to share and a plant for the plant sale and auction, if you have one. The meal will be fried chicken, barbeque and coleslaw from Smithfields. Drinks will be provided, but please bring your own cup.



Also, please bring your plants early, so they can be priced and displayed.

# Membership Spotlight: BOB OELBERG



*Bob has been active in the Blue Ridge Chapter since its beginning, several years ago.*

## What is your background?

I've worked in the High Country since 1994 as a landscape architect, having previously worked in Alexandria, VA, after receiving my degree from the University of Virginia years earlier.

## How did you get interested in native plants?

I migrated toward the planting design-end of landscape architecture from a background in land-planning and site development. I decided at that time, 2008, that I'd use native plants in my designs as much as that's practical for my mostly main-stream clients. I use about 90 percent native plants on most plans, and specify native selections from conventional nurseries, as well as natives-only nurseries.

## How do you support native plants in your chapter?

I've been on the Steering Committee since our inception, and line up speakers for our monthly meetings. My wife **Katherine** and I have also presented at a couple of chapter meetings.

## Do you have a favorite native plant?

Southern Bush Honeysuckle (*Diervilla sessilifolia*) is an underused plant that I use on plans as often as conditions warrant its use.



## Blue Ridge Chapter

The Blue Ridge Chapter will start a **Spring Wildflower Phenology** project this year. Our plan is to target local hiking trails with high wildflower diversity, and revisit these weekly to record what is in bloom. The goal is to collect data using plant check lists for certain trails to inform spring hike decisions. We hope to turn this into a citizen science project collecting documentation on plant phenology suitable for publication, and invite other NCNPS chapters to join us in this venture. Data will be collected for plant lists for at least two or three years, or at least 10 years for publishable phenology data.

We kicked off our project with a Skunk Cabbage hunt in February. I will give a presentation on our plans at our March 11<sup>th</sup> meeting, ahead of the spring ephemeral season. Other members involved in the planning process include Professor Emeritus **Bill Dunson**, Grandfather Mountain State Park Superintendent **Sue McBean** and **Shelton Wilder**, trail steward and crew leader for the Mountains-to-Sea Trail in Watauga County.

**Annkatriin Rose**



**North Carolina Native Plant Society**

C/O Julie Higgin

176 Huntington LN

Mooresville, NC 28117

**We're  
Wild  
About  
Natives!**



The **South Piedmont Chapter** held its annual Seed Swap/Exchange at Reedy Creek Park in Charlotte. Participants enjoyed delightful snacks and a talk by **Larry Mellichamp**, professor emeritus of UNC-Charlotte, about how to make sure the seeds are successful this spring.