



Nathan Bourne, Herbarium Post-Baccalaureate Fellow

When I graduated from Sewanee in 2011 I had an inkling that I would not be able to stay away from Sewanee for long, but I find myself back here even sooner than I thought. I could not imagine a better set of circumstances than the ones that bring me back. After spending the last year in the Caucasus Mountains teaching English in a small village in Georgia, in July I began a post-baccalaureate fellowship with the Herbarium and Sewanee Environmental Institute. I am working closely with the Herbarium staff to see the Flora of the Domain project through to its next stages. Having spent the better part of two summers as a student working with the Herbarium on this project, I believe the opportunity to come back as an alumnus through a post-baccalaureate fellowship is a remarkable opportunity to follow up on research that was an integral part of my undergraduate academic experience.

Since 2002, when they first developed a preliminary checklist of the flora of the Domain, the Herbarium staff has worked hard to find, collect, and catalog specimens of the entire vascular flora of the Domain, ultimately moving towards the publication of an official flora. Throughout the years, this flora has had many contributors who have used their unique skills and abilities to

contribute to it in different ways. It is exciting to see how all of that work from so many is slowly coming together into one

comprehensive list. I know that I and the whole Herbarium staff are looking forward to seeing the project through to its culmination.

As an undergraduate I undertook studies to assess what distinct plant communities are present on the Domain and what the dominant plant species are in each of those communities. As we move forward



in compiling the flora, I will incorporate the results of that research into the composition of the flora. This is a way of ecologically quantifying our taxa list to create a picture not only of what plants are on the Domain, but also how they are heterogeneously distributed across the 13,000 acres. In addition, much of the work that remains to be done before the flora will be ready for publication is centered on using, updating, and manipulating the herbarium database, the digital repository of information about each of the more than 8,500 specimens that make up our Herbarium collection. I will use the database to create a full image of the diversity and distribution of plants across the Domain, from the tiniest obscure fern to the showiest spring wildflowers to the most towering of our hardwoods.

While the publication of the flora is the main focus of my fellowship, it is not all that I will be working on. I have helped the Herbarium to develop a new blog and will continue to be a part of that project. Also, I am hoping to be an active participant in many Herbarium sponsored events coming up throughout the semester. Recently, I had the opportunity to lead a wildflower hike along the newest section of the Mountain Goat Trail, and am planning on leading a hike later in the semester down into Fiery Gizzard.

Tangentially related to my work with the Herbarium, I will also be assisting with the drafting of a Sustainability Master Plan for the University. By laying out a clear set of goals and objectives to direct the University in the coming years, this plan, an extension of the recently adopted Campus Master Plan, will assert our commitment as a leader among universities in sustainability. An important aspect of this project that relates directly to my work with the Herbarium is the inclusion of goals and objectives that will preserve biodiversity on the Domain, especially those more than 1,000 species that comprise our flora. Having a published flora will provide an important benchmark against which we can measure our successes in sustainability and the conservation of the unique biodiversity of our region.

I am excited to once again be a part of the Sewanee community, and look forward to the opportunity to make a worthwhile contribution to our knowledge of the Sewanee flora, the Herbarium and its programming, and the university and surrounding community as a whole.

— Nathan Bourne, C11



“Snake” Plants



Snake plants (*Sansevieria*) are familiar houseplants (sometimes called, more unkindly, mother-in-law's tongue), but many of our native plants on the Domain of The University of the South also have common names that refer to snakes. A search of the database of the herbarium collection comes up with seventeen species whose common names include some reference to snakes, for various reasons.

Perhaps the most impressive is the Rattlesnake Master (*Eryngium yuccifolium* Michx.), in name, appearance, and lore. It is a tall plant, to 4 feet, with yucca-like leaves and 1-inch-wide flowering heads, growing in dry, open places. It was supposedly used as a cure for snakebites by applying a poultice of the leaves and roots.

At the other extreme is the Green Adder's Mouth orchid (*Malaxis unifolia* Michx.), with one leaf and the tiniest flowers of all orchids in the southern Appalachians. These flowers, seen close-up, must have a resemblance to an adder's mouth. This small plant is seldom noticed, blooming in the heat of summer in areas of acid-dominated vegetation.

