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Spring 2002

Preserving the Moon Tree and Other Members of the Campus Canopy — A Conversation with Monty Hawkins —

Do you know about the Moon Tree, Sewanee's tree that went to the moon? It is an American sycamore that was planted south of Woods Laboratories on the campus of The University of the South in 1976. A number of sycamore seeds were taken on the Apollo 14 mission to the moon and then germinated at the Southern Forest Experiment Station in Gulfport, Mississippi. Two to four seedlings were allocated to each state, and Sewanee—then the site of a forest experiment station—received this one.

This spring Monty Hawkins, the university's Supervisor of Grounds, is launching an effort to propagate cuttings from the Moon Tree to insure the preservation of this historically significant tree. In addition, he plans to germinate some of its seeds, in case the vegetative propagation is not successful. The trees that he produces will be planted around the campus so that if anything ever were to happen to the Moon Tree it would be perpetuated in this way.

Monty's duties on Sewanee's 10,000-acre Domain are numerous and varied, but a particularly enjoyable facet of his work has been using arboricultural practices to maintain the health of the campus trees. "The trees are part of the infrastructure. They and the facilities work together—in my mind, it's all intertwined." Over the years, he has gotten to know the trees quite well, and he shared some insights with me a few weeks ago.

The large white pines in Manigault Park grew from seedlings that were a gift from the Imperial German Ambassador in 1904. They are from American white pines that years earlier had been established in Germany. Those at Morgan's Steep, St. Mary's, St. Andrew's-Sewanee, and the old Academy were also part of that gift. The campus has a sole survivor of the Dutch elm disease: the American elm that grows in front of Rebel's Rest. The blue spruce trees planted beside the Kirby-Smith monument bring a bit of the Rockies to this southern campus. Although they are "way out of their

range," they seem to have adapted to the temperate zone.

The removal of trees on the Domain has been a controversial issue from time to time. Monty uses the International Society of Arboriculture's tree hazard evaluation form when trying to determine an individual tree's fate. "The ISA form helps in documenting our thought processes when we consider cutting a tree. It takes a lot of the subjectivity out of the decision-making. We don't take trees down accidentally—it is not a haphazard process."



Monty declares that the forbearance of recent vice-chancellors is all that has spared the female ginkgo tree that grows in front of Walsh-Ellett Hall. This lovely plant lived an unobtrusive life for years until a male ginkgo was planted in nearby Guerry Garth to honor retiring professor Henry Smith. When the younger tree matured and began producing pollen, the sex of the heretofore-restrained female was revealed, and now every autumn she bears an abundance of foul-smelling fruits. This odiferous crop is not all wasted, because Herbarium Director *emeritus* George Ramseur

has grown a number of trees from seeds that he has collected.

With its huge impact on the campus landscape, the recent construction of McClurg Dining Hall presented a horticultural challenge. Early in the planning process, the university conducted a survey of trees that would be affected by the construction. Some had to be cut down, but several were moved to other locations on campus and others were treated to help them withstand the stress brought on by construction and the resulting change in soil conditions. All trees in that last group have survived in good shape. Of the ten trees that were transplanted, only two succumbed. The others, including an impressive 8" red oak, seem to have adjusted well to their new environs.

One technique that Monty has employed to enhance the quality of the campus habitat is the creation of "mini-forests" within grassy areas around campus. These woody islands provide improved soil conditions for the existing trees and a place where seedlings and saplings can be planted without danger of their being trampled or mowed. Portions of Manigault Park and areas around some of the dormitories are good examples.

Monty works closely with University Forester Ken Smith, Assistant Forester Joe Burckle, and forestry professors Karen Kuers and Scott Torreano. The Natural Resources Committee advises on all questions dealing with the biological and geological resources on the Domain. "One reason I came to work here was that people in Sewanee appreciate the landscape. My goal is to try to do things that are value-added. . . . We're keeping the campus canopy going."

