



Joy of an Amateur

Amateur — a person attached to a particular pursuit, study, or science, without pay and often without formal training.

Chris Parrish is an amateur biologist in the best sense of the word: someone who is devoted to the study of biology, but who does not do it for a living. He is a professor of mathematics and computer science at Sewanee.

Chris has been here at Sewanee for more than two decades, shepherding students through the rigors of algorithmic thought, but spending most vacations traveling throughout the Americas to study and photograph birds and — most recently — lichens.

Lichens live as epiphytes on tree trunks and branches, on rocks, and on exposed soil surfaces. Until Chris became interested in them, they were not “on the radar” here at the Herbarium. Now we have a few specimens, courtesy of the University of North Carolina Herbarium, and we are learning more about them daily.

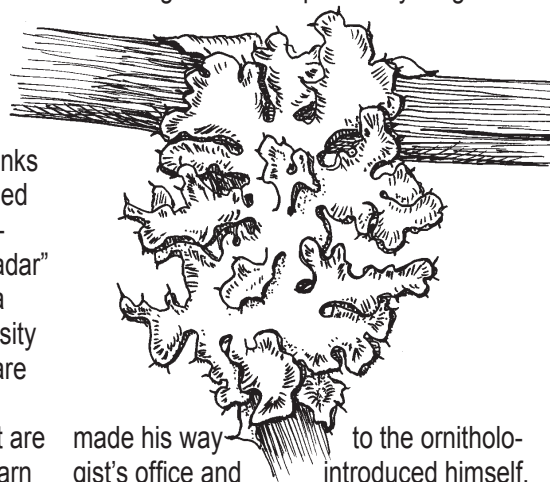
Lichens are beautiful organisms that are part fungus, part alga. Many people learn the three morphological types: fruticose (shrubby), foliose (leaf-like), and crustose (crusty). Beyond that, identification gets difficult. The high degree of commitment necessary to identify lichens helps to explain why there are very few professional lichenologists in North America today. But there is a cohort of dedicated amateurs, including Chris Parrish.

Chris’s interest in biology started with a Boy Scout merit badge in bird watching. At the age of eleven, armed with the *Golden Guide to Birds* and his great-grandmother’s opera glasses, he set out to learn to identify 40 species of birds. The California youngster already had 15 merit badges,

but when he heard that this one was hardest to earn, he started on a path that would lead to a lifetime love of ornithology, zoology, and all things biological.

“From the minute I got the bird study merit badge I never did not know what I would do with the rest of my life. . . . It turned out, though, that I was wrong part of the time!”

The man who quizzed Chris for the bird study badge suggested that he go to the Los Angeles County Museum and meet Ken Stager. The independent young man



made his way to the ornithologist’s office and introduced himself. “Just in time!” Stager replied. “I have received this huge crate of birds from Bolivia, and I have to match them up with a list. I need some help.”

This was the first of many serendipitous encounters that drew Chris into the world of biology as a scientific discipline. As lichenologist John Thomson once said, “All our lives are such creations of chance and opportunities leading us down the paths we take.”

When his family moved to San Diego, Chris went to the San Diego Museum of Natural History in hopes of connecting with an ornithologist there. That didn’t work out, but he hung around anyway,

assisting the scientists. He helped to prepare the skeleton of a Cuvier’s beaked whale to be hung from the ceiling of the museum. Later he accompanied researchers on multiple trips to the museum’s biological field station in Baja California.

The Whitney Library, which housed a major collection in biology, was upstairs in the museum. Chris brought his lunch, bought a Coke, and ate there every day while he read biological literature. He looked forward with enthusiasm to college and really getting into the study of biology. However, when he started at San Diego State College, Chris was decidedly

unimpressed. The school “didn’t offer a shadow of my experience with these enthusiastic and committed scientists. College was competing with the life that I had built for myself.” So after two years he dropped out and joined the army . . . right in the middle of the Vietnam War.

