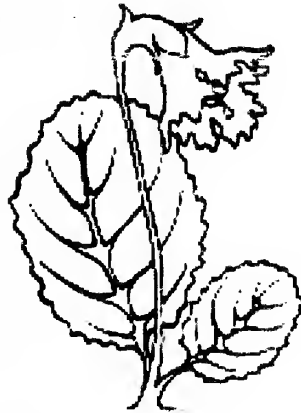


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# SHORTIA

NEWSLETTER OF THE  
WESTERN CAROLINA BOTANICAL CLUB

SPRING 2004



*Shortia galacifolia*

Oconee Bells

WESTERN CAROLINA BOTANICAL CLUB

President: Bonnie Arbuckle  
Vice President: Helen Smith  
Co-Secretaries: Juanita Lambert  
Connie Updike

Treasurer: Larry Avery  
Recorders: Betty Jones  
Ken Borgfeldt  
Historian: Suzanne Huie

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FROM THE PRESIDENT.....Bonnie Arbuckle

At our meeting on January 8, 2004, the announcement was made that the next annual meeting will be during the summer of 2005. This was favorably received by those few who, in spite of icy roads and generally bad weather, were able to attend. A summer meeting will enable our "summer" members to attend and will free us from a cancellation because of inclement weather. The officers elected this year will, therefore, serve for the next eighteen months.

Two people will serve as secretaries: one will record minutes of meetings, the other will be responsible for the telephone tree and correspondence. This is also a transition year for the recorder. For over five years Betty Jones has served faithfully, keeping accurate, up-to-date records of plants found on botanical field trips. During this time she has greatly improved our plant identification records, updated many of the botanical name changes, and has begun to add plant families to our field trip lists. Now we are fortunate to have Ken Borgfeldt volunteer his computer skills to continue her excellent work. This year they will work together to ensure a smooth transition.

"Being Historian of the WCBC is not really a job but an opportunity to document relevant botanical findings, and, just as important, documenting people and their reactions to some of the best things Mother Nature has to offer!" This comment from Chris Borgfeldt reflects the feelings of the many talented people who have compiled our scrapbooks over the years. Suzanne Huie will continue the tradition, and asks you to share your photos with appropriate notes of dates and identities of plants and photographers.

The new board met in late January to talk about job responsibilities and make plans for another successful year. A written description of each office will be compiled and kept in a folder. This will assist the nominating committee when they ask people to serve. Other plans for the club's future that were discussed included another book sale and places for a fall overnight field trip. Your suggestions and ideas are always welcomed and can be made by contacting any of the officers.

The snow that covers the ground today is keeping the spring flowers warm. I look forward to seeing them soon.

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Cover: The flower on the cover is *Shortia galacifolia*, Oconee Bells. Our newsletter is named for this southern endemic which is now rare in the wild.

## New Members

Joy Charlevois, Etowah. Joy and her husband arrived here from "Chicagoland" in May of 2003. Joy came to N.C. for the natural environment and to enjoy and learn about the outdoors.

Nancy Iha, Brevard. Nancy is a member of the Georgia Botanical Club, worked on a project last summer on Swamp Pink, and is a Master Gardener volunteer.

Jenny Lellinger, Brevard. Jenny and her husband, Dave, moved here from Northern Virginia. Jenny worked for the National Geographic Society for over thirty years. She is a graduate of the USDA School of Natural History Field Studies program with a specialty in fern and fern allies. Dave spent his entire career at the Smithsonian Institution where he specialized in ferns and fern allies and was curator of the Smithsonian pteridophyte collection.

Patricia Sentell, Columbus. Pat reports she has had a life long passion with wildflowers. Last summer she worked for four months in Yellowstone National Park enjoying every flower from lupine to cactus.

Dee Henry, Columbus.

### Award

Botany Club member, Elisabeth Feil, received the Trillium Award from the Botanical Gardens at Asheville. The award, which was presented to Elisabeth at the Gardens annual meeting on February 1, was "in recognition for dedication and service above and beyond expectations."

### Indoor Program Cancellations

The Botany Club indoor programs at the Sammy Williams Center will be cancelled if the Henderson County Schools are closed. For school closings telephone 828-697-4733 or check the web site <[www.henderson.K12.nc.us](http://www.henderson.K12.nc.us)>.

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Western Carolina Botanical Club	
Financial Report - 2003	
(Consolidated)	
<u>Income</u>	
Dues	\$1579
Gifts	<u>48</u>
Total	\$1627
<u>Expenses</u>	
Printing	\$ 562
Postage	286
Donations	150
Program	95
Office Exp.	<u>9</u>
Total	\$1102
Income Over Expenses	<u>\$ 525</u>

Can you identify the location of twelve of our 2003 field trips from the hints provided below? Locations are listed at the bottom of this page – just match them to the descriptions. Answers are on page 5.

1. A botanically rich site - *Cynoglossum virginianum* (Wild Comfrey) and *Delphinium tricorne* (Dwarf Larkspur) blooming next to the road.
2. *Eleocharis quadrangulata* (Four-angled Spikerush) and *Spiraea tomentosa* (Hardhack) near a lake.
3. *Chelone obliqua* (Red Turtlehead) and *Parnassia asarifolia* (Grass-of-Parnassus) are found here.
4. Richest fern site in South Carolina; patches of *Pachysandra procumbens* (Allegheny Spurge).
5. Dry location where we found *Ipomoea pandurata* (Wild Potato Vine), *Lechea racemulosa* (Pinweed), *Lobelia nuttallii* (Nuttall's Lobelia), *Platanthera ciliaris* (Yellow Fringed Orchid) and *Talinum teretifolium* (Fameflower).
6. *Philadelphus inodorus* (Mock Orange) on the hillsides; one of few locations where we see *Dodecatheon meadia* (Shooting Star) and *Isotria verticillata* (Whorled Pogonia).
7. Home of *Carex misera* (Wretched Sedge), *Robinia hartwigii* (Hartwig's Locust) and *Solidago simulans* (Granite Dome Goldenrod).
8. A WCBC favorite site with *Hybanthus concolor* (Green Violet) in bud and *Saxifraga virginiana* (Early Saxifrage) blooming on the dripping rock overhang along the trail.
9. Photo opportunity for these plants: *Asclepias variegata* (White Milkweed), *Calopogon tuberosus* (Grass Pink), *Lindernia monticola* (Piedmont False Pimpernel), *Sarracenia rubra* ssp. *jonesii* (Sweet Pitcher Plant) and *Utricularia cornuta* (Horned Bladderwort).
10. *Aconitum uncinatum* (Monkshood) on the roadside and *Delphinium exaltatum* (Tall Larkspur) along the trail.
11. Popular site to find *Allium cernuum* (Nodding Wild Onion), *Campanulastrum americanum* (Tall Bellflower) and *Smilax tamnoides* (Bristly Greenbrier).
12. A new location for the club; two noteworthy plants identified: *Goodyera repens* (Lesser Rattlesnake Plantain) and *Cypripedium parviflorum* (Smaller Yellow Lady's Slipper).

A. Peach Orchard Branch   B. Pearson's Falls   C. Coleman Boundary   D. Tanbark Tunnel  
E. Cabin Cove at Fine's Creek   F. Ashmore Heritage Preserve   G. Whiteside Mountain  
H. Kanuga Conference Center   I. Bee Tree Gap   J. Sky Valley Road   K. Heintooga Area  
L. Log Hollow Overlook along the Blue Ridge Parkway South

## Hemlocks in Danger

“A bug is literally sucking the life out of hemlocks throughout the east,” writes Forestry Technician, Irene Von Hoff, in a recent issue of “Connemara Comments”, the Carl Sandburg Home NHS newsletter. She continues:

The Hemlock Woolly Adelgid (HWA) is a tiny aphid-like insect with a big appetite --big enough to potentially wipe out the Eastern and Carolina Hemlock. It has devastated hemlock forests from Massachusetts to North Carolina and continues to move westward invading the natural range of hemlock, while leaving in its wake a barren landscape where lush green hemlocks once shaded cool mountain streams teeming with trout. Foresters warn that if effective controls are not found and applied, the outcome of the adelgid may be as disastrous as that of the chestnut blight which eliminated American chestnut from eastern forests.

..the adelgid is very small and difficult to see, but adults carry a white woolly ball on their backs making them more visible to the observer. Look on the underside of the branches where the needles are attached to the twig. If you don't see the white fuzz on the first few branches you check, keep looking. An early infestation may be localized on one or two branch tips.

Carl Sandburg Home National Historic Site first discovered HWA on their trees in 2001 while the trees were being inspected for another insect problem, elongate hemlock scale (EHS). In response to the invasion, the trees were sprayed with an insecticidal soap, M-Pede, which is very effective.

Irene goes on to explain that the spraying process used in 2001 was found to be not feasible for the park because spraying would have to be done every two weeks to gain good control of the pests. It would have taken too much time, human resources, equipment rental and visitor inconvenience to treat the 240 infected trees. In 2003 they used an insecticide-miticide, Abamectin, which was injected and thus transported to the limbs, twigs and foliage where the Adelgid sucks up the insecticide with the plant juices. Trees are protected for a year and would need to be treated annually. This year the insect infestations on the 12 trees injected will be compared with those which were not treated. If the results are favorable, the park plans to treat the rest of the hemlocks with the insectide/miticide.

