The Sewanee PLANT PRESS

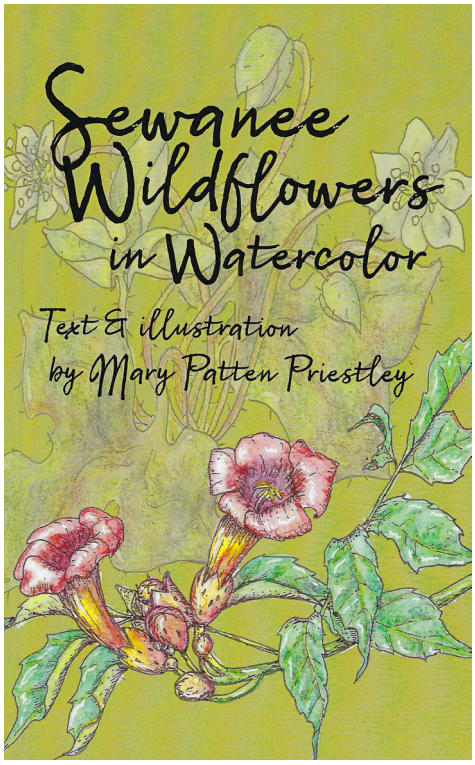
Volume XXII, No. 4 Newsletter of the Friends of the Herbarium Autumn 2018

Sewanee Wildflowers in Watercolor

The Sewanee Herbarium's new book, *Sewanee Wildflowers in Watercolor* by Mary Priestley, is a celebration of the beauty and diversity of the flowering plants of the Domain of the University of the South. The University's 13,000 acres are home to more than 1,100 species of plants, of which the 50 or so species highlighted in the book are a good representation. There is beauty everywhere here, and much of it is reflected in the delicate wildflowers. As William Alexander Percy described them, "The rest of the flowers you wouldn't believe in if I told you."

Sewanee Wildflowers in Watercolor is the latest in a series of books published by the herbarium that are designed to connect people to plants. It combines four of Priestley's passions: botany, art, Sewanee, and storytelling. As a Sewanee alumnus and long-term resident, she reflects on the passage of seasons here by portraying the lives of representative wildflowers through drawings and short natural history vignettes. The flowers are introduced in more or less the order of their appearance each year. From February to May and then all the way to frost, the book traces the wildflowers through the seasons.

When I asked Mary Priestley to join the Sewanee Herbarium in 1994 as a volunteer curator, little did I know how much she would accomplish in this

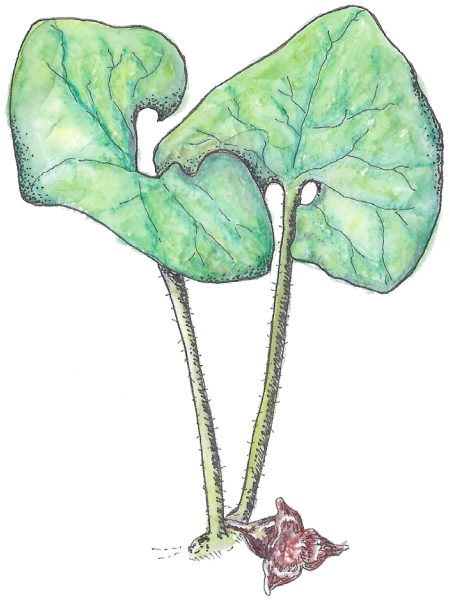


capacity. She has faithfully edited our newsletter, *The Sewanee Plant Press*, represented us on state rare plant committees, led countless outreach programs, and worked with me as a co-author on the recently published "Vascular Flora of the University of the South," which won the Windler Award in Plant Systematics from the Southern Appalachian Botanical Society in 2017. This summer, Mary was presented with the Robert Sparks Walker Lifetime Achievement Award in Environmental Stewardship from Tennessee's governor Bill Haslam.

Part of becoming plant aware is to recognize that the great beauty of wildflowers that so intimately appeals to our aesthetic sense has a biological basis often involving strange and wonderful interactions with other species. In the true liberal arts tradition, through her writing and art, Mary does a wonderful job of allowing the reader to appreciate both sides of the botanical experience.

Sewanee Wildflowers in Watercolor is available at the University Book and Supply Store, at Mooney's Emporium, and on amazon.com. Proceeds from all Sewanee Herbarium publications go to support the work of the herbarium.

