

Chinquapin



Volume 31 (3)

Southern Appalachian Botanical Society Newsletter

Fall/Winter 2025

Fairey Trails – The John Fairey Field Station Award



Forest Ecosystems of the Southern Appalachians at Highlands Biological Station

If you love a place, you should know its story. What challenges has it faced, what makes it special, and how did it become what you see today? My love for the Blue Ridge mountains arose from childhood camping trips and grew when I spent the summer exploring the Highlands-Cashiers Plateau while working at Highlands Nature Center in 2022. After completing my masters in conservation biology, I saw the Forest Ecosystems of the Southern Appalachians field course as an opportunity to return to a place I love and further understand its story. Through discussion-led learning and observational practice, I learned to see the landscape through the eyes of a forest ecologist.

In our two weeks with Steph Jeffries and Alan Weakley, we visited approximately 30 field sites, and kicked off our discussion with the same question: “why are we here?”

This initial question inspired us to observe each site. We noted the environmental factors of each site, such as the slope, aspect, and elevation (or the “Ellis-vation,” since Ellis Bosarge became our designated elevation reporter). We also described the plant community composition, defining the dominant species in the canopy, mid-story, shrub-layer, and understory. After taking the time to observe before interpreting what was going on at the site, we discussed how these elements were interacting. We then used Michael Schafale’s Classification of the Natural Communities of North Carolina (Fourth Approximation) to define the plant community of each site visited.

The non-exhaustive list of our classrooms included the Great Smoky Mountains National Park, Joyce Kilmer Memorial Forest, Buck Creek Serpentine Barrens, Roan Massif, the Blue Ridge Parkway, Whiteside Mountain, and Panthertown Valley. These

sites hosted prime examples of why the southern Appalachians is a biodiversity hotspot. Visiting many special places in succession made them feel abundant. Alan Weakley described these rare places as “chocolate chips in the chocolate chip cookie,” pockets of unquities in the matrix of common plant communities. Reminding myself that these sites were in fact rarities helped me stay conscious to their important conservation value, and I feel extremely lucky to have experienced each and every site.

To provide everyone an opportunity to share knowledge during the course, we were each assigned a topic on which to become the expert. My topic, “land use history after European settlement,” seemed to weave itself into many of the sites we visited. For this topic, I read about the intensive corporate logging in the late 1800s, early 1900s, when large portions of the southern Appalachians were stripped of vegetation and intensively burned. One hundred years ago, the mountains of North Carolina looked very different than they do today. Without taking a forest ecology course, I could assume that these forests are ancient. As we learned about characteristics of second-growth forests, fire ecology, and succession, my expert topic influenced the focus of my curiosity.

Disturbance ecology was a reoccurring theme between the field sites we visited, especially since our course took place just ten months after Hurricane Helene.



Author in mammoth tulip poplar
(*Liriodendron tulipifera*)

At one stop along the Blue Ridge Parkway, we hiked along the Mountains to Sea trail looking for huge tulip poplar and black cherry in an old growth rich cove forest. After spending time with these impressive giants, Steph noticed a clearing ahead on the trail, so we forged ahead and found that the canopy gap was a distinctive rockslide, less than 50 feet across but hundreds of feet long, that ended in a tangled pile of limbs and trunks of the trees that were dragged down the hillside. This unexpected discovery inspired a new discussion, was this still an old growth forest? The landslide

(continued on back)

The Weakley Reader

Taxonomy – Who decides, and how? The messy case of “Mini-Shiso” (*Mosla* ?????)



Mosla sp. Photo courtesy Gary Fleming

Back in Issue 31(1) of Chinquapin, I wrote about “Plant name changes – is *Anatherum* anathema? Is *Senega* sinister?”, but I kind of ducked the issue of WHO DECIDES about taxonomy.

By ‘taxonomy’, I here mean the hierarchical system of scientific names, in use for plants since May 1st, 1753. On that day, and for a few months afterwards, all was paradise; only one scientific name existed for

each of the 5,940 plants named by Linnaeus in *Species Plantarum*. One might note, wryly, that that did leave 98.5% of the World’s plants unclassified and unnamed – so that’s certainly a problem in paradise! And authors had already started to name additional species and to propose alternative classifications and names for some of the genera and species Linnaeus had named, so we now have 272 years of taxonomic disagreement.