He enrolled in classes in military public health. When instructors got wind of his experiences at the SDMNH they offered him a position as half-time instructor in medical entomology and gave him a research assistantship with scientists working on ectoparasites of mammals. For this, he took his first of many trips to South America, this time to collect rats and bats and remove and preserve their parasites.

The day he got out of the army, Chris enrolled in St. Mary’s University in San Antonio, determined to complete work for his college degree in biology. But he had taken a lot of mathematics courses along the way, and when he realized that he could graduate a year earlier as a math major, he did just that. He went on to get a PhD in mathematics at the University of

cont’d on p. 3

Visitors to the Herbarium



Dr. Dwayne Estes

Dwayne Estes, professor at Austin Peay State University, has spent several long days in the herbarium this fall reviewing the

entire collection. See the "From the Director" article elsewhere in this issue for more on Dwayne's work here.

Dr. Spencer Tomb

Over Homecoming Weekend this fall, one of George Ramseur's students dropped by the herbarium. Now a professor of systematic botany and cytology at Kansas State University, Spencer Tomb graduated from Sewanee in 1965 and went on to earn his PhD in cytogenetics at the University of Texas at Austin.

Spencer gives much credit to his Sewanee professors. "If I had not had Harry Yeatman and George Ramseur I probably wouldn't have amounted to much. I don't know what they saw in me, but I'm grateful." A biographical sketch, written by George Ramseur, appears in Vol. III No. 4 of the *Sewanee Plant Press* (See archived issues on the Herbarium webpage at lal.sewanee.edu/herbarium.)

Spencer's area of expertise is the Lactucaceae tribe of the Aster Family, Asteraceae. During his visit, he graciously annotated our specimens and made suggestions of important characters, such as sap color, to note on specimen labels.

He published a monograph on *Lygodesmia*, a genus in the Aster Family of which one species is found in Georgia and north Florida and all the rest in the grasslands of the Great Plains. He traveled more than 29,000 miles in eight years to complete the cytotaxonomic study, which was published in 1970.

He spent several years working on the Bignonia Family, Bignoniaceae, which he says suffers from taxonomic oversplitting: too many genera that include only one or two species each. That work has involved photography of their pollen grains, and Spencer has promised to send us some photographs.

Besides his professional interest in plants is a clear appreciation and enjoyment. "*Urtica dioica* [stinging nettle] is one of my favorite plants. You can eat *Urtica* — it's a great spinach substitute. . . . and yellow-poplar makes the most wonderful turkey calls."

Spencer was surprised to see the incorporation of ethanol in so much of the gasoline sold in the Southeast. He informed me that it actually takes 1.3 gallons of fossil fuel to make one gallon of ethanol, which is only 85% as efficient a fuel as gasoline. Interesting comment coming from a Kansan.

In addition to his teaching and research at Kansas State, Spencer has been a volunteer lobbyist for and served on the board of the Kansas Wildlife Federation. He has just completed a term on the board of the National Wildlife Federation, America's largest conservation organization and the publisher of the award-winning *Ranger Rick* family of magazines. "Never underestimate the power of *Ranger Rick Magazine*," he said with pleasure.

He was also pleased to see that the resurrection fern that was on the white oak in front of All Saints' Chapel when he was a student is still there. But since 1965 Sewanee has lost some things — Tubby's for instance — and made some gains: "Women students have certainly brought civility back to the Mountain."

As he headed off with George for a tour of some of the new campus facilities, Spencer commented, "I've had a wonderful time doing what I do. And if it weren't for Harry and George I wouldn't have done it."

Dr. J. Richard Abbott

On December 20, Richard Abbott visited the herbarium to review our specimens in the Milkwort Family, Polygalaceae, for the Flora of North America and Flora of Tennessee projects. We have only one genus, *Polygala*, in our collection, and Richard was interested to see what we had.