—Jon Evans



Those Darn Yellow Composites

The late summer finds many members of the aster family in bloom, one group of which is known to wildflower enthusiasts as the "DYC" or "darn yellow composites." The "composites" part of the nickname refers to the type of inflorescence in the aster family, a head of many tiny flowers, or florets, as may be observed in a daisy or a sunflower. Both of those examples contain both types of flowers—ray flowers, which resemble petals but are actually individual flowers, and disc flowers, the smaller, less conspicuous flowers in the center. Other members of the aster family may contain only ray or only disc florets.

The Asteraceae were known as the Compositae before new taxonomic guidelines came into play.

The "yellow" is the color of many aster family members that can drive the amateur (or even the professional) botanist crazy when trying to identify to species composites like goldenrods or sunflowers. And that, in turn, explains the "darn" part of the nickname, although a similar but stronger term is often used. A quote from Asa Gay, the most influential 19th century North American botanist and author of *Gray's Manual of Botany*, runs: "I am half dead with Aster ... Here I work and work but make no headway at all. I can't tell what are species and (sic) how to define any of them ... I was never so boggled ... If you hear of my breaking down utterly, and being sent to an asylum, you may lay it to Aster, which is a slow and fatal poison."

Goldenrods are a good place to begin. There are 15 species on the Domain alone, and 35 or more statewide in Tennessee. The most common one, found around Lake Cheston and many other places, causes problems already. Our flora lists it as *Solidago altissima* var. *altissima* with the common name, Canada goldenrod. But some would apply that common name to *Solidago canadensis*, which is not recognized in the Tennessee flora. And depending on whether one thinks that the stem is slightly hairy or smooth, it could be identified as *Solidago gigantea*,. Giant or late-flowering goldenrod, which is not listed in the Domain flora.

And so it goes. A couple of other goldenrods are easier to identify. Gray goldenrod, *Solidago nemoralis*, is also found around Lake Cheston and elsewhere in open, dry places. Its leaves and stems are covered with greyish hairs and its flowers have the deepest golden color of the local goldenrods, blooming a little later in the season. Anise-scented goldenrod, *Solidago odora*, obliges with a lovely licorice smell to its leaves when crushed. When the leaves are held up to the light, one can see the translucent dots which hold this oil. It also grows in open, dry places such as fields.

Sunflowers, one would think, ought to be easier. After all, there are only eight species listed in the Domain flora and 20 in the Tennessee flora. But they hybridize. And one of the species on the Domain hasn't even been named yet. Take small woodland sunflower, for example. This is the most common one seen locally, with smallish heads on a many-branched inflorescence. But are the ray flowers larger and more numerous, the heads on stiffer stems (*Helianthus divaricatus*)? Or are they somewhat smaller and fewer, the heads on more slender stalks (*H. microcephalus*)? It is a little easier to be sure of the showier Jerusalem artichoke, also a sunflower, mentioned by Mary Priestley in her *Sewanee Wildflowers* book as occurring on the road to Monteagle.

Then there are the sneezeweeds (look for three shallow lobes on the tips of the ray florets), and coreopsis (the arrangement of the involucral bracts is diagnostic, but what and where are those?), and rosinweeds (also with a distinctive involucre), and coneflowers (well, they have a cone of disc florets, like black-eyed Susans, which are a coneflower). But how to distinguish the hairy hawkweed from the rattlesnake weed from the two-flowered Cynthia (which all lack disc florets and look rather like tall dandelions)? At least those bloom earlier in the season. Of course, this does not begin to cover all the DYCs, but to conclude, a quote concerning yet another group, from *Wildflowers of Tennessee, the Ohio and the Southern Appalachians* (2005, Horn, Cathcart, Hemmerly, and Duhl): "Golden asters ... have been placed in three genera ... have been reclassified several times, and even for the trained botanist, it is a taxonomically difficult group. Golden asters may be identified in various manuals by a number of different names." Therein lies the challenge of the DYCs. Perhaps it is easier just to enjoy their beauty ... and make up your own names for them?

—Yolande Gottfried

Friends of the Sewanee Herbarium

The Friends of the Sewanee Herbarium support the work of the herbarium: education, research, and conservation. A $10 annual contribution would be very much appreciated. The date of your most recent contribution is printed on your address label.