So, when there are alternative taxonomies, which one is right? The most recently proposed taxonomy? The taxonomy proposed by the most famous or “best” scientist? The taxonomy used in a flora or checklist for your place?

There is a tendency to follow the idea that the latest taxonomy is the best. That concept fits nicely with the idea (or conceit?) that science advances steadily in a positive direction, that a recent taxonomic proposal has access to and is presumably based on the fullest set of information possible, and therefore should provide the best-informed answer. Authors of some international checklists and websites often implicitly and explicitly follow this concept -- in part based on the reasonable principle that the editors are not in a position to carefully judge each of the many-per-day taxonomic decisions published every day around the world.

But, taxonomy is not a hard or experimental science, where a hypothesis can be proven, and there is ultimately a clearly right answer and a clearly wrong answer. Taxonomy is a judgmental science, in which alternative hypotheses may emphasize different positives or negatives. All the data possible may still not provide a definitive answer, and two different taxonomies may continue to present two alternative realities, neither exactly or clearly right, and neither exactly or clearly wrong.

Now, that’s an unsettling thought... It undermines our idea that if only we knew enough, the answer would be clear. It also undermines the idea that we can all agree on a taxonomy that will allow clear, unambiguous, accurate communication.

In practice, we tend to use the taxonomy available to us in a flora that covers our region. That is, essentially, one of the main purposes of a

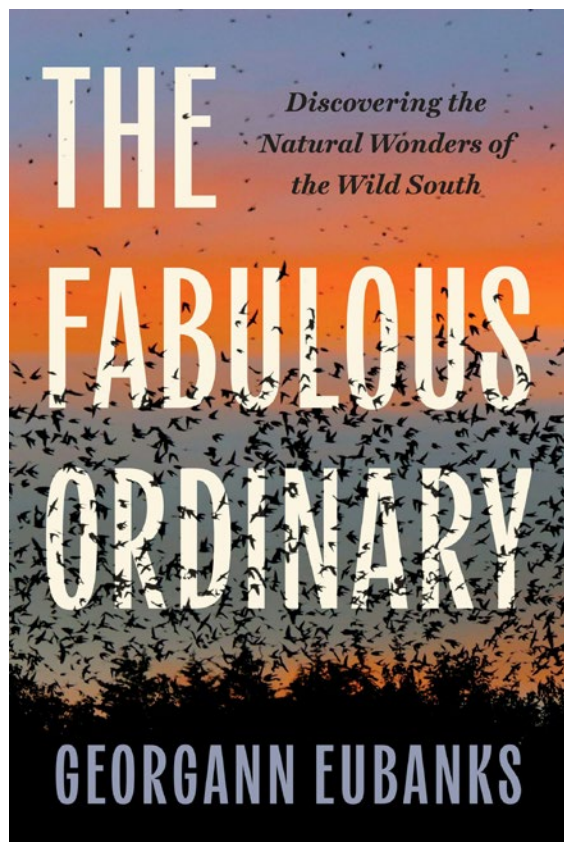
flora – to synthesize the taxonomies presented in literally thousands of scientific papers, to make choices between alternatives, and present a coherent and useable whole to users in an area.

In 2025, that has become both easier and more complicated. We now have access to digital and print resources, some static and some changing regularly, some more local (covering a state or even smaller area), some merely checklists and others providing identification tools and other information. For instance, in Virginia I could use as my “taxonomic standard” the print *Flora of Virginia* (2011), the *Flora of Virginia* app (2017), the *Flora of the Southeastern United States* in pdf, web, or app (2024), the *Flora of North America* (1993 to present, and some volumes not yet published), the Gleason & Cronquist flora (1991 2nd edition, or the 3rd edition in progress), USDA Plants database website for North America, Biota of North America Project website, or Plants of the World Online website. While there would be broad agreement between all of these sources, there would also be significant disagreements – some the result of differences in publication dates (lag), but some also actual alternate realities based on disagreement about “the best taxonomy.”