Richard got his bachelor's degree at Berea, learning field botany techniques from Dr. Ralph Thompson. He earned his PhD under Dr. Walter Judd at the University of Florida where he learned the phylogenetic approach. This winter he heads to the Missouri Botanical Garden to work with Ron Liesner to produce a guide to the identification of plant families based on herbarium, rather than field, characters. "It's kind of an esoteric thing, but it's what I'm passionately interested in. I like most plant families — most of them are pretty cool."

Richard has some Sewanee connections. For one, he has looked through the 5000-specimen plant collection that Sewanee's Gen. Edmund Kirby-Smith bequeathed to the University of Florida. For another, he and Sewanee graduate Ashley Morris C'97 were two authors, along with Judd, on a paper about a member of the tropical Anise-tree genus, *Illicium*, published by the Journal of Botanical Research of Texas in 2008. Ashley is now at the University of South Alabama.

Our herbarium director Jon Evans' method of producing lists of plants to search for before going out in the field met with Richard's approval. "Botanists are the only ones I've met who wander around and find what they find. Birders



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Sincere thanks to all Friends of the Herbarium who made contributions in 2010

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California at San Diego. His advisor was Gill Williamson, an excellent and enthusiastic teacher.

Armed with a PhD and ready to start his career, Chris really wanted to teach in Columbia, South America, because of its tremendous bird diversity. He did go, instead, to neighboring Venezuela, where he taught 12 years until their economy suffered a dramatic change.

Back in the States, Chris was invited for a job interview at Sewanee. On his way here, flying over the Cumberland Plateau, he decided to take the job if the school's quality matched its beautiful surroundings.

Fast forward to 2008, the summer that Chris purchased a camera. He spent weekends all summer and fall in the Smokies, taking pictures of trees and shrubs, with the goal of photographing all of the plants in the *Trees of the Smokies* book. The Herbarium purchased a digital photo frame to display some of his photos.

That was lots of fun, right through a spectacular fall. But when the deciduous

trees lost their leaves in early November, he started looking around for more to photograph. And he discovered a whole new world: lichens, which are among the few organisms that stay green all winter long here. Chris was hooked.

In the summer of 2009, he signed up for seminars taught by two top lichenologists at the Humboldt Institute in Maine: Irwin Brodo and Alan Fryday. A quick study, he became familiar with microscopy and chemical techniques necessary to identify lichens, as well as the photography necessary to capture them. He has since taken thousands of photographs of lichens all over North America and posted them on the web. Among his photo collections are Lichens of Sewanee, of Glacier National Park, and of Quebec.

This summer Chris is headed back to Columbia, South America, for the third year in a row to work with Steve Hilty, who wrote the field guide to the birds of Columbia.

Because of his disappointment in college as a freshman, Chris has developed some ideas about the freshman experience. "I think of beginning students here at Sewanee, so excited about college. It's important to capture freshmen and amplify their already high level of enthusiasm. Give them something they haven't seen before, that's life-changing. Prove to them that intellectual life is fascinating. Of course, biology and photography go beautifully together. It's a tremendous way to get students energized."

Some of Chris's lichen photographs can be found on Mushroom Observer, a collaborative amateur webpage at mushroomobserver.org. For other sites where Chris's work can be found, including his recordings of bird songs, see the links on the herbarium webpage, lal.sewanee.edu/herbarium.

Mary Priestley

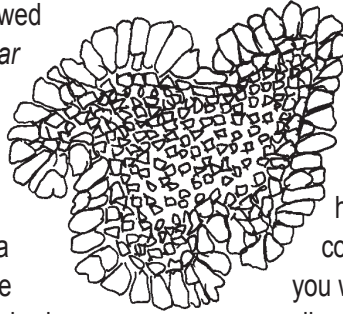
From the Director

There has been a lot of activity in the herbarium this fall. We have been working to rearrange the collection to reflect the taxonomy followed in the *Checklist of Vascular Plants of Tennessee* and have been carefully reviewing all our Domain vouchers as we continue the process of compiling a Domain Flora. Dr. Dwayne Estes, who directs the Herbarium at Austin Peay University and is an author on the new Tennessee Flora, has been assisting us in this endeavor.