Name and address (if different from that on the mailing label on the back):

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Sewanee, TN 37383

Others who might like to receive *The Sewanee Plant Press*: _____

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Fall Calendar of Events

Abbo's Alley
Sat., Sept. 22, 7:45 a.m., Mary Priestley
A Family Weekend tradition! Meet at the corner of University and Georgia Avenues (at the flashing light) near the arboretum kiosk for this one-hour easy walk in the Abbott Cotten Martin Ravine Garden. The garden is a lovely mix of native and cultivated plants, and the ravine is steeped in Sewanee history. There are a surprising number of things to see and learn on this familiar trail. All are welcome to join in the walk.

Mountain Goat Trail Wildflower Walk
Sun., Sept. 23, 2 p.m., Trae Moore
Meet at the Shakerag Hollow parking lot by the University gates. The walk will connect to the Mountain Goat Trail from there, taking a short walk in each direction, checking out the trailside and forest plants and possibly exploring a fern glade. The walk will be easy, on a paved trail, probably about a mile. It's going to be a nice late summer walk! See mountaingoattrail.org for more information on the trail.

Sewanee Arboretum Tour
Sat., Oct. 6 , 2 p.m., Yolande Gottfried
In 2013 the diversity of Sewanee's trees was documented and the campus recognized by the Tennessee Urban Forestry Council as a certified arboretum. More than 120 different species of trees on campus were identified and labeled. The size of this collection qualified the University as a "Level 4" arboretum, the state's most rigorous category. This is a chance to become familiar with a sampling of these trees. Meet at the corner of University and Georgia Avenues (at the flashing light) near the arboretum kiosk for this easy one-hour walk.

Nature Journaling
A group meets for nature journaling Thursday mornings 9–11. Come try it out—stick with it if you like. Bring an unlined journal (or a few sheets of unlined paper) and a pen or pencil. No experience needed. As the seasons transition, we gather in different places, so contact mpriestley0150@gmail.com for info on the meeting place.

All times are CST or CDT. Wear appropriate shoes on all of these walks. Risks involved in hiking include physical exertion, rough terrain, forces of nature, and other hazards not present in everyday life. Picking flowers and digging plants are prohibited in all of the above-mentioned natural areas.

For more information on these or other Sewanee Herbarium events, please contact Mary Priestley by email. A map of meeting place locations is available at sewanee.edu/media/offices/herbarium/sewanee_herbarium_maps.pdf.

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Plant drawings, from Sewanee Wildflowers in Watercolor, *are of trailing arbutus, wild ginger, Jerusalem artichoke, sneezeweed, coreopsis, trillium, and sweetshrub.*

HERBARIUM PUBLICATIONS

Fiery Gizzard: Voices from the Wilderness
What If Trees Could Walk?
Trail Guide to Shakerag Hollow
Sewanee Wildflowers in Watercolor

HERBARIUM BLOG

sewaneeherbarium.wordpress.com

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Clonal Plant Symposium

This summer, I attended the 12th Clonal Plant Symposium that was held in Brunswick, Maine, on the Bowdoin Campus, July 29–Aug. 2. This conference was part of a series of international symposia that were established to "advance the scientific understanding of the physiology, ecology, and evolution of clonal growth in plants" and have been held every three years since 1988, when I was in graduate school.

For more than 30 years these meetings have been held in 10 countries, attended by plant ecologists from around the globe, and served as a forum for the exchange of ideas and communication of new research discoveries. This was the first time the symposium has been hosted in the United States, and I served on the steering committee that organized the event.

Clonal plant species grow by producing vegetative copies (think strawberry runners!), and this growth form confers numerous adaptive advantages that are analogous to animal behavior. Clonality allows for the possibility of resource foraging through the selective placement of vegetative offspring and resource sharing among interconnected offspring in patchy environments. Since survival can be directly correlated with the size of a clone, the spread of vegetative copies allows for the long-term persistence of genetic individuals in populations. In fact clonal species are considered some of the longest living organisms on the planet.

Clonal growth in plants has long been an important cross-cutting theme in my lab, and my research has addressed many aspects of clonal plant biology. At the conference, I presented results from research I am conducting with Dr. Ashley Morris (MTSU) and Dr. Elise Kikis (Sewanee) on the ecology and spatial genetic structure of native bamboo (hill cane) populations on the southern Cumberland Plateau. Ours was one of several studies that used contemporary molecular techniques to determine genetic diversity in clonal plant populations.

—Jon Evans