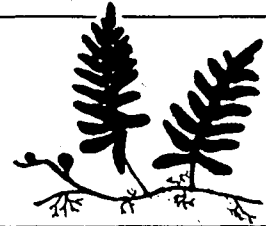


The Plant Press



Volume II, Number 3

Newsletter of the Friends of the Herbarium

Summer, 1998

The Weevil and Chestnut Oak

Over the last three years, I have been working with my advisor, Dr. Jon Evans, to perform a number of studies on chestnut oaks (*Quercus prinus*) on the Cumberland Plateau. This research has been directed toward discovering the effects that weevil larvae predation has on the seeds and seedling establishment of the chestnut oak and how "masting" (periodic high seed production) of this oak population plays a role in determining the effects of this predation.

Adult weevils (*Curculio* spp.) lay their eggs inside acorns where the larvae then feed and pupate. We hypothesized that they are significant chestnut oak seed predators and that the effect of this predation is important to the overall population dynamics of the tree. We found that the pattern of weevil larvae density is highly variable across the forest, and, while germination is not affected by weevil infestation, weeviled acorns produce smaller overall seedling biomass than those acorns not affected. Also, we found that the size of the seed plays an important role in the survivorship of the seedling, and this is compounded by weevil infestation.

A field study revealed that weeviled seeds have greater mortality and lower establishment rates than non-weeviled seeds. Those that did survive and become established in the forest produced seedlings that did not grow as large or have as many leaves as their non-weeviled counterparts. This study was performed over the fall seasons of 1996 and 1997. The former was a mast year in the chestnut oak population. The super abundance of seed allowed for satiation of the weevil population so that some of the seeds were able to escape the effects of the weevils. However, in 1997, a non-mast year, few seeds were produced and therefore nearly every seed was subjected to weevil predation. Few viable seedlings were able to become established in 1997 as compared with 1996.

One Year Old!

This issue marks the beginning of the second year of the Friends of the Herbarium and of our newsletter, *The Plant Press*. Our mailing list is 450 strong, 114 of whom are supporting our work with donations. These contributions finance our publications: the newsletter as well as the *Biodiversity on the Mountain* series of educational brochures which are free to the public. Look for news of expansion of our publications in the near future.

The University of the South Alumni Affairs Office is now generously supporting us by paying for postage. Members, have you noticed the first class stamp on your issues? We hope you will plan to make yours an annual contribution to the Herbarium. As a reminder, we have included on your address label the date of your most recent donation. Your help enables us to continue to work toward our goals of education, research, and conservation.

— Mary Priestley, Editor

We also found that mammals (deer and rodents) play an important role as chestnut oak predators. Rodents show a preference for non-weeviled seeds. Therefore, if the non-weeviled seeds are consumed by the rodent predators, the weeviled seed pool is the primary contributor to the subsequent seedling class of chestnut oaks. This may provide insight into the low oak regeneration that is evident in this forest. The complex ecological interaction between both vertebrate and invertebrate seed predators and chestnut oaks may provide us with better understanding of the regeneration of this dominant oak species of the Cumberland Plateau forest.

— Alexandra L. MacKinlay
Biology Major, Class of 1998

The Sewanee Herbarium: Education—Research—Conservation

The Plant Press

The Sewanee Herbarium
Biology Department
735 University Avenue
Sewanee, TN 37383

Web Site:

<http://biology.sewanee.edu/herbarium>

Editor: Mary Priestley
(931) 598-1324,

mpriest1@sewanee.edu

Compositor: Wm T. Patten
wpatt@edge.net

Contributors:

Jon Evans, (931) 598-1304,
jevans@sewanee.edu

George Ramseur,
gramseur@sewanee.edu

Yolande Gottfried,
rgottfri@sewanee.edu

New Supporters

Anne Andreu

Phoebe & Scott Bates

Trink & Rogers Beasley

E. Napier Burson

Jan Drake-Lowther

Marlette Evans

Blythe Evans

Anne Giles

Mike Henshaw

Kathy Mattix Masterson

Vivian Nance

Kathy & Tom Patten

Sam Pickering

Martha & Stephen Smith

Warren Smith

The *Biodiversity on the Mountain* series includes the following:

Amphibians

Birds

Ferns

Nuts and Acorns

Trees

Let us know if you would like to receive copies.

Gardening with Native Plants

Here at the nursery when people come looking for native plants, they are usually thinking about trillium, bluebells, lady's slipper, and cinnamon ferns.* The definition of native certainly goes beyond this. In fact, defining native plants can be almost as frustrating as finding them. As people tire of replacing annual beds each spring, more and more homeowners are looking for "native plants." Native perennials are easier to maintain and they return unaided each year. When you plant them in naturalized areas, it is simple to keep them looking their best.

The first place to look for native perennials is in an older garden. Here, beebalm, garden phlox, trumpet vine, sundrops, maypop, and obedience plant await someone to take a clump, piece, or seed. The collecting of native plants should become a lifelong endeavor. Many garden clubs have an annual plant trade, or you can ask just about anyone whose yard you admire for a cutting of their favorite plant. However you procure plants, make it an adventure!

My preferred way to plant perennial natives is in combination with just about everything. "Wild" beds have no rules: just lots of plants and good soil. Inter-planting perennials and bulbs is quite rewarding. The bulbs give a nice spring showing while the perennials warm up. Planting in this manner promotes a natural layering: as one plant flowers and dies back, neighboring plants disguise it with their foliage and flowers. The key lies in planting the bed after educating yourself a bit about when different perennials bloom. The second or third season is when perennials really flourish—so be patient.