Through the course of repeated visits, Dwayne has been able to review our entire Domain collection. This has resulted in the discovery of some new species for the Domain hidden within our collection and has necessitated some substantial curatorial work these past several months. We have been extremely grateful for Dwayne's expert eyes and we have enjoyed immensely his late night botanical camaraderie!

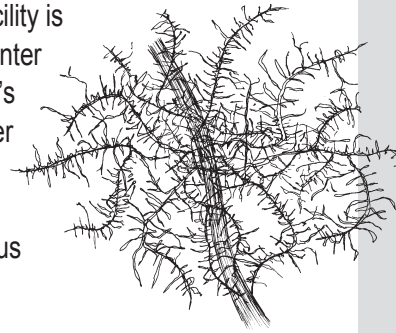
We appreciate the willingness of the University Relations Office to take over the administration of our Friends of the Herbarium membership and *Sewanee Plant Press* mailing database. This transition is

a work in process, however, and we ask for your patience as we work through the glitches.



Many thanks to our curators, Yolande Gottfried and Mary Priestley, for their devotion to making ours a first-class small regional herbarium. We hope you will contact one of them if you think you would like to help with our expanding program of guided wildflower walks. We would love to have you on our team.

Above all we are thankful to all of the Friends of the Herbarium for supporting our work. Because of you we are able to hire occasional post-baccalaureate interns, print field and trail guides, and keep putting out the *Plant Press*, now going into its 15th year. Come and see us when you can. Our facility is front and center in Sewanee's new Spencer Hall. Or better still, plan to join us on the trail!



Jon Evans

THE SEWANEE PLANT PRESS

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*Drawings of lichens
and earth star fungi
are by Mary Priestley.*

*Paintings of mushrooms
are by Gen. Edmund Kirby-Smith,
Sewanee professor of mathematics
1875-1893.*

Trails
&
Trilliums



April 15-17, 2011

Monteagle Sunday
School Assembly

FRIENDS OF SOUTH CUMBERLAND

Hikes • Plant Sale • Workshops • Speakers • Garden Tours
Cumberland Wild Forum • Garden Gallery
Wine and Wildflowers Reception
Harry Yeatman Environmental Educator Award
Trails & Trilliums Service Award

Sponsored by the Friends of South Cumberland State Park
See TrailsandTrilliums.org OR friendsofscsra.org

Visitors to the Herbarium, cont'd from page 2

and herpetologists know what they're looking for. You have to know the characters to look for before you go into the field."

This visit to Sewanee's herbarium is one of several stops throughout the state that Richard is making to get to know the species of *Polygala* in Tennessee. Members of one species can vary from region to region, and individual herbarium specimens can be affected by elements such as browsing or the presence of nearby vegetation. As he explained it, "I need to broaden my species concepts."

Mary Priestley

Winter Calendar of Events

Hunt for the First Hepatica — Shakerag Hollow — Sat., Feb. 19, 1:30 p.m., Yolande Gottfried

A walk to see what might be out early in Shakerag. If flowers are scarce on the ground, we'll look at mosses, liverworts, lichens, clubmosses, and even some ferns, which are not fazed by winter weather. Meet at Green's View for this moderate-to-strenuous 2-mile walk that may include a steep rocky section of the trail. Come prepared for muddy, wet, and/or rocky conditions.



Domain Micro-Safari — Sewanee Domain — Sat., March 5, 10 a.m., Dr. Paul Davison (co-sponsored with the Tennessee Native Plant Society)

Join Dr. Davison of the Dept. of Biology of the University of North Alabama on a journey to see life at small scale. Subjects will range from the botanical to the zoological. From the variety of leaf shapes sported by mosses and the reproductive structures of lichens to the creepy crawlies on the forest floor, we will all see things we've never seen before. We'll take to the field in some likely spots on the Domain to search for "the little things that run the world". In case of inclement weather, we will bring samples indoors to set up the field microscope and observe material via hand lenses as well as demonstrate the Baermann pan, etc. Meet at the Blue Chair restaurant in downtown Sewanee. Bring a bag lunch for this potentially extended trek into the world of the very small — and don't forget your hand lens.