So, here is a real-world example that the Southeastern Flora Team is currently working on. A weedy mint from Asia was first noticed in North America in 1939, and identified as *Mosla dianthera*, sometimes called “Mini-Shiso” or “Mini-Beafsteak-plant.” The basis for the identification, the flora or floras used, are now obscured, but certainly information on the taxonomy of Asian plants was poorer almost a 100 years ago, and also less readily available nearly a century ago, during World War II, and perhaps not in translation or in western script. All seemed well, and North American floras and checklists were uniform in calling this plant *Mosla dianthera*, until the early 2020s, when botanists in various places around the Southeast (Maryland, Virginia, Missouri) noticed that the plants they were encountering might actually be a different Asian species, *Mosla scabra*, and communicated about the issue in journals, social media, websites, and iNaturalist. The question arose, might ALL previous records of *Mosla* in eastern North America be *Mosla scabra*, rather than *Mosla dianthera*? Because of the digitization of millions of herbarium specimens with high resolution photographs, and the growth in observations made in iNaturalist, a question like that has become vastly easier to address, not involving travel to numerous herbaria or the loan of specimens to a single researcher from numerous herbaria. We can look at the digital images of the specimens and observations and apply the established taxonomy. Great!

But, alas. There is no modern comprehensive monograph of the genus against which to judge those images – not, actually, even an old one. The *Flora of China* treatment of *Mosla* by Xi-Wen Li & Ian C. Hedge (1994) recognizes twelve species in China. A paper in 1999 in the journal *Taiwania* by Tsung-Hsin Hsieh and Tseng-Chieng Huang addresses only the species in Taiwan, applies a different taxonomy, with different lumps and splits. The keys and descriptions used to distinguish the species in each paper use characters that are ambiguously stated, or overlapping, or subjective. Frustratingly,

Book review for *The Fabulous Ordinary*, by Georgann Eubanks



I volunteered to write a book review because I intended to read both *Saving the Wild South* and *The Fabulous Ordinary* anyway. Both were “on the list” – surely many of you have that mental list, or an actual stack of books beside your reading chair or bedside table. So with delight, I dove into its pages.

I identified closely with the guiding premise of this rollicking nature adventure—that there are astonishing natural occurrences in our everyday worlds, in our immediate or nearby vicinities—if we are willing to seek them. In her text, Ms. Eubanks shows us how to find them in a work that reads as an ebullient Southeastern travelogue, drawing you in and experiencing her excitement in her discoveries through the seasons.

She doesn’t pull you in like you’re the tourist and she the all-knowing guide; instead, she invites readers to travel alongside her, immersing you in her experience of discovery. Her persona as narrator weaves among identities: a wonder-struck visitor hearing bugling elk for the first time, a lay person witnessing the dedication of a retired physician following eastern screech owl populations, and an experienced naturalist in her own right, documenting blue ghost fireflies at her mountain cabin. Here, she paused to reflect. “Why didn’t I ever look before?” And her answer: “Because I didn’t know before.”

Part of her “ordinary” is showing readers the incredible dedication of people with varied backgrounds, who have immersed themselves in boots-on-the-ground conservation. She highlights the work of seasoned professionals, citizen scientists, young naturalists, nature guides, outdoor artists, and volunteers, sharing their stories in a way that sparks possibility. I appreciated that she highlights the work of diverse young conservationists and citizen scientists, showcasing how the conservation field is growing and evolving, open to anyone who wants to contribute. This adds another dimension to “ordinary,” as she

makes the work feel vibrant and accessible to anyone willing to pursue their interests. In addition, while her exploration focuses on science, her rich imagery and interactions with artists and photographers gives weight to the beauty and awe of the places she visits.

As a reader, I felt that I was learning alongside Ms. Eubanks and her friend and talented photographer, Ms. Donna Campbell. Ms. Eubanks skillfully navigates complex ecological explanations through dialogue with guides and naturalists, which makes the ideas approachable. Many of her personal observations and conversations contribute to her narrative of discovery, with some that seem like happenstance, but it is evident that they have emerged from meticulous planning and research. She is undeterred by cheesy roadside attraction billboards, willing to explore with an open mind. In fact, her openness to experiences (often with self-deprecating humor) encourages readers to explore and make discoveries on their own.