—Mary Priestley

Monty Hawkins chairs Sewanee's Tree City USA, a program sponsored by the Arbor Day Foundation to recognize communities that wisely manage their tree resources. Tree City and the Herbarium are co-sponsors of Sewanee's Search for the Big Trees.

The artwork, which is the logo for the Search for the Big Trees, is by Kathryn Ramseur-Riley.

The Sewanee Herbarium: Education — Research — Conservation

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The Sewanee Herbarium
Biology Department
The University of the South
735 University Avenue
Sewanee, TN 37383

WEB SITE

[http://www.sewanee.edu/
biology/herbarium](http://www.sewanee.edu/biology/herbarium)

EDITOR

Mary Priestley
(931) 598-1997
mpriestl@sewanee.edu

CONTRIBUTORS

Brian Bowen
bbowen@mail.state.tn.us

Yolande Gottfried
ygottfri@sewanee.edu

COMPOSITOR

Tammy Scissom

New Members

Thanks to all our new and renewing members! New members include:

John & Lynn Adams
Thomas & Anita Adams
Alice Brackett
Dee Eichler
Roy O. Elam
Gayle Geron
Boyd Gibbs
Charles Goodman
Ann Marie & George Inglis
Eric Dorr Johnson
Keith & Nancy Johnson
Karen Keele
Woody and Pookie McLaughlin
Robert Meyer
Winona R. Schane
Celeste Shibata
John & Suzann Stamps
William Louis Stern
John and Mary Szeglin
Morris & Hildie Terry

The Biggest Threat to Natural Areas: Invasive Exotic Pest Plants

(Ed. Note: Introduced plant species, which are referred to as exotics, are those not native to a region. Most exotics are harmless, but many species do naturalize, spread, and negatively impact plant communities. They are considered one of the top threats to the biodiversity of wildlands.)

Before he retired from Vanderbilt University in 1997, botanist Dr. Robert Kral would take his spring flora class each year to the Warner Parks in Nashville and teach them how to identify the flora of our region. Unfortunately, as Dr. Kral neared retirement, the number of places he could take his class in this 2700-acre Registered State Natural Area became fewer and harder to find. It wasn't because this large city park was being developed or losing forests to ball fields and building new roads; it was simply because there had been a rapid insidious change in the ecosystem.

Areas that once supported an abundance of Jack-in-the-Pulpit, Spring Beauty, Trout Lily, Trillium, Bloodroot and native shrubs and trees had become displaced by vast acres of Japanese Honeysuckle, Chinese Privet, Winter Creeper, Vinca, Shrub Honeysuckle, and Tree-of-Heaven. Many of these plants were very popular and used in landscaping. They escaped from surrounding neighborhoods and spread into the park's ecosystem as birds dispersed seeds. The forest ecosystem was seriously damaged by a significant loss of native species that resulted in a tremendous degradation of the forest's native plant communities.

A National Strategy

Until recently the scope of this problem had not been recognized at the national level. The impetus for national recognition began in 1991 at the first national conference held in Indianapolis. In 1997, over 500 scientists strongly recommended that action be taken on this issue and that a national strategy be developed. Their efforts resulted in the issuance of an Executive Order that established the first National Invasive Species Council. In 2001,

the Council published the national management plan "Meeting the Invasive Species Challenge."

Who is Looking Out for the Natural Areas?

A national strategy is the breakthrough needed to recognize the ecological impact of weeds. Prior to this new recognition, The Nature Conservancy, the Natural Areas Association, and the Exotic Pest Plant Council were the only organizations addressing invasive exotic pest plant issues in natural areas. These organizations remain the main non-governmental advocates for natural area protection.