Early Spring Wildflowers — Shakerag Hollow — Sun., March 20, 2 p.m., Yolande Gottfried

It's the first day of spring and time to head out to Shakerag Hollow. If you don't get out about now you might miss the beginning of the big show in Shakerag — bloodroot, trout lily, and spring beauties bloom early and fade fast. Meet at Green's View for this moderate-to-strenuous 2-mile walk that may include a steep rocky section of the trail.

Early Spring Campus Trees — Sewanee Campus — Sun., March 27, 2 p.m., George Ramseur

Join botany professor *emeritus* Dr. Ramseur in a walk among the trees of the Sewanee campus, which he has lived with and taught about for many years. Learn how to identify trees by other aspects than their leaves and appreciate their more visible branching patterns. Meet in front of All Saints' Chapel for this easy one-to-two-hour walk. (For background reading, see *Comparative Descriptions of the Native Trees of the Sewanee Area*, by Stephen Puckette with Mary P. Priestley, Karen Kuers, and Thomas O. Hay, 1996, The University of the South Press, available at the University Bookstore.)

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 Yolande Gottfried at the Herbarium (931.598.3346) or by email at ygottfri@sewanee.edu. Directions are available on the Herbarium website, lal.sewanee.edu/herbarium/, under the calendar of events.



Friends of the Sewanee Herbarium

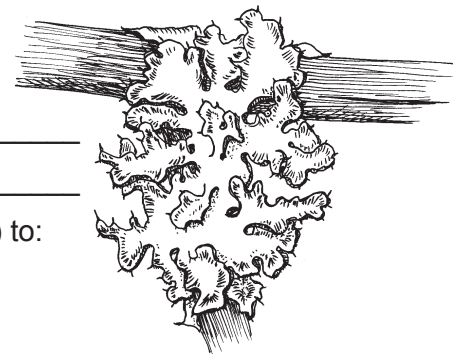
The Friends of the Sewanee Herbarium support the work of the Herbarium: education, research, and conservation. A \$10.00 annual contribution would be very much appreciated. The date of your most recent contribution is printed on your address label.

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Sewanee: The University of the South
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Others who might like to receive *The Sewanee Plant Press*: _____

Wanted: Wildflower Walk Leaders

Although we may have snow and ice in our immediate forecast, the herbarium is already gearing up for springtime, our biggest season of the year for wildflower hikes. We will be helping with Trails and Trilliums, as well as getting into Shakerag Hollow and various other sites as often as we can. And we are looking for people to help lead some walks.

If you've been on guided wildflower walks, you probably know how frustrating it is to be in a large group trying to listen to one leader. How nice it is for everybody when fairly knowledgeable people divide the group into smaller groups or at least serve to "echo" and explain what the leader is saying.

Would you like to try your hand at helping lead wildflower walks for the herbarium? We are looking for interested folks who have some basic familiarity with the native spring wildflowers in the Sewanee area, feel comfortable with a 2-mile, 2-hour walk through Shakerag Hollow or the equivalent, and can give some time some weekends.

As enticement, we will offer one or more training sessions/meetings, depending on the interest and background of participants. Also, we will provide written materials and walks, particularly through Shakerag, to get people ready to lead or assist with walks this spring and possibly beyond.

We've got lots of wildflowers to show off on this mountain, and we need some help to get it done.

Please email Yolande Gottfried (ygottfri@sewanee.edu) or Mary Priestley (marypriestley@bellsouth.net) before March 1 if this interests you. We plan to do the training in early March and do preview hikes in April, or possibly late March.



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