If you have hemlocks on your property, especially if you live in the Flat Rock area, you may want to check for this white woolly insect. If you find it, you can call the agricultural extension agent or the Division of Forest Resources. For more information go to hemlock woolly adelgid on a website.

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*Irene Van Hoff was our speaker at a recent indoor meeting.  
The above was printed with her permission.*



Carolina  
Hemlock

## Historian

Have you ever wondered why there always seems to be some "shutterbug" taking pictures at our club meetings and field trips? Chances are the person snapping all those photos was the club Historian. Every historian since the club's inception more than 30 years ago has been charged with providing a photojournalistic record of the club's activities. These records are in a scrapbook format and provide club members an interesting and sometimes entertaining visual/written account of club activities, field trip highlights, officers, social events, and other club information.

The club's 30+ year historical record is contained in several volumes of photo albums that are available for members' review at the Annual Meeting and the Holiday Cookie Fest. The Historian also brings some of the more recent volumes to the indoor winter sessions for members to review at their leisure.

Often other members contribute photographs for inclusion in the album. This is most welcome as the Historian sometimes misses a meeting or outing, or was not able to capture a noteworthy highlight or activity. It is recommended that when other club members contribute photos for the historical record, the photo be identified with the date, person taking the photo, field trip name, and other identifying information (eg. people in the photo, name of the plant/flower, etc). This information is most helpful when the photo is being considered for inclusion in the scrapbook. We use only one scrapbook per year so it is not possible to include all photographs. Please don't let that deter you from submitting them. Any unused photos will be returned to you.

If you would like more information, please contact Suzanne Huie, the 2004 WCBC Historian.  
-Chris Borgfeldt

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*Botany club members who have been historians in past years and have added to the photo albums are: Louise Foresman, Anne Mathes, Dana Herman, Larry and Anna Ballard and Chris and Ken Borgfeldt. -Ed.*

∞ ∞

In all things of nature there is something of the marvelous.

-Aristotle

∞ ∞

Answers to quiz on page 3:

1-C 2-H 3-L 4-A 5-J 6-D 7-G 8-B 9-F 10-K 11-I 12-E

Blood-root - *Sanguinaria canadensis*

*Family:* Papaveraceae. *Colour:* White with yellow center. *Odour:* Scentless. *Range:* General: *Time of bloom:* April, May. *Flowers:* Terminal, solitary, growing on a naked scape. *Fruit:* An oblong pod. *Leaf:* One only, from the base, rounded, palmately lobed, veined. *Root stock:* Fleshy and, as the stalks, containing a blood-red juice.



The blossom of the blood-root is one of the most carefully guarded of Nature's children. It's sweet loveliness is not thrust ruthlessly upon the world to make its way the best it can. The leaf is carefully wrapped about the flower bud, and not until the former is assured of the temperature and fitness of the surroundings, does it unfold and allow the scape to stretch upward bearing the beautiful flower, and how fair it is only those can know that have seen it unfold its pure, spotless petals. Indeed, it is too fragile for the rocky hillsides. The wind carries off its petals and those that seek it often sigh to find it has already perished.

It seems strangely incongruous that the fluid of this plant with its unusually pure blossom should have been used so extensively by the Indians to paint their faces.

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*This article was submitted by club member, Millie Pearson. It was taken directly from A Guide to the Wild Flowers, by Alice Lounsbury, published in 1899 by Stokes Company, New York*

Pearson's Falls

By saxifrage and trillium  
By violet and by rue,  
Such tiny, fragile flowers  
We passed them - me and you.

We walked in the wet morning  
And in awakening spring.  
We felt old Nature's promise  
And heard the river sing.

-Walter Davies

This poem was written by a former botany club member and appeared in the Shortia Summer 1997 issue. A field trip to Pearson's Falls is scheduled for Friday, April 2. Millie Pearson will be our leader and her sister, Odessa Galda, the co-leader.

Joseph Banks-A Life  
by Patrick O'Brian

The botanist, Linnaeus, once suggested that the new country we now call Australia be named "Banksia." Who is the man that inspired such recognition?

We were introduced to Joseph Banks (1743-1820) by Bonnie Arbuckle in 2000 at a "Learn and Share" session when she talked about the species of plants called banksia and displayed a vase made from a banksia seed pod. Now Patrick O'Brian has written a biography of the brilliant naturalist, explorer, and president of the Royal Society. Making full use of Banks' letters and journals, O'Brian transports us to the world of 18th century scientific research and exploration.

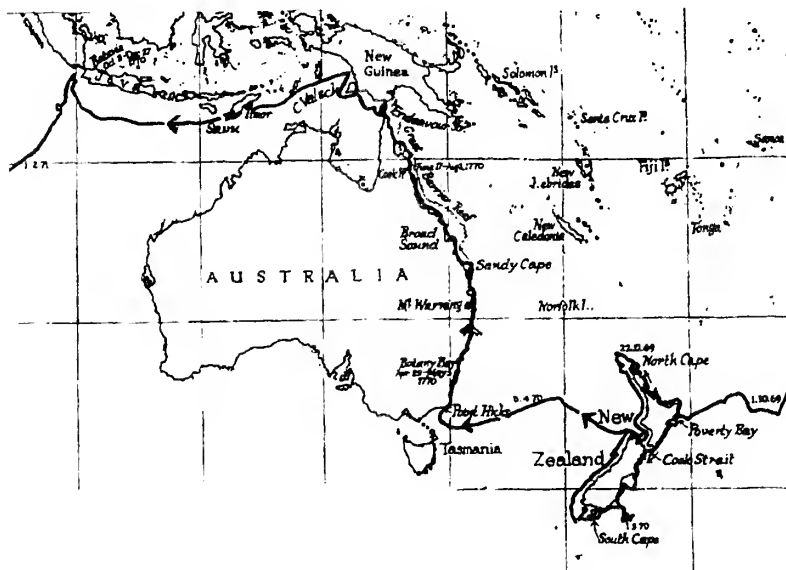
The biography recounts Banks' voyage to Australia with Captain Cook and tells of his friendships-- with fellow scientists throughout Europe as well as with both King George III and the infamous Captain Bligh. And the description of the arduous three-year voyage with Captain Cook helps us understand life on a wooden ship with 94 men, two dogs, a cat and a goat. Banks' writing spins out a web that draws you into his world. You sail with Cook, bow to George III, obtain a ship for Captain Bligh, botanize among the cannibals. It is high adventure with botany on the side.

Do read the book and see the movie, "Captain and Commander", based on a novel by the same author. In this story a French and a British sailing ship duel it out in sailing maneuvers and bloody battles, and there is a naturalist aboard the British ship! Except for the wartime setting, his experiences could be those of Banks on the *Endeavour* with Captain Cook exploring Australia.

I recommend the movie and the book. Enjoy!

-Jeanne M. Smith

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The Endeavour's route to New Zealand and Australia - part of its round-the-world voyage 1768-1771



## Banksia

Banksia is a genus of 75 species in the Proteaceae family. All of the species occur in Australia with one, *Banksia dentata*, extending to islands to Australia's north. Banksias can be found in most environments: the tropics, sub-alpine areas, the coast and desert. Most banksias are medium shrubs but some are prostrate and a few can become large trees. The flowers are made up of hundreds (sometimes thousands) of tiny individual flowers grouped together. The colors range from yellow to red.

Archaeological evidence suggests that banksias or *Banksia*-like plants have existed for over 40 million years. The first humans to discover and make use of them were the Australian aborigines who used the nectar from the flowers as part of their diet.



The first Europeans to observe banksias were probably Dutch explorers who made several landings along the West Australian coast during the 17th and 18th centuries. No botanical collections were made, however, until the discovery of the east coast of Australia by Captain James Cook and his crew aboard the *Endeavour* in April 1770. It was the two naturalists aboard the *Endeavour*, Joseph Banks and Daniel Solander, who collected four species of the new genus later to be named banksia in honor of Joseph Banks' contribution to botany.

The site where the banksia plants were found yielded a total collection of 94 new plants. The number was so unusual and impressive that Captain Cook named the site Botany Bay, a name which exists to this day.

Banksia plants are in much demand in present-day Australia for gardens, landscaping and even for flower arrangements.



The name banksia is common in Australia. A recent headline announced that "Banksia has merged with NetComm". There is a Banksia Environmental Foundation which promotes environmental sustainability, a Banksia Secondary College, a software "Banksia", Banksia Adventures (a travel agency) and even a Banksia wine. Joseph Banks would be surprised to find his name used so prominently on the continent he helped explore so many years ago.