Making a Difference

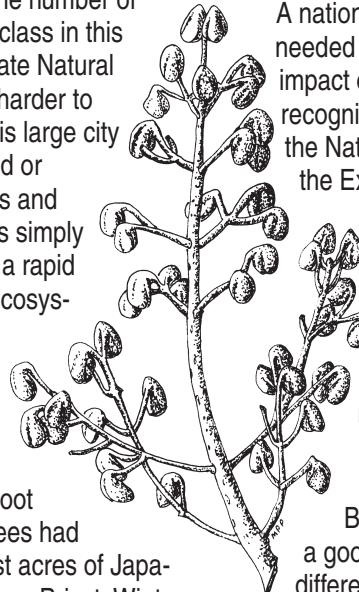
Becoming aware of the issue is a good starting point in making a difference. The best contribution that an individual can make is to join organizations like The Nature Conservancy, the Natural Areas Association, and the Exotic Pest Plant Council (EPPC) in support of their efforts to combat invasive exotic plants.

The Tennessee Exotic Pest Plant Council is hosting the annual Southeast-EPPC symposium in Nashville April 3-5, 2002. For more information about the symposium and about TN-EPPC, please visit the SE-EPPC webpage at: www.se-eppc.org.

—Brian Bowen

Excerpted with permission from the Jan/Feb 2002 issue of The Tennessee Conservationist Magazine. For information on obtaining this issue or subscribing to the magazine, telephone (615) 532-0060.

Brian Bowen is Tennessee State Natural Areas administrator for the Tennessee Department of Environment and Conservation. Mary Priestley serves with Brian on the board of the TN-EPPC. The drawing is of flower buds of princess-tree, a highly invasive exotic.



Spring Calendar of Events

"And the spring comes slowly up this way." — S. T. Coleridge

Bluebell Island—Sat., Mar. 23, 10 a.m.

All are invited to join the South Cumberland Regional Land Trust for their annual Bluebell Island Ramble. The bluebells are a must-see! Also trout lilies and, possibly, the elusive dwarf trillium. Meet at Tyson Food Co. on Highway 50. Easy.

Shakerag Hollow—Meet at Green's View parking lot. Shakerag Hollow is Sewanee's mecca for wildflower lovers. 2 miles, moderate, culminating in a steep climb up the rocks to Green's View.

- Sat., Mar. 30, 10 a.m.
George Ramseur
- Sat., Apr. 6, 9:15 a.m.*
George Ramseur, Yolande Gottfried
- Sun., Apr. 7, 12:15 p.m.*
George Ramseur, Mary Priestley
- Sun., Apr. 14, 1:30 p.m.
Harry and Jean Yeatman
- Sun., Apr. 21, 2 p.m.
Jon Evans

Collins Gulf—Sat., Apr. 13, 10 a.m. Mary Priestley.

Co-sponsored with the TN Native Plant Society and South Cumberland State Recreation Area. Meet at McDonald's in Monteagle at 10 a.m. or at the Collins West trailhead, just beyond the Swiss-Memorial School in Gruetli-Laager, at 10:45. Bring lunch and extra water. 5 miles, strenuous.

Franklin State Forest—Sat., Apr. 20, 10 a.m. Yolande Gottfried.

We will hike to beautiful Tom Pack Falls, one of the few spots in this area where Catesby's Trillium can be found. Meet at the Forest Ranger's headquarters on TN Highway 156 (South Pittsburg Highway). 2 miles, moderate.

Join the Herbarium staff for the **52nd annual Wildflower Pilgrimage in the Smokies, April 22-28.** See

<http://www.wildflowerpilgrimage.org/> for more information.

*There is a small (\$6) charge for this event, part of the Chattanooga Spring Wildflower Celebration. For more information telephone the Tennessee Aquarium at (423) 267-FISH.



Picking flowers and digging plants are prohibited in all of the above-mentioned natural areas.

Drawings are of bloodroot, a woodland wildflower.

We love Kathryn Ramseur-Riley's fanciful logo for our Search for the Big Trees so much that we've had it silk-screened on T-shirts. The shirts, which have the drawing on the back and the list of Sewanee's Top 10 Big Trees on the front, are on sale at the University Book and Supply Store. They are available in long- and short-sleeved styles, and proceeds go to support the work of the Herbarium. Drop by or give them a call at (931) 598-1153 if you are interested.