Also named for adders is the Southern Adder's-Tongue fern (*Ophioglossum pycnostichum* (Fernald) A. Löve & D. Löve). In this case, the fertile segment of the fern, rising from the base of the single leaf-like blade, must look rather like an adder's tongue.

A more familiar fern, usually encountered on spring wildflower walks, is the Rattlesnake Fern (*Botrypus virginianus* L. Holub), also a member of the Adder's-Tongue family. This fern's single leaf-like blade is triangular in shape but much larger and divided, with the fertile segment rising

from its base and looking rather like a rattlesnake's rattle.

Chelone glabra L., found in moist areas and along streams and blooming in late summer, is usually known as turtlehead but has also been called snakehead or snakemouth, all based on the shape of the flowers.

The “snake” plants mentioned so far have been named for resemblance to a head, a mouth, a tongue, and a tail, as well as medicinal use. Downy Rattlesnake-Plantain (*Goodyera pubescens* (Willd.) R. Br. Ex W. T. Aiton) is an orchid, not a plantain, with leaves that have a striking pattern in green and white that is supposed to look like the scales on a snake's body, plus a fruiting spike again like a rattler's rattle, that sometimes even does make a rattling sound when dry. The Doctrine of Signatures, the idea that a plant's appearance gave a clue as to its purpose, led early settlers to use it as a cure for snakebite, as did the Native Americans before them.

Another plant with resemblance to a snake's scales is Rattlesnake Weed (*Hieracium venosum* L.). Like the Downy Rattlesnake-Plantain, it has a cluster of basal leaves with a distinctive pattern, in this case a reddish-purple midrib and veins. It is a member of the Aster family, with yellow dandelion-like flowers on tall stems.

The remaining species do not have such obvious features as a basis for their names, mostly because the reason is underground—the root. There are four species of Black-Snakeroot (*Sanicula* spp.), mostly inconspicuous members of the herbaceous layer of the forest floor until they start decorating socks and pant legs with their roundish bristly fruits. Seneca Snakeroot (*Polygala senega* L.) has a long history of medicinal use and its roots contain methyl salicylate. Sampson's Snakeroot (*Orbexilum pedunculatum* (P. Mill.) Rydb.) and Virginia Snakeroot

(*Endodeca serpentaria* (L.) Raf.), along with Tall Rattlesnake Root (*Prenanthes altissima* L.), presumably all have roots like a snake's body in shape. *Prenanthes serpentaria* Pursh does not have a reference to snakes in its common names—Lion's Foot or Canker Weed—but its species name *serpentaria* indicates the use in the past of its milky juice as an antidote to snake bites. White Snakeroot (*Ageratina altissima* (L.) King & H.E. Robins.), on the other hand, contains toxins that are known to cause “milk-sick” disease when passed to humans through the milk of cattle that grazed on them. The bright white flowers of this Aster family plant should be starting to decorate the edges of Sewanee's woods when this newsletter is received.

— Yolande Gottfried

References:

Bentley, Stanley L. 2000. Native Orchids of the Southern Appalachian Mountains. The University of North Carolina Press.

Horn, Dennis and Tavia Cathcart. 2005. Wildflowers of Tennessee, the Ohio Valley, and the Southern Appalachians: the official field guide of the Tennessee Native Plant Society. Lone Pine Publishing and the Tennessee Native Plant Society.

Krochmal, Arnold, Russell S. Walters, and Richard M. Doughty. 1969. A Guide to Medicinal Plants of Appalachia. USDA Forest Service Research Paper NE-138.

Monthey, Roger, Ken Dudzik, and Tom Rawinski. “Rattlesnake-like Plants in Northeast Woodlands”. *Massachusetts Wildlife* (vol. 54, issue1).

Sewanee Herbarium. Vascular Flora of the Domain.