-Anne Ulinski

From top:  
*Banksia serrata*  
and  
a banksia tree

SHORTIA  
c/o Anne Ulinski  
1212 Chanteloupe Drive  
Hendersonville, N.C. 28739



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FIRST CLASS  
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LUESTER T. MERTZ  
LIBRARY

MAR 09 2004

NEW YORK  
BOTANICAL GARDEN

Library \*Att: Dr. Buck  
New York Botanical Garden  
Bronx, N.Y. 10458-5126

## **SHORTIA**

Vol. XXVI. No. 1

SPRING 2004

A quarterly publication of the Western Carolina Botanical Club

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Editor: Anne Ulinski  
Editorial Assistants: Pat Arnett and Jean Lenhart  
Art Work: Pat Arnett  
Member News: Ruth Anne Gibson

Please submit contributions for the next issue by May 15, 2004 to: Anne Ulinski  
1212 Chanteloupe Drive, Hendersonville, N.C. 28739

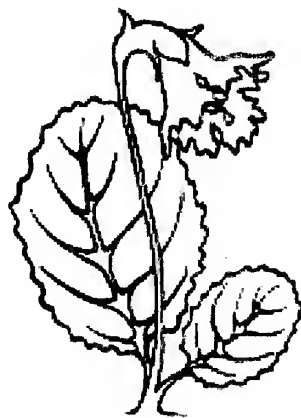
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The purpose of the Club is to study the plants of the Southern Appalachian Mountains and the Southeast through field trips and indoor meetings. Membership is open to all. Individual/family memberships are \$15. New members joining from the period July 1-December 31, pay \$8. All memberships are renewable on January first of each year. Please send dues to: Larry Avery, 4 Windrush Lane, Flat Rock, N.C. 28731

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# SHORTIA

NEWSLETTER OF THE  
WESTERN CAROLINA BOTANICAL CLUB  
SUMMER 2004



LUESTER T. MERTZ  
LIBRARY

JUN 14 2004

NEW YORK  
BOTANICAL GARDEN

*Shortia galacifolia*

Oconee Bells

WESTERN CAROLINA BOTANICAL CLUB

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*Vice President:* Helen Smith  
*Co-Secretaries:* Juanita Lambert  
Connie Updike

*Treasurer:* Larry Avery  
*Recorders:* Betty Jones  
Ken Borgfeldt  
*Historian:* Suzanne Huie

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FROM THE PRESIDENT.....Bonnie Arbuckle

In the Autumn 2002 issue of *Shortia*, I wrote about the Bullington Horticultural Learning Center now called the Bullington Center. This new name better reflects the Center's mission "to educate and inspire children, youth and adults in horticulture, the natural sciences and integrated disciplines; to provide hands-on learning opportunities for members of our community."

Since that 2002 article was printed, our Statement of Purpose has expanded to include, "To encourage members and the public to protect plants, especially native plants, and to preserve the habitats in which they are found."

This year we are scheduling monthly work field trips to Bullington Center to help create a Woodland Shade Garden showcasing the use of native plants in landscaping. BOOST\* students under the direction of Larason Lambert removed invasive ivy, honeysuckle and briars from this area and have set up a watering program to assure the growth of plants. On April 16 members brought shade loving plants from their gardens and planted them in the woodland area. Each month new plants will be added to the woodland setting. This learning area will encourage visitors to use native plants in their home landscape and help them recognize native plants in other areas.

Bullington Center monthly meetings will also include a walk along the Nature Trail to look for flowering native plants, ferns and fern allies and to update a list the club made in 2001. It will be an opportunity to see improvements made to the facility since John Murphy became a full time director. The greenhouse has been renovated, an amphitheater has been completed and perennial and butterfly gardens have been planted.

In further support of the Center, Helen Smith gave a club-sponsored Wildflower Identification Workshop and the Club's Executive Board voted to give the Center a donation toward new meeting space in the former residence. Check your garden for plants to share and join us at the Bullington Center for a learning sharing experience.

\*BOOST gives special needs high school students an opportunity to develop good work habits while being exposed to the natural world.

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Cover: The flower on the cover is *Shortia galacifolia*, Oconee Bells. Our newsletter is named for this southern endemic which is now rare in the wild.

## NEW MEMBERS

Patsy Beyer, Leicester. Patsy is a seasonal retiree from Florida where she worked in economic development. She has bought a home with a dry ecosystem and needs to learn more about it.

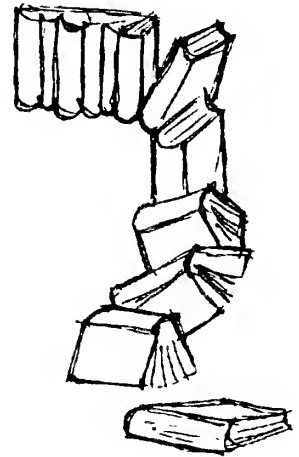
Jack Drost, Hendersonville. Jack has been into serious hiking for awhile and now wants to slow down and identify the plants he is seeing. He is GIS analyst for Henderson County and does volunteer work for the Carolina Mountain Land Conservancy.

Carolyn MacGregor and Russ Palmeri, Asheville. Their first interest is birds but they want to learn more about flowers. Russ plays chess, teaches some classes at AB Tech and writes. Carolyn is volunteering at the Botanical Gardens at Asheville.

## BOOK SALE

The Botany Club will be holding a book sale at the August 29th meeting at the Bullington Center. Come prepared to update your nature library at bargain prices for the benefit of the Botany Club treasury. Topics: Gardening, wildflowers, herbs, mushrooms, ferns, guidebooks of all types, especially birding. If birding is your thing and you plan to travel, all of Erika Parmi's guidebooks from around the world will be on sale.

Additional donations of books for the sale would be appreciated and accepted by Jeanne Smith or any of the Botany Club officers at any field trip meeting up to August 1st. Questions: Jeanne Smith at 885-2530.



## FIELD TRIP CANCELLATIONS

It is 7 a.m. on a field trip day. It is raining but the weather is expected to clear. The field trip leader and co-leader need to make a decision whether to call off the trip or take a chance on the weather. If the field trip is called off, Larry Avery will send an e-mail to all members who have left an e-mail address with the Club. Connie Updike has put together a "telephone tree" for those who can't be reached by e-mail. Every attempt will be made to notify all members. Whenever possible, someone will go to the meeting place(s) in case members show up there.

If you are wondering if the field trip is cancelled and have not yet received an e-mail or telephone message, do not hesitate to call the leader, co-leader or the recorder. You will find their telephone numbers on the schedule. Changes in e-mail addresses should be sent to Larry Avery at <alavery@cytechusa.com>.

Asheville, N.C.

Conway, Rachel M.  
 Crawford, Dean & JoAnn  
 Durpo, Wilma  
 Evans, Maxilla  
 Feil, Elisabeth  
 Hansens, Elton & Aline  
 Kolton, Marilyn & Dwarshuis, Louis  
 Lackey, Charlotte  
 Middleton, Dave & Milly  
 Palmeri, R. & MacGregor, C.  
 Robbins, Paula  
 Takaro, Tim & Marilyn  
Balsam, N.C.  
 Chattaway, J.R. & Patricia  
 Houghton, Ann  
Bon Air, VA.  
 Verduin, Bill & Evelyn  
Brevard, N.C.  
 Blaha, Millie  
 Farrar, W. Edmund & Carver  
 Gunn, Bob & Betty  
 Huie, Suzanne  
 Hudson, Jack & Dorothy  
 Iha, Nancy  
 Jones, Betty  
 Lellinger, Jeanette  
 Moore, Eric & Peggy  
 Perry, Pat & Lois  
 Schifeling, Daniel & Annalee  
 Smith, Jeanne  
 Strayer, Lucie A., Colmont, R.  
 Updike, Connie  
Candler, N.C.  
 Carlson, Betty  
Canton, N.C.  
 Fishback, Happy and Jan  
 Pearce, Edwina  
Charlotte, N.C.  
 Ward, Courtney  
Columbus, N.C.  
 Henry, Dee  
 Sentell, Patricia  
 Smoke, Henry & Therese

Etowah, N.C.

Charlebois, Joy  
Flat Rock, N.C.  
 Arbuckle, Bonnie  
 Avery, Larry & Anita  
 Blackwell, Rusty/Cottier, Ray  
 Gibson, Ruth Anne & John  
 Wong, Anna  
Gerton, N.C.  
 Florence, Thomas & Glenna  
Greenville, S.C.  
 Burton, Mr. & Mrs. Henry B.  
Hendersonville, N.C.  
 Amato, Evelyn  
 Anderson, Kenneth & Jane  
 Arnett, Patricia  
 Ballard, Larry & Anna  
 Bockoven, Paul & Elizabeth  
 Borgfeldt, Ken & Chris  
 Coleman, Persis  
 Davis, Thomas and Jane  
 Drost, Jack  
 Foresman, Louise  
 Gadd, Charles & Frances  
 Herrman, Don & Dana  
 Kotch, Joel & Sharon  
 Lambert, Larason & Juanita  
 Lenhart, Jean  
 MacCallum, Betsy  
 Matthes, Herbert & Anne  
 Meister, Charles & Nancy  
 Merkle, Mary L.  
 Mizeras, Alan  
 Montgomery, Bob and Elaine  
 Pearson, Bud & Laverne  
 Petteway, Jo  
 Polchow, Peggy  
 Rogers, Kim  
 Russell, Beverly  
 Sauborn, Barbara  
 Sidoti, Marjorie  
 Sinish, Ken & Bessie  
 Styles, Cora  
 Ulinski, Anne

Highlands, N.C.