It is exciting to see native gardens making a comeback in our area. It has prompted nursery propagation of many natives. Although annual color certainly has its place as a delight to the eye during the warm months of summer, old favorites bring color, texture, and fragrance that is part of the soul of our region.

**Unfortunately, unscrupulous digging by some plant "collectors" is stripping some areas of their natives. Remember always to ask if the plants you purchase were propagated or dug. It is illegal to dig many native plants and shrubs.*

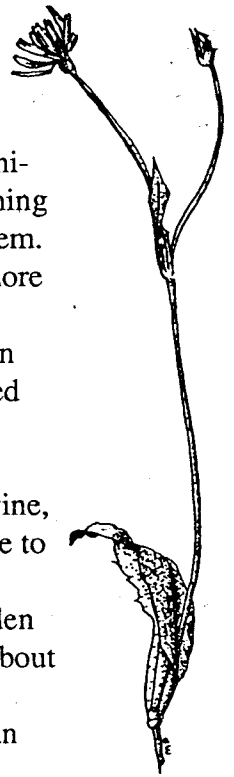
Recommended Reading:

Passalong Plants, by Steve Bender and Felder Rushing

The Wild Garden, by William Robinson

Perennial Gardens, by John Williamson

Gardening with Perennials Month by Month, by Joseph Hudak



— Karen Tharp

Bluebird Lane Garden Center and Nursery

Summer Calendar of Events

This summer, the Herbarium will be involved in inventorying the plants of the Domain as part of the University of the South's Domain 2020 initiative. If you would like to come on a collecting expedition or to try your hand at mounting specimens, call us. We would love to have you join us!

Aquatic Plants — Wednesday, July 8, 4:00 PM

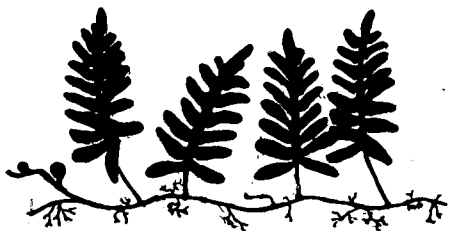
Aquatic areas are alive with a tremendous variety of plants. Meet Yolande Gottfried at Malon Courts dormitory parking lot for a stroll around Lake Finney looking at plants typical of the ponds on the plateau.

Summer Wildflowers — Date TBA

Harry Yeatman will present a slide presentation featuring many of our summer wildflowers. This evening of armchair botanizing will be held sometime in July. Let us know if you would like notification via e-mail.

Fern Foray — Saturday, July 25, 10 AM

Mary Priestley will lead this amble around Lake Cheston in search of ferns and "fern allies" that inhabit the area, those that live at the water's edge, and some that keep to the surrounding woodlands. Meet at the pavilion.



Wildflowers of Tennessee

The Tennessee Native Plant Society (TNPS) is producing the state's first comprehensive wildflower book. More than 1000 species are described, three-fourths of which have accompanying color photographs.

The estimated publication cost is \$100,000. This past April, the State Legislature voted \$30,000 toward the project. Individual donations are nearing \$10,000. Contributing to this publication is a wonderful way to celebrate the beauty that surrounds us. The following sponsorship categories have been set up:

- \$500 and up - Pink Lady Slipper
- \$250 and up - Crested Iris
- \$100 and up - Trailing Arbutus
- \$50 and up - Birdfoot Violet
- \$25 and up - Purple Coneflower

This is a book of which all Tennesseans and those who value native plants will be proud. Please give generously. Checks, made to the Tennessee Native Plant Society, may be sent to TNPS, c/o Jack Carman, 106 LaSalle Lane, Tullahoma, TN 37388.

— Mary Priestley

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.

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*: _____

Spring Wildflower Activities

This spring, the staff of the Sewanee Herbarium was distinguished by being invited to participate in several events beyond the Domain, in addition to our program of spring wildflower walks on the Domain and with the South Cumberland State Recreation Area.

The Third Annual Spring Wildflower Celebration, sponsored by the Tennessee Aquarium (in Chattanooga), The Tennessee Wildflower Society, and the North Chickamauga Creek Conservancy, included Shakerag Hollow as one of their four options for wildflower walks on the first weekend in April. They asked the Herbarium to provide leaders. About 30 people from the Chattanooga area joined the staff on two separate hikes to marvel at the celandine poppy, nodding mandarin, long-spurred violet, and other wonders of Shakerag.

Bluebird Lane Garden Center and Nursery, located at the foot of the mountain, asked the Herbarium to participate in their April 18-19 promotion of nursery-propagated plants native to the Southern Appalachians. A staff member provided information to shoppers on the Herbarium and on the native plants of the area, supplying brochures from the *Biodiversity on the Mountain* series.

All members of the staff had the honor of being invited to participate as leaders in the 48th Annual Wildflower Pilgrimage in Great Smoky Mountains National Park, April 23-25, joining regional botanists and hundreds of pilgrims. Among the four of us, we led fourteen hikes and enjoyed the fellowship of the other leaders at the Arrowmont School, where room and board were provided. This has become something of an annual reunion for the botanical community.

Several Domain wildflower walks were hampered by wet weather, but Jean and Harry Yeatman led more than 40 through Shakerag Hollow on the beautiful Saturday morning of April 25. The earliest flowers were gone, but the phacelia, wild geranium, Canadian violet, and other later-blooming species made a good show for what may have been a record turnout.

—Yolande Gottfried
Associate Curator



Printed on Recycled Paper

SEWANEE

The University of the South

Herbarium, Biology Dept.
Sewanee, TN 37383-1000

Address Service Requested

Non-Profit Org.
U.S. Postage
PAID
Sewanee, TN
Permit No. 4

