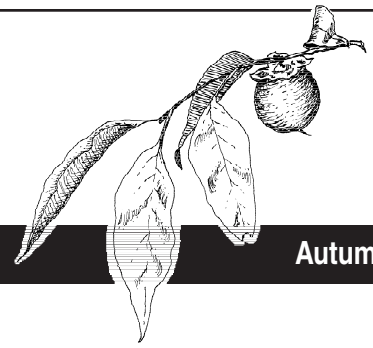


THE PLANT PRESS



Volume IV, No. 4

Newsletter of the Friends of the Herbarium

Autumn 2000

News from the Herbarium

It has been a busy summer on the ground floor of Woods Laboratories. As a result of several grants that we received earlier this year, including a major grant from the Rockefeller Brothers Foundation, we were able to renovate completely the suite of rooms that house the Herbarium and the interdisciplinary environmental research area. The key feature of this renovation has been a series of high-end computer workstations, linked to a centralized server, that house our Geographical Information System and Herbarium databases. We also have a new conference area as well as a specially made herbarium work table crafted out of a former library card catalog!

Our new facility and its GIS has had heavy use this summer as part of a research project being funded by the EPA/US Fish and Wildlife Service. The research team on this grant includes myself and Profs.



Joe-Pye Weed

Haskell and McGlothlin from the Biology Department along with Frank Perchalski, a remote-sensing specialist from Chattanooga. Our team was chosen by the federal government to conduct the "Small Area Assessment Demonstration Project" for the ongoing federal Southeastern Forest Sustainability Study. We are using a remote-sensing/GIS approach to document land-use changes over a seven-county area on the Cumberland Plateau and to examine the corresponding ecological consequences of this change. We are generating some of the first county-level forest change data for the Cumberland Plateau in Tennessee, and we are developing a methodology that can be used throughout the South to monitor forest sustainability at a scale that is appropriate for land-use decision-making.

This team is collaborating with Professors Robin Gottfried and Doug Williams (Economics), Jim Peters (Philosophy), and Charles Brockett (Political Science) as part of the RBF grant and a second year of funding from the Associated Colleges of the South to examine the parallel socio-economic drivers and consequences of this recent land-use change on the Plateau. We were assisted this summer by eight student interns from Sewanee and three other ACS schools.

On another research front, the Herbarium has expanded its research

role at the Arnold Engineering Development Center near Tullahoma. We are currently being funded through a 3-year grant from the United States Geological Survey to continue the research that Sarah McCarthy (Sewanee class of '99) and I began in 1997, examining the problem of forest regeneration at Sinking Pond, a seasonally flooded karst wetland. We are collaborating with a USGS hydrologist and dendrochronologist as part of this research. Mary Priestley and Yolande Gottfried will be joining me in conducting a floristic inventory of this important wetland to serve as a benchmark for future monitoring. In preparation for this, the Herbarium has made its "Flora of AEDC" database collection web-accessible to researchers at AEDC via the Herbarium webpage.

Finally, I want to take this opportunity to extend a special thanks to Mary and Yolande, Herbarium Curators, and to George Ramseur, Director *Emeritus*, whose volunteer time over the last four years has made (and continues to make) this newsletter and all the Herbarium outreach programs such a success. Also I want to express our thanks to all the Friends of the Herbarium out there who contribute generously each year to the work of the Herbarium. We salute you!!

—Jon Evans
Herbarium Director

The Sewanee Herbarium: Education — Research — Conservation

THE PLANT PRESS

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Tammy Scissom

From the Editor

Thanks so much to all of our new and continuing contributing members! We are pleased to include the herbarium's latest brochure, *Plants of Pond and Shore*, by Associate Curator Yolande Gottfried, in this issue of your newsletters. New members this quarter are:

Fred and Clara Allison
Daisy Arrington
James Berry
Joe and Mary Sue Cushman
Pat Kirby
Parker McRae
Kathleen O'Donohue
Gaston Raoul
Emily Schultz
Carole and John Sergeant
Craig Sinclair
Debby Smith
William Sullivan
Margaret Woodlief

—Mary Priestley

Alumni Report

Alan Strand came to the mountain as a freshman in 1981. He wanted to combine his interests in biology and art by becoming a biological illustrator. "To that end," he said, "I majored in both biology and studio art. In biology, I concentrated on botany and met George Ramseur. During this time I had many of the experiences that so many probably remember such as riding in the back of George Ramseur's pickup on Plant Systematics field trips. Of course one of my fondest memories was the trip to the Smokies during the Plant Ecology class. During this I first encountered heath slicks and a plant, sand myrtle, that would later become important to my master's research."