Davis, Charlton & Patricia  
 Poole, Kay & Edwin  
Hot Springs, N.C.  
 Flynn, Mary  
Horse Shoe, N.C.  
 McCurdy, Cynthia and Mike  
Lake Toxaway, N.C.  
 Allen, Barbara D.  
 Dzedzic, Betty  
 McGuirt, Lucy  
Lemont, Pa.  
 Beatty, George  
Leicester, N.C.  
 Beyer, Patsy  
 Yost, Sandra  
Lexington, N.C.  
 Fisher, Don  
Marion, N.C.  
 Goldsmith, James W.  
Norcross, Ga.  
 Arrington, Daisy  
Ormond Beach, Fl.  
 McDaniel, Lois  
Pisgah Forest, N.C.  
 Kurinsky, Allen & Naomi  
 Smith, Helen M.  
Saluda, N.C.  
 Pearson, Millie  
 Wilkes, Holly  
Seneca, S.C.  
 Lennox, Susan & David  
Sylva, N.C.  
 Harris, Mary Helen  
 Horne, Ann and Lynn  
 Miller, Earl & Bettye  
 Stenger, Raymond & Gloria  
Tryon, N.C.  
 Galda, Odessa  
Waynesville, N.C.  
 Brinson, Beth  
 Couric, Elrose/Hollinger, S  
 Thomas, Jane and George

Not even **Hardy Souls** were prepared to walk in the snow at the end of February, so that field trip was cancelled.

Leaders scouted the trails at **Devil's Fork State Park** and concluded that, except for several great patches of oconee bells (*Shortia galacifolia*), there was little else in bloom in mid-March. The field trip was relocated to **Station Cove Falls** where these early bloomers were found: violets, green-and-gold, hepatica, bloodroot, chickweed and trilliums.

It was a warm, sunny day on March 29 when members walked the beautiful creek-side trail at **Table Rock State Park**. By this date, masses of trout lilies (*Erythronium umbilicatum*) had bloomed and were in seed. This is one of a few sites where we see climbing hydrangea (*Decumaria barbara*).

Temperatures in the 40's and occasional sprinkles did not deter the 25 visitors to **Pearson's Falls**. Spring flowers were plentiful but not showy due to weather conditions. Trilliums were the usual highlight of the walk. The green violet (which is not a violet – *Hybanthus concolor*) was in bud. After the walk, the group gathered at Millie Pearson's home for dessert and a tour of her garden.

It has been ten years since the club last walked the **Porter Creek Trail** in the Greenbrier Area of the Great Smoky Mountains National Park. Fringed phacelia (*Phacelia fimbriata*) and large-flowered trilliums (*Trillium grandiflorum*) were abundant and covered the mountainside in places. Of special note were two patches of Fraser's sedge (*Cymophyllus fraserianus*) just beyond the impressive waterfalls.

The field trips to **Deep Creek** and **Balsam Mountain Preserve** were cancelled due to much-needed rain. Scouts for the walk reported that these sites have many flowers and should be considered for rescheduling.

It was with pleasure that we returned (with permission from the owner) to **Pacolet Falls**. The trail is becoming overgrown in some spots, but the trilliums are as spectacular as ever. This is the perfect location to do an up-close comparison between the large-flowered trillium and Catesby's trillium. Two shades of wake robin – white and creamy – lined the path.

Our timing was perfect to see the "special" plants at **Glassy Mountain Preserve** in South Carolina. Painted buckeyes (*Aesculus sylvatica*) and round-leaved ragwort (*Packera obovata*) provided a brilliant splash of color through the wooded part of the walk. On the bare granite rocks we saw false garlic (*Nothoscordum bivalve*), mountain sandwort (*Minuartia groenlandica*), hairy spiderwort (*Tradescantia hirsuticaulis*) and masses of the tiny elf orpine (*Diamorpha smallii*) which, from a distance, looked like a red carpet.

Thirteen members, with trowels in hand, gathered at the **Bullington Center** to plant wildflowers from their home gardens into the newly established Native Mountain Shade Garden. After the planting session, the group toured other areas of the property. All marveled at a large drift of whorled pogonia (*Isotria verticillata*) that had just emerged from the ground.

The light colored blooms of foamflower (*Tiarella cordifolia*) and pale violet (*Viola striata*) brightened an otherwise dreary day at the **Davidson River / Sycamore Flats** area.

## The Curious Case of the Disappearing Asters ....

Would an aster by any other name look as showy?

One dark and stormy night in 1994 I was awakened from a deep sleep by a loud thump. Creeping carefully down the stairs, I discovered to my astonishment that a large bouquet of *Aster* on the dining table had disappeared! In its place was a cornucopia of composites, including *Symphotrichum*, *Ionactis*, *Eurybia*, *Sericocarpus*, *Doellingeria*, *Ampelaster*, and *Oclemena*! Once again, a plant taxonomist had struck in dark of night, taken a simple two-syllable genus with the same English common name, and replaced it with a handful of four- and five-syllable Latin tongue-twisters. Whatever can we do about such things?

The classification of living things is based on the principle that each taxonomic unit (for instance the Composite or Aster Family, the genus *Aster*, or a species) groups together things that are most closely related to one another, and that the group should not also contain things which are disparate, unrelated, or more closely related to another group.

The concept of the genus *Aster* has had a long history of controversy and confusion. Asa Gray, the most influential nineteenth-century North American botanist, struggled with *Aster*—at all levels, from its circumscription (what to include in it), to the taxonomy of the component species. Late in his life, he wrote

“I am half dead with *Aster*. I got on very fairly until I got to the thick of the genus, around what I call the *Dumosi* and *Salicifolia*. Here I work and work, but make no headway at all. I can't tell what are species and [sic] how to define any of them. . . . I was never so boggled. . . . If you hear of my breaking down utterly, and being sent to an asylum, you may lay it to *Aster*, which is a slow and fatal poison.”

Ultimately, Gray took a broad view of *Aster*, and with some uncertainty included in it many of the “segregate genera” named in the 1820s and 1830s. His view proved influential, and has generally prevailed until very recently—although Edward L. Greene, John K. Small, and others recognized many of the segregates. In the 1940s and onward, renowned composite expert Arthur Cronquist returned to Gray's broad view and even added an additional segregate, *Sericocarpus*, to *Aster*.

In the last decade, studies of the genus *Aster* have resulted in major changes in the understanding of the genus and its relatives. In 1994 Guy Nesom (UNC Botany Ph.D. 1980) used traditional taxonomic tools (morphology and chromosomes) to suggest two things: that Gray's broadly conceived *Aster* included disparate components that should not be grouped together, and, even more radically, that none of the American “asters” was closely related to Eurasian asters. Many experts were skeptical, and they set about to prove Nesom wrong, using molecular and other taxonomic methodologies. All methods concluded, however, that Nesom was right: the smaller genera should be used, and North American asters are not closely related to the European genus *Aster*. Since the “type species” of *Aster* is European, the name must remain associated with Eurasia and all our species have been transferred to other genera, a taxonomic system that will be used in the upcoming aster volume of the Flora of North America and in my Flora of the Carolinas, Virginia, and Georgia.



So, here is a bouquet of the new asters: climbing aster (*Ampelaster carolinianus*), stiff-leaved aster (*Ionactis linariifolius*), tall flat-topped aster (*Doellingeria umbellata*), whorled aster (*Oclemena acuminata*), common blue aster (*Symphyotrichum cordifolium*), big-leaved wood-aster (*Eurybia macrophylla*), and white-topped aster (*Sericocarpus linifolius*). Fortunately, we can appreciate our new understanding of the diversity of asters, and in common names at least, they are still "asters"!

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*This article was written by Alan Weakley who is the Curator at the University of North Carolina Herbarium, North Carolina Botanical Garden at Chapel Hill. His article appeared in a recent edition of the Botanical Garden bimonthly newsletter and is reprinted with his permission.*

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### Name Changes for Ferns Commonly Found in our Area Jenny Lellinger

The publication of reference works such as the Flora of North America (FNA) motivates specialists who have been studying given groups of plants to publish their studies so their findings will be reflected in such a major reference work. That is why, as the different volumes of the FNA are released, you will hear about the many resulting name changes.

Name changes may come about for various reasons. For example, sometimes a new world species was thought to be different from its old world species counterpart, but after further study often involving DNA testing, is determined to be the same. The oldest name has precedence, and the new world species is renamed. In other cases, a related group of previously poorly studied genera may be more carefully examined. Worldwide specimens are compared, and a greater understanding of how individual species should be grouped, results in name changes.

On the next page is a list of name changes, as accepted by the Integrated Taxonomic Information System (ITIS), for fern species commonly found in our area.