Autumn Calendar of Events

Shakerag Hollow

Sat., Sept. 22, 10 AM, Yolande Gottfried

We all love Shakerag in the spring—let's see what it looks like on the first day of fall. Plants will be in fruit instead of flower and will be preparing for winter. Also, there's a new bridge! Meet at Green's View for this moderate-to-strenuous 2-mile walk that may include a steep rocky section of the trail.

Abbo's Alley

Sat., Oct. 6, 7:45 AM – 9 AM, George Ramseur

The Abbott Martin Ravine Garden is a lovely mix of native and cultivated plants, and the ravine is steeped in Sewanee history. Meet on the campus Quadrangle (beside All Saints' Chapel) at 7:45 a.m. for this easy one-hour walk, a Sewanee Family Weekend event.

Fiery Gizzard (South Cumberland State Park)

Sun., Oct. 21, 1:30 PM, Nathan Bourne

Nathan, a Sewanee grad, is working in a post-baccalaureate position in the herbarium this semester and will lead a walk through the always beautiful Fiery Gizzard. Meet at the pavilion at Grundy Forest for this 2-hour moderate to strenuous walk. For directions, contact the Park office at 931-924-2980.

Botanical Watercolor Workshop

Sun., Oct. 21, 1:30 – 4:30 PM, Margaret Patten Smith

This workshop led by Chattanooga watercolorist Margaret Patten Smith gives people of all ability levels an opportunity to try

their hand at capturing some of autumn's beauty in watercolors. Participants are invited to bring in botanical or other natural objects to paint, or choose from a variety provided. Bring your own painting materials and meet in the herbarium on the first floor of Spencer Hall. The workshop is free, but space is limited, so reservations are necessary (see below).

Nature Journaling Opportunity

9 – 11 AM Thursdays, Mary Priestley

The nature journaling group that has been meeting throughout the summer will continue into the fall. This is not a workshop. Rather, it is an invitation to set aside any or all Thursday mornings for nature journaling. The group will continue to meet at the gazebo in Abbo's Alley (near the entrance from South Carolina Avenue) as long as the weather permits, then move into the herbarium. Outings to easily-accessible places such as the "H" tree, Piney Point, or the SAS Res are also planned with time to sketch. Bring a notebook (preferably small and unlined), a pen or pencil, and something to sit on if you wish. Come as early or as late as you like and stay for however long you like.

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.

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Plant drawings, by Mary Priestley, are of Maryland goldenaster, white oak, rattlesnake plantain, turtlehead (snakemouth) and large-flowered trillium.

For more information on these events or to reserve a spot in the watercolor workshop, call the Herbarium at 931-598-3346. Directions are available at the Herbarium website, <http://lal.sewanee.edu/herbarium>.

Friends of the Sewanee Herbarium

The Friends of the Sewanee Herbarium support the work of the Herbarium: education, research, and conservation. A \$10.00 annual contribution would be very much appreciated. The date of your most recent contribution is printed on your address label.

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The Herbarium's New Blog



sewaneeherbrium.wordpress.com

In an effort to better communicate what is going on in and around the Herbarium, and as a way to present the richness of botanical diversity on the Domain, we have embarked on a new project: a blog. This blog (<http://sewaneeherbrium.wordpress.com/>)

which is kept and edited by the whole Herbarium staff, presents information about us, featured Plant of the Day articles, news and stories about events, and other stories we think will be interesting to those who want to keep up with the Sewanee Herbarium.

The Plant of the Day articles feature many flowers of our late summer flora, fruits that are in season, and some of our favorite

local trees. We will continue to give descriptions of all different kinds of plants, from ferns to pines to grasses to oaks to the most spectacular of our wildflowers. Working in the Herbarium, we find ourselves surrounded by the Domain flora, and we want to use this opportunity to help acquaint the larger community with the plants that make up this mountaintop we call home.

The other side of our blog—the calendars, news, and stories—is where we describe upcoming events, reflect on field and collecting trips, and present any plant related news in an easy to access format. We have had a lot of fun managing the blog so far, and are excited about the possibility of having a place to detail all the exciting programs that the Herbarium will host in the future. So take a moment to stop by, look at the blog, and keep checking back for new plants and new information.

— *Nathan Bourne*

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