After graduation in 1985, Alan went to the University of Georgia to pursue graduate study in botany. He and I talked about his research on sand myrtle and he said he had begun to really enjoy teaching. He had accepted a position as a teaching assistant to help fund his studies. After completing his master's, he moved to Chicago and worked in industry for a year to save money and pay off his graduate school debts.

When I was planning for a sabbatical leave for spring semester 1991, I contacted Alan as a possible replacement for me and this turned out quite successfully. In fact, the department was able to keep him for another year of teaching. Of this period in his career Alan said, "Perhaps the best job I've ever had was serving as an instructor at Sewanee. It gave me a chance to learn via the best method possible, teaching. It also provided me with a chance to see the place that I loved so from a completely new perspective. More importantly, the job at Sewanee provided me with the chance to decide

that I really wanted to become a college faculty member.

"My master's work had already convinced me that I would like to perform research; I also enjoyed teaching but I really didn't appreciate how rewarding it could be until I was in a room with students of the caliber that populate the mountain. There is no doubt in my mind that this experience is

in large part responsible for my happy circumstances today.

Once again I was faced with the prospect of leaving the mountain, and once again I began to apply to graduate schools. This time I decided to move to Austin, Texas, and attend the University of Texas."

Alan summed up his time at Texas: "In the two years I attended the botany program

there, I learned more per unit time than in any other period that I can remember. I attribute this to the fact that I was prepared ahead of time, both by maturation of mind and the experiences I had at Sewanee and UGA." After two years Alan's major professor moved to New Mexico State University and Alan chose to follow him. At Texas Alan had begun research into columbine population biology and was able to continue this research at NMSU. He was successful in writing grant proposals to fund research to complete a Ph.D., but realized he missed teaching. Even before he completed his dissertation he began to look for a position that offered opportunities for both teaching and research.

He accepted a position at the College of Charleston and was given a semester to finish his dissertation before moving there in January of 1998. Currently, Alan is enjoying life in Charleston. He teaches undergraduate courses in Botany, Plant Systematics, and Evolution and a graduate-level course in Systematic Theory.

—George Ramseur



The drawing of columbine is by Alicia Gottfried.

Autumn Calendar of Events

Abbo's Alley

Sat., Sept. 23, 8:00 AM • Mary Priestley

All early-birds are invited to this Parents Weekend stroll. It's difficult to say what will be in bloom, but the Alley (Abbott Cotton Martin Ravine Garden) is always a treat. Meet on the Quadrangle. One mile, easy.

Shakerag Hollow

Sat., Sept. 30, 1:30 PM • George Ramseur

The two-mile Shakerag Hollow trail descends through a cove hardwood forest, an area known for its high diversity of plant species. Famous for its array of spring wildflowers, Shakerag is well worth a visit in the fall. Meet at Green's View. Two miles, moderate.

Old Railroad Track Trek

Sat., Oct. 7, 10 AM • Yolande Gottfried

The Aster Family is in its glory at this time of year, and we plan to explore some of these plants' unique features, using hand lenses. Many

sunflowers, goldenrods, Joe-Pye weed, and other members of this extensive family will be blooming, and we may even have an opportunity to see the rare Cumberland rosinweed. Meet at the Sewanee Market parking lot for a two-hour easy walk along the old Mountain Goat track. Bring a hand lens, or use one of those provided.