Some conservation histories are dark or uncomfortable; Ms. Eubanks does not shy away from sharing atrocities of the past—towards nature as well as fellow humans—in her determination to fully understand and describe the places she visits. Likewise, she offers a clear-eyed picture of present-day conservation woes, particularly biodiversity loss. Here, she beseeches readers to act. To our SABS community, these pleas are familiar and echo work we’ve done for decades, but her broader readership may well hear her desperation and be motivated to contribute.

The Fabulous Ordinary cultivates genuine curiosity and a thrill to discover that inspires others to explore their own natural worlds around them. I found myself nodding along when she visited Pungo Lake, knowing the famous “bear intersection,” and smiling as I read her vivid descriptions of thousands of tundra swans and snow geese lifting off at once. Some places are my favorites, too, and they recalled memories of my own experiences of wonder. At the same time, the book re-kindled my imagination to explore new places and unfamiliar species. *The Fabulous Ordinary* is a timely and exuberant reminder that nature’s magic is everywhere, if only we are willing to look.

Steph Jeffries

Brandon's Botanical Brainteasers

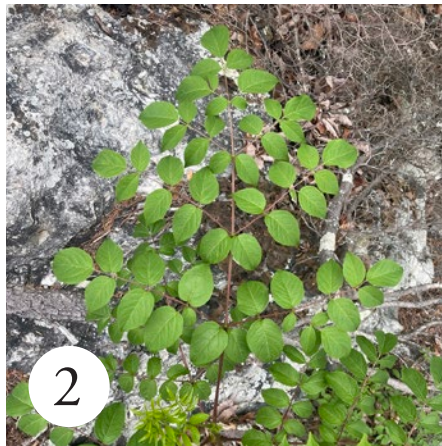
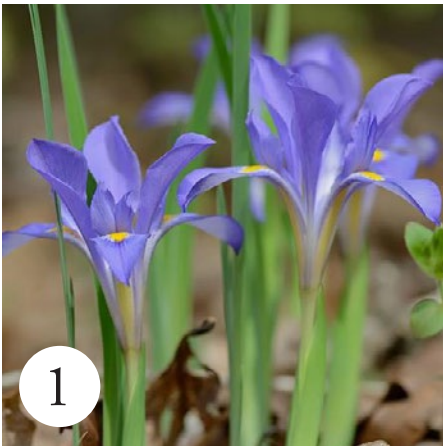
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Alright, so that was a rough start! Only one person submitted an answer (Laura Nichols, thanks for playing!) and that single person guessed most of the species correctly but didn't quite get the theming correct! The correct answers to the previous edition are as follows:

1. *Cypripedium reginae*: named for being **queen**-like (i.e. regal)
2. *Quercus margaretiae*: named in honor of **Margaret Henry Wilcox** - who would later be wed to WW Ashe, who named the species in her honor (unfortunately, **not** due to his enjoyment of tequila-based cocktails that wouldn't be invented for several decades).
3. *Polemonium reptans*: (Jacob's Ladder)
4. *Allium keeverae*: named in honor of **Catherlne Keever**
5. *Marshallia obovate*: **Barbara's** buttons

The outlier here is *Polemonium reptans*, which fails to have a name {common or scientific} that references a woman. This idea was difficult to pull off and draws attention to how few of our honorifics honor women in the Southeastern US! Feel free to include some potential species I may have missed in your response to this brainteaser installment.