*Asplenium rhizophyllum*, Walking Fern  
(formerly *Camptosorus rhizophyllum*)



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*Jenny Lellinger is a new member of the Botanical Club. She is a graduate of the USDA School of Natural History Field Studies Program with a specialty in ferns and fern allies. In January of 2005 she will give us a workshop on ferns. The Walking Fern drawing is from "Fern Finder" by Barbara and Anne Hallowell.*

New Scientific Name	Alternate Scientific Name	Common Name	Comments
<i>Diplazium pycnocarpon</i>	<i>Athyrium pycnocarpon</i>	Narrow-leaved glade fern	
<i>Deparia acrostichoides</i>	<i>Athyrium thelypteroides</i>	Silvery glade fern	
<i>Asplenium rhizophyllum</i>	<i>Camptosorus rhizophyllum</i>	Walking fern	
<i>Cystopteris protrusa</i>	<i>Cystopteris fragilis</i> var. <i>protrusa</i>	Lowland brittle fern or southern bladder fern	<i>C. protrusa</i> was elevated to a species level because of rhizome characteristics, range, and habitat differences.
<i>Cystopteris tenuis</i>	<i>Cystopteris fragilis</i> var. <i>mackayi</i>	Upland brittle fern or Mackay's brittle fern	<i>C. tenuis</i> was elevated to a species level because of morphological characteristics and habitat differences.
<i>Dryopteris carthusiana</i>	<i>Dryopteris spinulosa</i>	Spinulose wood fern	Old world species found to be the same.
<i>Athyrium filix-femina</i> ssp. <i>angustum</i> *	<i>Athyrium filix-femina</i>	Northern lady fern	
<i>Athyrium filix-femina</i> ssp. <i>asplenoides</i> *	<i>Athyrium filix-femina</i>	Southern lady fern	
<i>Pleopeltis polypodioides</i>	<i>Polypodium polypodioides</i>	Resurrection fern	
<i>Phegopteris connectilis</i>	<i>Thelypteris phegopteris</i>	Narrow beech fern	
<i>Phegopteris hexagonoptera</i>	<i>Thelypteris hexagonoptera</i>	Broad beech fern	
<i>Polypodium appalachianum</i>	<i>Polypodium virginianum</i>	Appalachian polypody	<i>P. virginianum</i> (Rock or common polypody) was divided into two species because of taxonomical and range differences.

\* Some authorities consider that these exhibit enough morphological and range differences to qualify as subspecies; others judge them to be varieties.

## The Bullington Center

The Center is on a 12 acre site off Zeb Corn Road in the eastern part of Henderson County. This property was once a nursery owned by Robert Bullington, a former Long Island nurseryman. After Mr. Bullington's death, his wish was carried out that his land and buildings be used as an education center. The land is managed by John Murphy in a cooperative agreement with the Henderson County Education Foundation, the Henderson County Public Schools and the N.C. Cooperative Extension Service.



*Isotria verticillata*  
Whorled pogonia

A nature trail which John calls a "Discovery Walk" introduces school children to the world of nature where they learn about "plant interaction", the importance of temperature, light, water, nutrients and air to create a healthy plant. A past program focused on plant/insect interactions. During the Discovery Walk the children looked for insects or signs of insects, for example bees pollinating, bags from bag worms, aphids, lady bugs, and beetles i.e., a pollinator, a pest, or one beneficial to the plant.

Last year more than 1500 children, kindergarten through fifth grade, visited the Center, and many more are scheduled for this school year. In addition, more than 500 other visitors came to the Center last year, and this number, too, is increasing as the Center becomes better known.

The Bullington site is unusual in that it has cultivated plants from Asia as well as native plants including a large collection of native azaleas and mountain laurel. The nature trail was laid out by John and built by volunteers. It goes through a mixed forest, rhododendron thicket, along a stream and through a meadow. These different ecosystems offer opportunities for visitors to observe native plants in their natural environment. The Botanical Club is making an inventory of the native plants identified at the Center. A large stand of *Isotria verticillata*, whorled pogonia, is one of the unusual plants found at the Center.

A therapy garden for the physically disadvantaged, a garden for children, a shade and contemplation garden (with many plants donated by the Botany Club), a classroom for lectures and slide presentations and even a resource library are in development or planned.

Join the Club on the next scheduled visit -- Friday, June 25th.

SHORTIA  
c/o Anne Ulinski  
1212 Chanteloupe Drive  
Hendersonville, N.C. 28739



GREETING  
FROM  
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Library \*Att: Dr. Buck  
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**SHORTIA**

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A quarterly publication of the Western Carolina Botanical Club

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Editor: Anne Ulinski  
Editorial Assistants: Pat Arnett and Jean Lenhart  
Art Work: Pat Arnett  
Member News: Ruth Anne Gibson

Please submit contributions for the next issue by August 15, 2004 to: Anne Ulinski  
1212 Chanteloupe Drive, Hendersonville, N.C. 28739

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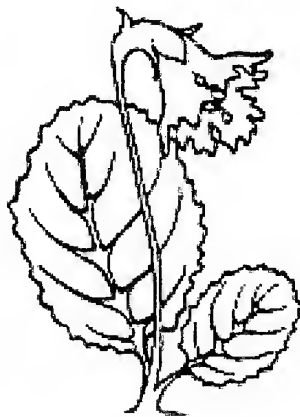
The purpose of the Club is to study the plants of the Southern Appalachian Mountains and the Southeast through field trips and indoor meetings. Membership is open to all. Individual/family memberships are \$15. New members joining from the period July 1-December 31, pay \$8. All memberships are renewable on January first of each year. Send dues to: Larry Avery, 4 Windrush Lane, Flat Rock, N.C. 28731

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# SHORTIA

NEWSLETTER OF THE  
WESTERN CAROLINA BOTANICAL CLUB

FALL 2004



*Shortia galacifolia*

Oconee Bells

WESTERN CAROLINA BOTANICAL CLUB

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FROM THE PRESIDENT.....Bonnie Arbuckle

Grow Native

This month visitors coming into my driveway are greeted by blooms of Cardinal Flower (*Lobelia cardinalis*), Coreopsis (*Coreopsis major*) and Black-eyed Susan (*Rudbeckia hirta*). When they comment on the beauty of the flowers, I tell them they are all western North Carolina native plants that have self-seeded and require no special care. Although some favorite flower spots have been destroyed by mowing and development, I know that these will continue to be a part of the native flora of this area.

Most of the plants in my gardens are natives that have been selected and planted for their beauty or to attract wildlife. Some special ground covers appeared when English Ivy was removed. Large patches of Partridge Berry (*Mitchella repens*), Common Veronica (*Veronica officinalis*), Lance-leaf Lysimachia (*Lysimachia lanceolata*) and Rattlesnake Plantain (*Goodyera pubescens*) now grow among the rhododendron. I wonder what will appear next.

As we go on our weekly field trips we observe plants in different habitats: pine woods, hardwood forests, dry fields, stone outcrops and marshes. We can then look at our own properties and know what to plant and preserve in our home gardens. Do you have native plants that are well adjusted to your home terrain? If yes, share your growing native successes with others.

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Green Paths

A "Library of Trees" is planned for a park in Milan, Italy. The park will contain buildings dedicated to sport and fashion and will have circular groves of trees, each a different species. The groves will be connected by paths which will be lettered with the Latin names of plants. -editor

## New Member

Les Saucier, Weaverville.

## Conferences and Exhibits

### Highlands Conference

The Fifth Annual Conference of the Highlands Biological Station is entitled "Landscaping and Gardening with Native Plants". It will be held at the Highlands Biological Station September 10-12. Field trips are scheduled for Friday the 10th, and Sunday the 12th. Saturday the 11th, will be devoted to lectures such as "Good Grasses: Growing and Using Native Southeastern Grasses", and "The Evolution of a Naturalistic Landscape". Call 828-526-2602 for space available at the conference.

### Chihuly In the Garden

This year the Atlanta Botanical Garden is hosting a one-of-a-kind exhibition presenting the stunning glass artwork of Dale Chihuly. Hailed as the cultural event of the year, "Chihuly in the Garden" opened to the public on May 1 and will run through October 31, 2004. The exhibit weaves together art and nature, showcasing the majesty of Dale Chihuly's glass with the plant collections of the Atlanta Botanical Garden. It will present Chihuly's hand-blown glass sculptures in various botanical settings including floating in ponds, suspended in air and interspersed within the Garden's flourishing plant life. A selection of framed Chihuly drawings will also be on display.

The Botanical Garden describes the exhibit. "This fusion of glass art and garden settings offers a unique intersection of nature and art. The Garden's natural light and lush green plants provide the perfect backdrop for Chihuly's colorful, dynamic glass forms....The blue light of morning has one effect on the glass forms. Intense white light causes a different appearance while the golden light before sunset creates yet another effect. But when darkness falls, the entire scene changes, and the glass art becomes enchanting."

As well as a daytime visit, it is suggested that visitors plan to come to the Garden any Tuesday evening until 9 p.m.

### South Carolina State Museum

The S.C. State Museum in Columbia has a computer-generated model of tectonic plate movement which shows how continents moved around to form Pangaea, a Paleozoic super-continent that existed more than 270 million years ago. Den Latham describes the exhibit: "The land masses twirl and spin like square dancers in a do-si-do. And they don't simply change partners. They change parts." (See page 7, "Exotic Terrane").