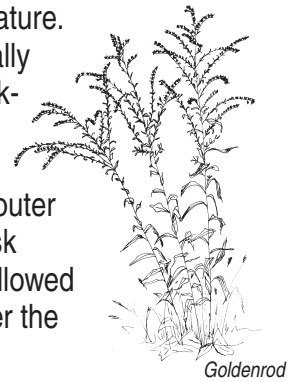
Herbarium Homecoming Open House

Fri., Oct. 13, 3-4 PM

The Herbarium has undergone major renovations, and we want to show it off! We now boast a series of high-end computer workstations, linked to a centralized server, that house our Geographical Information System and Herbarium databases. Our new work table is a reincarnated card catalog from duPont Library—the fruits of the library's going high tech! We are located on the ground floor of Woods Lab. Plan to drop by, check out our new digs, and learn about our recent projects.

Aster Family continued from page 4

disk flowers mature. This is especially evident in black-eyed Susan. It is because the flowers at the outer edge of the disk mature first, followed by those nearer the center.



Goldenrod

This is a marvelous strategy. When a bee lands on a flowerhead, it starts at the edge of the disk and spirals its way inward. First, it passes over the female parts, rubbing off pollen on the receptive stigmas. As it circles inward, it grazes the male structures, picking up pollen that it then carries to the next flowerhead. In this way, the plants maximize their chances of cross-pollination.

Yolande Gottfried is leading a wild-flower walk, concentrating on the aster family, on Saturday, October 7. Join her, and get better acquainted with some members of this fascinating family.

—Mary Priestley

For more information on these events,

contact Mary Priestley at (931) 598-1324 or <mpriestl@sewanee.edu>.

Membership Application/Renewal

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.

Name: _____

Address: _____

City, State, Zip: _____

Amount Enclosed: \$10.00 Other: \$ _____

Please make check payable to The University of the South. Gifts are fully tax deductible. Send to:

Sewanee Herbarium
c/o Mary Priestley
735 University Avenue
Sewanee, TN 37383



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

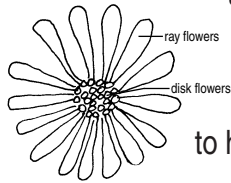
The Aster Family

Autumn is the time to enjoy the asters and their cousins. The members of the aster family, which includes goldenrods, rosin-weeds, boneset, Joe-Pye weed, and many others, grace the roadsides and meadows from now into November. Their colors complement those of the tree foliage to produce our brilliant fall landscape.

Why do these plants bloom in the fall, when days are shorter and temperatures cooler? And if it is such a good time to bloom, why are they almost the only ones blooming? A possible advantage may be that since most other flowers have come and gone by this time, there is less competition for water, nutrients, and the all-important pollinators.

The name *aster* comes from the Greek word for “star,” and it is an apt name: these plants sport a unique floral arrangement called a **head** that often looks very much like a star.

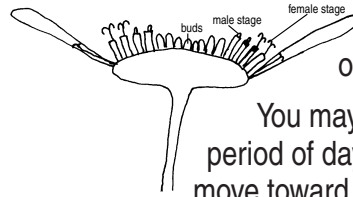
Quiz your friends by holding up a daisy or black-eyed Susan and asking, “How many flowers do I have here?” It’s a trick question, because the head, which looks like an individual flower, is actually a composite of several to hundreds of tiny flowers, packed tightly



together. These “mini-flowers” are of two types: tubular **disk flowers** occupy the center of the head, surrounded by the larger, showier **ray flowers**.

Plants that have only ray flowers include lettuce, chicory, and—probably your least favorite—dandelions. Those with disk flowers only include blazing star, sneezeweed, Joe-Pye weed, and ironweed. Sunflower, rosin-weed, and coneflower have both flower types.

The disk flowers mature in three stages. Each starts out as a knob-like bud. Then it opens and a tube elongates out of it. Inside this tube, the male anthers shed their pollen. The immature female stigma then elongates, pushing the pollen out of the tube. Finally, the stigma matures and opens into a Y-shape at its tip, ready to receive pollen from other flowers.



You may have noticed that over a period of days a thin ring of pollen seems to move toward the center of the disk as the

continued on page 3

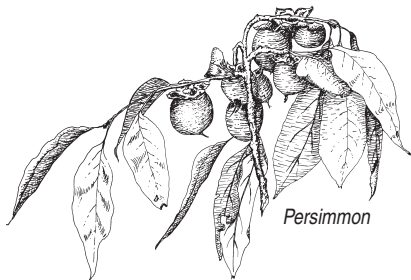
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