Attempting to tamp down the difficulty on this iteration, please let me know if I succeed! As always, four of these five plants share some sort of connection. It is up to you to determine the names of these species, the outlier, and the theme that connects the other four. Submit these answers in the form of either an email to branwhee@unc.edu or a postcard sent to Brandon Wheeler Campus Box 3375 Chapel Hill, NC 27599-3375 (as a collector of postcards, this option will remain, no matter how little it is utilized). For folks that would benefit from enlarged color photos, please head to the Chinquapin Archives on the SABS site for a color .pdf of this newsletter!



one of the seemingly more promisingly diagnostic characters is also microscopic and rarely exposed and visible in observations or specimens (without dissection). In Flora of China, four species seem possibly to match our North American plants, with arguably *Mosla scabra* or *Mosla grosseserrata* fitting our material best. In the Taiwan paper, *Mosla scabra* seems to match best, but *Mosla grosseserrata* is not treated. In Plants of the World Online, the genus *Mosla* has 16 species, but no keys or descriptions are provided; *Mosla grosseserrata* is lumped into *M. dianthera*. Herbarium specimens and iNaturalist observations from around the world are chaotically and inconsistently identified or annotated, almost certainly because there is really no accepted and well-established standard taxonomy. There may be 16 species in the World and 12 in China, or maybe many fewer, or maybe even more (some sources say 22) – once the genus is studied carefully with a modern combination of morphological, molecular, and other characters.

So, where does that leave us in eastern North America in 2025? All the plants in eastern North America seem very similar to one another, and thus it is most likely that all the *Mosla* here is one species. It may be that *Mosla dianthera*, *M. scabra*, and *M. grosseserrata* should actually all be lumped as a single species – which would be *Mosla scabra* (in a broader sense) based on the priority rules in the nomenclatural code. Or, if they are separate, it seems that our plants may be *Mosla scabra* (in a narrower sense). So, *Mosla scabra*, perhaps, is the best but uncertain choice, either way. At the Southeastern Flora Project, our team has decided to go with *Mosla scabra*, with appropriate discussion about the complicated and unsatisfactory situation. And maybe at some time in the future there'll be a more definitive answer, and possibly a different taxonomy or a different name.

Once again, we don't know jack about the Real World around us.

Alan Weakley

A Tribute to Dr. J. Dan Pittillo

The passing of J. Dan Pittillo in August 2025 brings to me memories of his energy and dedication to botany over the decades. He was 86. He spent his life learning about the botany and ecology of the southern Appalachians. Dan was born and raised in Henderson County, NC, living on a farm not long after the depression of the 1930s. His excitement for botany started early; while in high school he collected plants that made their way to Dr. Richie Bell at the University of North Carolina at Chapel Hill. At that time the landmark Manual of the Flora of the Carolinas was being developed. Dan's contributions of plants found in Henderson County were an invaluable contribution to the flora.

Dan earned a BS degree from Berea College, a master's from the University of Kentucky, and his doctorate from the University of Georgia. For his master's Dan researched the distribution and ecology of *Cladastis lutea*. His dissertation topic was "Radioisotopes in three tree species of the Georgia granite outcrops and woodlands." He started his long academic career at Western Carolina University in Cullowhee in 1966 and in 1970 he also became the director of the herbarium (abbreviation WCUH). He remained in both of these positions until his retirement in 2005. During his almost 40 years of teaching, he assisted many students working on botanical and ecological projects. Even after retirement, he continued research which included well over 40 publications.

Dr. Pittillo worked on many flora projects, especially in the Southern Appalachian Mountains and many other biologists agreed that he became the expert on the floristics and ecology of the region. Dan served on many master's and doctorate committees over the years. Relative to flora projects, he completed surveys of the Blue Ridge Parkway, the Great Smoky Mountains, and Biltmore Estate. He also completed an inventory of Jackson County, NC.

He was instrumental in providing forecasts for fall leaf color in western North Carolina. On his own property Dan developed his Nodding Trillium Garden (now known as the Pittillo Family Nature Preserve). His showcase included spring herbs and he recorded information on the first day of blooming for each spring wildflower for decades. As his collection of plants grew, especially Trillium species, he provided opportunities for the community to visit and learn more about the flora and its ecology. He also helps develop the Western Carolina University Cherokee garden which featured native plants known and used by the Eastern Band of the Cherokee Nation.