**Recorder Ramblings ..... Ken Borgfeldt**

Betty Jones has computerized the field trip records to the point where she felt that she could retire from the job as Recorder. Hopefully she is correct! I'll be providing the ramblings and with any luck be able to maintain the club records almost as well as Betty.

The field trip to **Coleman Boundary** was quite cold with temperatures in the 40's. The roadside was covered with Creeping Phlox (*Phlox stolonifera*). Some water damage to blooms was found from earlier heavy rains but Squirrel Corn (*Dicentra canadensis*) and Dwarf Larkspur (*Delphinium tricorne*) were in great numbers. By lunchtime the group was so cold the hike to Douglas Falls was postponed for a sunnier day.

Our visit to **Jones Farm** was delightful as usual. We were a little late for most of the blooms but Betty regaled us with explanations of the various Latin names for the plants as we came across them on our walk. A Vasey's Trillium in bloom was a special treat.

A small group attended the walk from **Tanbark Tunnel to Rattlesnake Lodge**. We were treated to several patches of Whorled Pogonia (*Isotria verticillata*) that were at or near peak bloom and two beautiful stands of Shooting Stars (*Dodecatheon meadia*). Unfortunately we were a little early for the Flame Azaleas that were in bud but had few blooms. Lunch at a breezy rock outcrop was welcome as the day heated up.

Despite rainy weather early in the week that left the road to **Pilot Mountain** quite muddy, the walk was not affected. We found Painted Trillium (*Trillium undulatum*) in bloom and a large stand of Intermediate Wood Fern (*Dryopteris intermedia*) - many showing fertile fronds. The Pink Shell Azaleas (*Rhododendron vaseyi*) had been beaten by the rains and were past prime.

We were joined in our visit to **Holmes State Park** by some of the park staff who were amazed by the number of species that were found in the open field near their office. Obviously they haven't seen this group in action! The walk proceeded from the field to the north slope of the forest. Speckled Wood Lilies (*Clintonia umbellulata*) were blooming abundantly and a giant Jack-in-the-Pulpit (*Arisaema triphyllum*) by the stream was spectacular.

**Falling Creek Camp** was a new site to the field trip schedule. The owner Chuck McGrady welcomed everyone and a camp counselor accompanied us. The walk was easy and we saw many plants. Two species of note were Fairy Wands (*Chamaelirium luteum*) - male and female plants - and Biltmore Carrion Flower (*Smilax biltmoreana*).

We continued our schedule of monthly visits to **Bullington Center**. In May members brought from their homes native species to plant in the Native Mountain Shade Garden. Some members printed and placed identification labels on the plants. A walk along the trails at the center allowed us to expand the growing species list for the center. It was rainy in June and only seven hardy souls showed up. Time was spent transplanting plants from other areas of Bullington to the shade garden followed by a walk of the trails.

The **Spring Picnic at Ramblewood** was the usual success. Dana led walks around the property while Don stayed out of the way! Everyone brought covered dishes and no one went hungry.

The blooms at **Wayah Bald** were not as spectacular as some previous seasons but we did get to see Flame Azaleas (*Rhododendron calendulaceum*) and Smooth Azaleas (*Rhododendron arborescens*).

Despite the many raining days we had during this period, only the **Ashmore Preserve** was cancelled.



## Rain Gardens

Rain gardens are an innovative approach for treating storm-water runoff from developed areas such as parking lots. This runoff is often laced with contaminants such as motor oil or road salt, and concentrated flows of this “dirty” water from paved surfaces can quickly overwhelm the natural streams and water bodies into which they flow, leading to erosion, sedimentation, flooding and pollution.

A rain garden is typically a shallow depressed area filled with plants that can withstand periods of inundation during rainstorms. A portion of the water that flows into a rain garden has an opportunity to percolate into the soil. In addition, the plants installed in a rain garden can help filter some of the contaminants that would normally leave a site, while providing habitat for birds and other wildlife.

The Unitarian Universalist Fellowship of Hendersonville (UUFH) has installed a rain garden along the Kanuga Road boundary of their parking lot near the Log Cabin. Plants include Fox Sedge (*Carex vulpinoidea*), Blue Flag Iris (*Iris versicolor*), Cardinal Flower (*Lobelia cardinalis*), Wool Grass (*Scirpus cyperinus*), New York Ironweed (*Vernonia noveboracensis*), Turtlehead (*Chelone sp.*), New York Aster (*Symphotrichum novi-belgii*), and Soft Rush (*Juncus effusus var. brunneus*)

This work was done by Snow Creek Nursery & Landscaping with funding assistance from a generous member of the UUFH congregation. The landscape architect was Greg Cloos, Cloos Landscape Architecture, PA of Horse Shoe. Greg, the UUFH Landscape Chairman, expects it will take at least a year for the rain garden plants to become established.



Fox sedge  
*Carex vulpinoidea*



New York Aster  
*Symphotrichum novi-belgii*



Soft Rush  
*Juncus effusus*



Blue Flag Iris  
*Iris versicolor*

## NAME CHANGES FOR LYCOPODS FOUND IN NORTH CAROLINA by Jenny Lellingner

The Lycopods (from the Greek roots *lyco* – wolf; *pod* – foot), or members of the family *Lycopodiaceae*, are one of the most familiar groups of fern allies. Like other pteridophytes, they too have undergone more scrutiny and some reclassification as they are better understood. The names listed below under "New Scientific Names" are those that have been accepted by the Integrated Taxonomic Information System (ITIS). ITIS is a partnership formed between Mexican, Canadian and United States agencies to meet mutual needs for "scientifically credible taxonomic information."

The following 3 species, formerly placed under the genus *Lycopodium*, have been assigned to the large, mostly tropical genus *Huperzia*. This genus includes 7 temperate, alpine, and arctic species in North America. The North American species are characterized by bearing sporangia at the base of fertile leaves (rather than on cones or strobili). Although technically not mosses, these small fir-like plants are commonly referred to as "fir-mosses."

New Scientific Name	Alternate Scientific Name	Common Name
<i>Huperzia appalachiana</i>	<i>Huperzia appressa</i> , <i>Lycopodium selago</i> var. <i>appressum</i>	Mountain fir-moss
<i>Huperzia lucidula</i>	<i>Lycopodium lucidulum</i>	Shining fir-moss or clubmoss
<i>Huperzia porophila</i>	<i>Lycopodium porophillum</i>	Rock fir-moss or clubmoss

Formerly classified under the genus *Lycopodium*, the next 3 species are distinctly different and have been reclassified under the genus *Lycopodiella*, which means little *Lycopodium*. *Lycopodiellas* are commonly known as Bog Clubmosses due to their preference for fairly wet or boggy areas.

<i>Lycopodiella alopecuroides</i>	<i>Lycopodium alopecuroides</i>	Foxtail bog clubmoss
<i>Lycopodiella appressa</i>	<i>Lycopodium appressum</i> , <i>Lycopodium inundatum</i> var. <i>appressum</i>	Appressed or Southern bog clubmoss
<i>Lycopodiella caroliniana</i>	<i>Lycopodium carolinianum</i> , <i>Pseudolycopodiella caroliniana</i>	Slender bog clubmoss

Scientists have learned that the tree-like clubmoss that we have known as *Lycopodium obscurum* is actually a group of 3 different species. In addition to *L. obscurum*, this group includes the following.