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

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 Flora of Sinking Pond

Imagine counting tree seedlings in plots on the bottom of a pond in which the water would be up to your neck or even over your head, except that the water isn't there. This is how the herbarium staff spent several weeks in the fall of 2000 and the spring and summer of 2001 at Sinking Pond, part of the U.S. Air Force base property and site of the Arnold Engineering Development Center (AEDC) in nearby Tullahoma.

The work was a continuation of the research begun in 1997 by Sarah McCarthy ('99) and Dr. Jon Evans on the problem of regeneration failure in a unique population of *Quercus lyrata* Walt. (overcup oak) in the pond and described in an earlier issue of *The Plant Press*, Vol. II, No. 2, Spring, 1998, "Unlocking the Secrets of Sinking Pond." The current research is part of a project funded by a grant from the U.S. Geological Survey (USGS).

Sinking Pond is seasonally flooded owing to the karst topography of the area, filling rapidly in November and draining rapidly in July. An unusual ecological community, adapted to surviving these changes, has established itself in the pond, of which overcup oak is the dominant canopy tree. This oak and the other woody species in the community must be able to germinate and establish themselves sufficiently in the few dry months to then survive the periods of flooding. A change in the depth or duration of flooding may have altered conditions so that the numerous seedlings observed each year no longer survive to adulthood. The project aims to examine a number of factors that may explain this change.

So much for theory. In practice, this meant taping our pants cuffs around our boot tops to keep out ticks and shuffling through the leaf litter of the dry pond bottom or bushwhacking through the tangled limbs of trees brought down in a past ice storm while dragging along meter tapes and searching for old identification tags on trees, some dead and fallen, as we surveyed transects to compare with data from previous years and to map, using the Global Positioning System (GPS). Or crouching low in the fading light of a long day, trying to count tiny seedlings of willow or black gum as the numbers neared 100 in a small plot. In spite of the frustration, heat, humidity, and chiggers, there was a spirit of camaraderie among the teams recruited from student interns and anyone else who could be found willing to help gather the required data in the small window of time available.

The more specific objective of the herbarium, however, was to survey the vascular flora of the whole pond area and collect voucher specimens. This resulted in 173 specimens comprising 124 species which have been added to the collection and the computerized database of the Sewanee Herbarium. Of particular interest are the plants that grow in the "moss rings" on tree trunks at water level, on the tipped-up root masses of fallen trees that often rise above water level, and on the floor of the pond. These last are few, the pond floor being mostly barren of vegetation except for the tree seedlings which were the major focus of this study and some scattered shrubs such

as *Cornus foemina* Miller (swamp dogwood) and *Itea virginica* L. (Virginia willow).

Except for a couple of woody vines, *Campsis radicans* (L.) Seemann (trumpet vine) and *Trachelospermum difforme* (Walter) Gray (climbing dogbane), the other plants on the pond floor were found where pools of water in the hollows created by the tipped-up root masses provided a wet habitat after the pond drained. These were plants of wet areas

such as *Diodia virginiana* L. (buttonweed), *Pluchea camphorata* (L.) DC (marsh-fleabane), and *Proserpinaca palustris* L. (mermaid weed). The flora of the tip-ups was the most varied, a mixture of plants of wet and of disturbed areas. By far the most ubiquitous was a species of beggarticks, *Bidens frondosa* L., which also grows on the moss rings.

This has been the most extensive involvement of the herbarium in grant-funded research to date, and it can be counted as successful and fruitful. A report will be submitted to the USGS at the end of February.

—Yolande Gottfried

The drawing is of an overcup oak seedling.

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SEWANEE

The University of the South

Herbarium, Biology Department
735 University Avenue
Sewanee, TN 37383-1000

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