As his expertise for the southern Appalachians grew, so did his service to others. His contributions were numerous. He was a consultant to the North Carolina Arboretum (located in Asheville), on the board for Discover Life in America, was instrumental in preservation of Joyce Kilmer's Slickrock Wilderness, cofounded the "Ganga of Researchers in search of Life's Diversity", helped found the Cullowhee Native Plant Conference, was a founding member of the Blue Ridge Bartram Trail Conservancy, and worked to help protect Panthertown Valley (Jackson County, NC). This is by no means an exhaustive list, just a sampling of Dan's activities.

Dr. Pittillo's contributions to SABS were also numerous. He served as president (1977-1978), Ecology editor for *Castanea* (1982-1985) as well as chair of the Editorial committee (1985-1987). In 1993 Dan initiated the society's newsletter, *Chinquapin*, and served as editor through 2012, a span of 20 years. Dan was a driving force in developing a symposium entitled "Vegetation of the Blue Ridge Province", with speakers presenting at the April 1997 Association of Southeastern Biologists meeting. The presentations were modified into twelve articles published in the September 1998 issue of *Castanea*. In his preface (co-written with Tom Wentworth), it was pointed out the importance of presenting a series of papers documenting this portion of the southern Appalachians.

Dan's work did not go unnoticed. SABS recognized his extensive contributions to the society and the botany community with the Elizabeth Ann Bartholomew Award 1998. He also received the North Carolina Wildlife Federation Governor's Conservation Achievement Award in 2013.

It was clear from his many activities that his life mission was in preserving the biodiversity, natural resources, and heritage of the southern Appalachian Mountains. Thank you, Dan, for a lifetime of learning and helping others learn.

Charles N. Horn

Return Service Requested

In this issue:

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- Brandon's Botany brain teaser
- In memory of Dan Pitillo, first editor of *Chinquapin*
- Book review of *The Fabulous Ordinary*

Consider sending an article for your newsletter.

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Fairey Trails *(continued from page 1)*

had wiped out all plants in its path, leaving little opportunity for stump sprouting, setting back the succession clock for this sliver of the forest. We wondered what species would fill in the gap.

Earlier in the course, we visited Joyce Kilmer Memorial Forest, a place anyone who loves large trees should visit at least once in their life. Joyce Kilmer is a remnant of old growth rich cove forest, where deep, moist soils support a diverse herb layer beneath towering giants. I reflected on this site while observing the sliver of landslide in a rich cove forest, thinking about disturbance dynamics in these rich coves, which are typically protected from harsh winds by the form of the land and protected from fire due to moist soils.

We also received a lesson in disturbance dynamics when we visited Roan High Bluff, an area of spruce-fir forest that experienced significant blowdown from the winds of Hurricane Helene. Fifteen-foot piles of fallen spruce-fir trees covered a large portion of the east-facing side of Roan High Bluff. Forest land managers raised concern of access to fighting wildfires up the road and, in the event of drought, massive dry fuel loads. We spoke with a Pisgah National Forest biologist about the decision making that went into deciding to log a portion of the blown down spruce fir to mitigate the after-effects of the disturbance, weighing the benefit of better access to potential wildfires with the costs of heavy logging machinery potentially damaging roads and fragile

soil structure. Removing debris also offered the opportunity to set up research plots and monitor what species return after such a major disturbance event. Though seeing the massive destruction from Hurricane Helene on a sensitive plant community (there are only seven areas of spruce fir forests in the southern Appalachians) was emotionally challenging, Roan High Bluff was one of the most impactful sites of my field course experience.

Going into the field course, I was excited to revisit the southern Appalachians, see new plant species, and better understand beautiful mountain landscapes. I achieved all these things; however, I took home more than beautiful photos and a full field notebook. I greatly enjoyed getting to know my fellow field course participants and our instructors. We developed a charming camaraderie after hours spent driving down winding mountain roads in an 11-passenger van together. I was inspired by our field course guests who were all conservationists dedicated to protecting the biodiversity of the southern Appalachians. I will carry their passion as I grow from a student into a practitioner in the field of conservation. Through the Forest Ecosystems of the Southern Appalachians field course, my connection with the mountains of North Carolina grew deeper as I learned its history and the challenges it is facing.

Hanne Parks