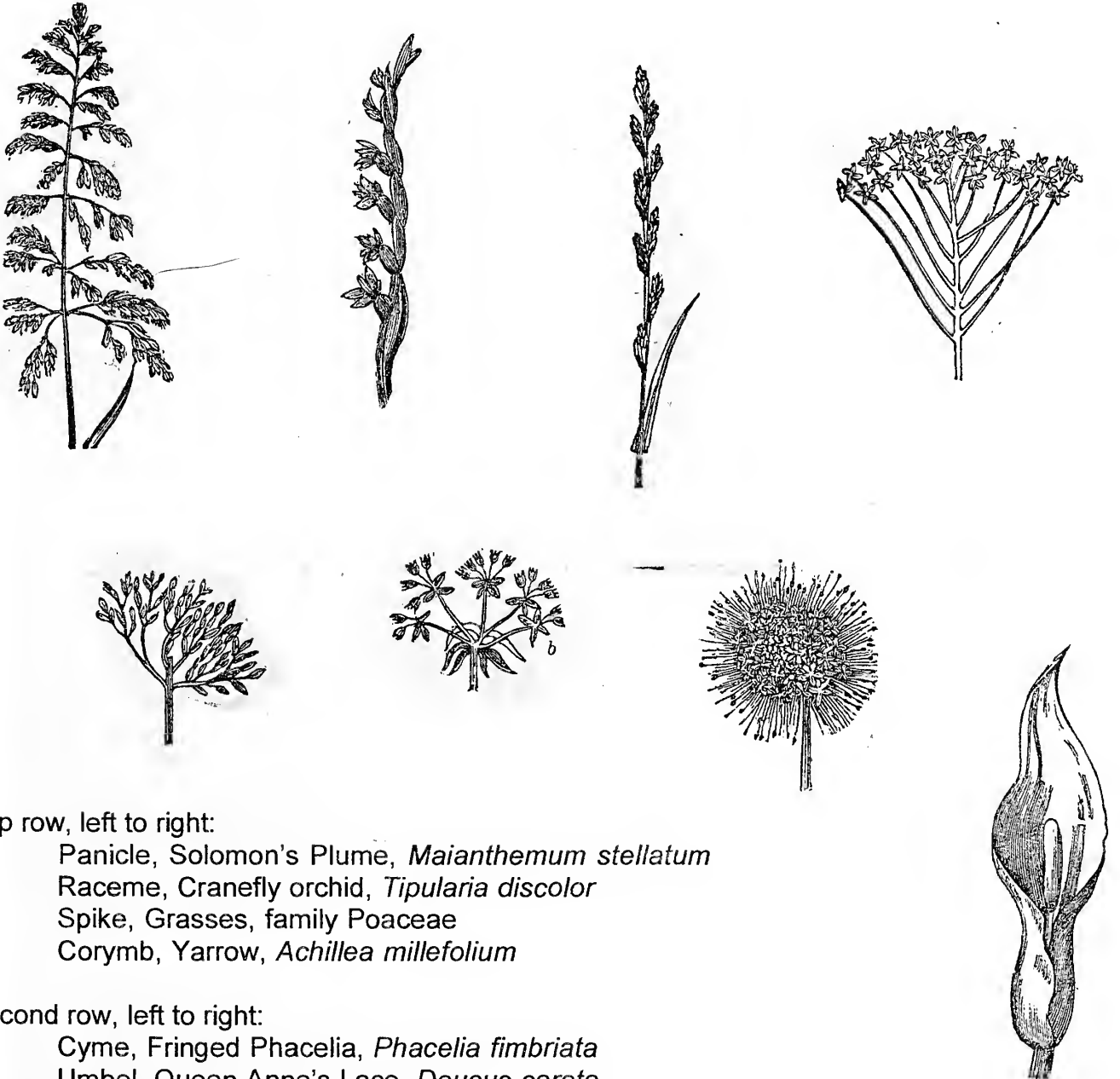
<i>Lycopodium dendroideum</i>	<i>Lycopodium obscurum</i> var. <i>dendroideum</i>	Tree ground-pine or Ground-cedar
<i>Lycopodium hickeyi</i>	<i>Lycopodium obscurum</i> var. <i>isophyllum</i>	Hickey's or Pennsylvania

The next clubmoss has borne many names and may yet change again as this scaly-leaved group is further studied.

<i>Lycopodium digitatum</i>	<i>Diphasiastrum digitatum</i> , <i>Lycopodium flabelliforme</i> , <i>Lycopodium complanatum</i> var. <i>flabelliforme</i>	Running pine, Running cedar, Fan clubmoss
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## INFLORESCENCES

The flowering part of a plant is called its inflorescence. Some of the most common inflorescences are; Panicle, Raceme, Spike, Corymb, Cyme, Umbel, Head and Spadix. These are illustrated below, each with a plant example. Identifying the type of inflorescence is useful in identifying the plant itself.



Top row, left to right:

Panicle, Solomon's Plume, *Maianthemum stellatum*  
 Raceme, Cranefly orchid, *Tipularia discolor*  
 Spike, Grasses, family Poaceae  
 Corymb, Yarrow, *Achillea millefolium*

Second row, left to right:

Cyme, Fringed Phacelia, *Phacelia fimbriata*  
 Umbel, Queen Anne's Lace, *Daucus carota*  
 Head, Sensitive Brier, *Schrankia microphylla*  
 Spadix, Jack-in-the-Pulpit, *Arisaema triphyllum*

The illustrations are from Botany for Beginners: An Introduction to Mrs. Lincoln's LECTURES ON BOTANY. This book, credited to a Mrs. Phelps, was published by Huntington & Savage in 1849. We are indebted to Jeanne Smith for sharing this early botany book.

## Exotic Terrane

About five hundred million years ago, the tectonic plates of the super-continent, Laurentia and Gondwanaland, began to move toward each other. Between these two continents lay the Iapetus Ocean and in the ocean was Avalonia, an arc of volcanic islands that had risen from the ocean floor. As the tectonic plates moved, the ocean shrank and the Avalonia islands were thrust against and sutured to the Appalachians. As a result, a large swath of what we call South Carolina is "exotic terrane". (Terrane is a geological term that means a region where a specific rock or group of rocks predominates.) And although the land is now welded on to the Blue Ridge, this area was not part of ancestral North America.

For some years, geologists had sought evidence that would define where and when the rocks were formed. They needed ancient biological evidence to show that the rocks (terrane) and the belt in which they were found were not from North America. They needed fossils of two kinds -- an "index fossil", a fossil of an organism that had existed widely but for a very short time, and second, a fossil not native to North America. This would be a fossil that would be unearthed in the piedmont but had lived somewhere else. This would prove that the piedmont was exotic.

In 1982, Sara Sampson was enrolled in a geology graduate program at the University of South Carolina. In March of that year, she and two field partners had been assigned to map out an area near Batesburg, S.C. The purpose of the assignment was to learn field research methods, not to find fossils. Still her two professors joked that they would give a case of beer to whoever found a fossil. More seriously they said, "If you chance to find one, let us know. It is important."

As Sara followed her two partners across a field, her shoe came untied. Unwilling to fall behind, she waited until she crossed the field and then knelt down near a drainage ditch to tie her shoe. She chanced upon a rock that had "a symmetry to it, kind of like a little ladder." She picked up the rock and showed it to her classmates who thought it of no consequence and tossed it away. But Sara picked it up again.

Looking at Sara's rock back at the University, her professors at first thought it was a prank, one of the "too-good-to-be-true" tricks geologists play on each other. Convinced that it was not a joke, they examined the rock under a hand lens and a dissecting microscope. They identified it as part of a *Pardoxides* trilobite, a marine animal that had lived more than 500 million years ago, before Laurentia and Gondwanaland collided. The trilobite ("try-luh-byte) was a part of a bottom-dweller that had lived, died and been fossilized near the shores of Avalonia.

The S.C. geologists revisited Sara's site and found dozens and dozens of fossils- nine species in all, and all from the same geological period. Sara's discovery gave conclusive evidence that the rocks of the Carolina slate belt were not indigenous to North America.

"Back at the University, Sara turned down the case of beer. What she helped to write - an epic of wandering continents, of lost islands and oceans, of ancient life turned to stone more than a hundred million years before it drifted to our shore, of a discovery made by a young scientist bending to tie her shoe - is far more intoxicating."

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The above is quoted and excerpted with permission from an article, "Piedmont Past" by Den Latham and published in South Carolina Wildlife, Nov-Dec 2003.

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To see a World in a Grain of Sand  
*And a Heaven in a Wild Flower,*  
Hold Infinity in the Palm of your Hand  
And Eternity in an Hour.

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-William Blake

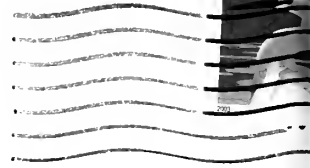
A web site to visit is "Wildflowers of the Southern Appalachian Mountains" at <[www.wncwildflowers.info](http://www.wncwildflowers.info)>. The many photographs at this site were taken in Henderson, Transylvania and Polk Counties. Click on Orchids to find a photograph of a plant we saw recently at Sky Valley Road -- the Yellow Fringed Orchid.

Look further for the *Harvard University Flora On Line*, *NatureServe Explorer On Line*, the *USDA Plant Data Base* and even an on-line *Botanical Glossary*.

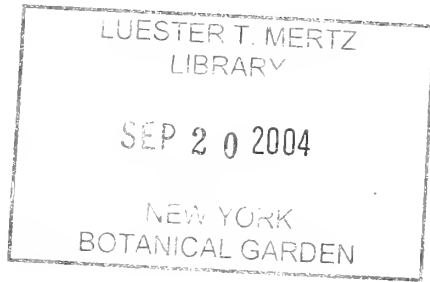
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A new species of aster, *Symphotrichum sp.1.*, will be described in a paper in the fall journal Sida. The paper is by Gary Kauffman, Guy Nesom, Alan Weakley, Tom Govus and Laura Cotterman and the species may be included in The Flora of North America. So far as is now known, this aster is endemic to the Buck Creek Serpentine Barrens, a place visited by the club with Gary Kauffman several years ago. It is suggested that this plant should be looked for at other Southern Blue Ridge ultramafic sites.

SHORTIA  
c/o Anne Ulinski  
1212 Chanteloupe Drive  
Hendersonville, N.C. 28739



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## SHORTIA

Vol. XXVI. No. 3

FALL 2004

A quarterly publication of the Western Carolina Botanical Club

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Editor: Anne Ulinski  
Editorial Assistants: Pat Arnett and Jean Lenhart  
Art Work: Pat Arnett  
Member News: Ruth Anne Gibson

Please submit contributions for the next issue by November 15, 2004 to: Anne Ulinski  
1212 Chanteloupe Drive, Hendersonville, N.C. 28739

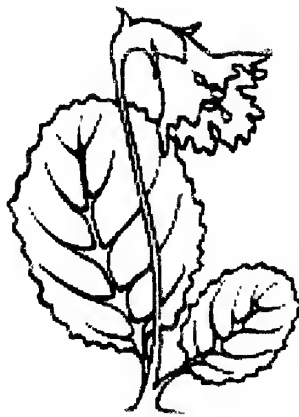
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# SHORTIA

NEWSLETTER OF THE  
WESTERN CAROLINA BOTANICAL CLUB  
WINTER 2004



*Shortia galacifolia*

Oconee Bells

## WESTERN CAROLINA BOTANICAL CLUB

President: Bonnie Arbuckle  
Vice President: Helen Smith  
Co-Secretaries: Juanita Lambert  
Connie Updike

Treasurer: Larry Avery  
Recorder: Ken Borgfeldt  
Historian: Suzanne Huie

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FROM THE PRESIDENT.....Bonnie Arbuckle

Dick Smith, author of several wildflower books and former president of our club, wrote a series of articles for publication in SHORTIA. He called the articles "Look Again". He knew from his own experience that we often do not look carefully enough at a plant. We can easily make a first identification which can be in error. (See page 8 for a reprint of Dick's article on the identification of two hazel species.)

Recently I have become aware of the necessity to look closely at plants before making an identification. When a friend showed me a photo identified as *Oxalis europaea*, I wondered why it was not *Oxalis stricta*, the plant we so often identify on our field trips. Plates in Newcomb's book clearly illustrate the difference in the way the fruiting bodies are attached to the plant. Next time you see an oxalis plant look for the seed pod. If it has decurved pedicels, it is *O. stricta*.

Jan Haldeman sends timely native plant e-mails to members of the South Carolina Native Plant Society. In the one about Sweet Autumn Clematis, she points out the differences between our native *Clematis virginiana* and the introduced Asian *Clematis ternifolia*. The pinnately compound leaves of *C. virginiana* have three coarsely toothed leaflets, while the 3-5 leaflets of *C ternifolia* are entire.

The tree-like evergreen clubmoss we so often find forming attractive patches of green on winter's forest floor is identified by most folks as *Lycopodium obscurum*. Both Edgar T. Wherry (1961) and Boughton Cobb (1956), in their respective fern field guides, included var. *dendroideum* as a major variant of *L. obscurum*. Many years later, var. *isophyllum* was identified. More recent works recognize these now as three separate and distinct species: *L. obscurum*, *L. dendroideum*, and *L. hickeyi* (previously *L. obscurum* var. *isophyllum*).

On the October Dupont Forest field trip, Jenny Lellinger found two club mosses and showed us the differences in leaflet length and arrangement. Line drawings best illustrate these differences. We can continue to observe and study these evergreen plants during the winter season while remembering the importance of looking again and again.

Cover: The flower on the cover is *Shortia galacifolia*, Oconee Bells. Our newsletter is named for this southern endemic which is now rare in the wild.



### New Member

Les Saucier, Weaverville. I am a retired biologist who is very passionate about nature photography. My interest in botany started professionally working with weed ecologists but now my interest is more about photographing wildflowers. I have lived in Weaverville for the last 4 years. I lived in Boone the 3 preceding years.

### Member News

#### Garden Walks at Biltmore Estate.

I have been working this year at Biltmore Estate as a Garden Guide. After several training sessions my duties now involve taking scheduled groups of guests from the Biltmore House (built by George W. Vanderbilt III in the latter part of the 19th Century), to the Bass Pond in the lower part of the garden. The main theme of these mile long walks speaks to the work of Frederick Law Olmsted and his concepts of landscape architecture. Plants and points of interest that illustrate these concepts are included in the informal lectures. One of Mr. Olmsted's designs was planned to entertain Mr. Vanderbilt's family and guests with a walk from the very formal surrounds of the house to a wilderness experience, in the lower part of the 75 acre garden, where native plants are encouraged. I hope at another time to bring a listing of these to the attention of the Botany Club. -Betty Carlson

### Annual Dues

January 1, 2005 is the date for all membership renewals. We do not have the resources to send out individual reminders so please mail your dues to Larry Avery, 4 Windrush Woods Lane, Flat Rock, N.C. 28731.

### Learn And Share - Friday March 18

We need six volunteers to share with the membership something they have recently learned--perhaps a book or magazine article, a new plant discovered, a travel experience, or nature photographs. Presentations will be limited to 10 minutes. This has been a very enjoyable program in the past and we look forward to another successful Learn and Share. this spring. If you can volunteer for the March 18th indoor program, call Anne Ulinski at 697-9527.

### Indoor Meeting Cancellation

A reminder that when the Henderson County Schools are closed, the Sammy Williams Senior Center will be closed, and our indoor program for that day will be cancelled.

Our visits to **Bullington Center** included planting more native species which members brought from home and identifying plants in bloom that particular month. A book sale was held in August which included many books from Erika Parmi's collection.

Tom Goforth led a walk along **Panther Creek** in Georgia. This new field trip included wading a creek as we followed a path that led to a very rich cove area. Many fern species were found including Goldie's Fern (*Dryopteris goldiana*), Resurrection Fern (*Pleopeltis polypodioides*) and Lowland Bladder Fern (*Cystopteris protrusa*). Tom provided a lot of information on the geology of the area.

At **Bee Tree Gap** we found a wide variety of wildflowers blooming their little hearts out. My favorite was the bright red Bee Balm (*Monarda didyma*). Lunch was at the Craggy Garden Picnic Area.

It was drizzly as we walked the **Shut-in Trail to Elk Pasture Gap**. The recent rainy season brought out loads of mushrooms as well as several fine stands of Pine Sap (*Monotropa hypopithys*). The Turk's Cap Lilies (*Lilium superbum*) were spectacular as usual.

The walk along **Sky Valley Road** was full of flowers including Yellow Fringed Orchids (*Platanthera ciliaris*), Nuttall's Lobelia (*Lobelia nuttallii*), Curtis Aster (*Symphotrichum retroflexum*), and a number of different Tick Trefoils (*Desmodium sp.*)

At **Bear Pen Gap** we saw a large patch of Doll's Eyes (*Actaea pachypoda*). Silverrod (*Solidago bicolor*), Starry Campion (*Silene stellata*), and Black Cohosh (*Cimicifuga racemosa*) were plentiful.

A highlight of the field trip to **Graybeard Mountain Overlook** was the addition of a new fern species to our list - (*Dryopteris campyloptera x intermedia*), a sterile hybrid between (*D. campyloptera*) and (*D. intermedia*).

**Kellogg Center** provided us with another new location. We found a wide variety of plant communities from open fields to mature forests. Among the unusual plants we saw were Rose Pink (*Sabatia angularis*) and White Turtlehead (*Chelone glabra*).

We walked the Long Rock Trail at **Kanuga Conference Center**. In mixed forest communities and open fields of a power cut we found Soapwort Gentian (*Gentiana saponaria*), Swamp Rose (*Rosa palustris*) and Pear-shaped Puffballs (*Lycoperdon pyriforme*). We had lunch at Long Rocks where distant views of Mt. Pisgah were inspiring.

A small group of hardy souls went to **Whiteside Mountain** although the trip was officially cancelled due to rain and fog. Most of the flowers were in their late stages but the Witch Hazel (*Hamamelis virginiana*) was noteworthy. The fog made the trail scenes most unusual.

The trip to **Cataloochee Valley** was surprisingly sunny. Most of the plants were in the fruit/seed stage or just leaves with plenty of ferns and mosses along Rough Fork Trail. Wilma Durpo gave a short overview of the history of Cataloochee Vally and we visited several old buildings including a chapel. Of course, the highlight of the trip was our views of the elk.

On the four mile walk at **DuPont State Forest** some wildflowers had mistaken the mild autumn for spring and popped a few blooms. Chris Borgfeldt presented a short history of the area and Jenny Lellinger conducted a Lycopodium class.

**Jones Gap State Park** was the final field trip of the year. We walked along the historic Soloman Jones Road to Hidden Falls, which is now called Jones Falls.

The **Jackson Park, Wagon Road Gap, and FENCE** field trips were all cancelled either because of rains or road damage from one of our three hurricanes.

## Station Cove

"A trip to Station Cove on any warm early spring day is enough to convince you that many, many people think this is among the most beautiful and tranquil sites to visit in the Upstate", wrote Patrick McMillan in August of this year. Patrick is Botanist/Curator of the Clemson University Herbarium.

The plants in Station Cove are among the first spring blooms to appear in upstate South Carolina. Patrick explains that a meteorological/ botanical study found that the Cove does not receive a massive amount of cold air at night because it is not at the base of a mountain or of the escarpment. The result is an unique and impressive mixture of plant species and flowering chronology. Another reason for the botanical richness of the Cove is that the soil contains amphibolite which creates a circumneutral soil, unusual in South Carolina. Patrick explains, "The microclimates and the near neutral soil...harbor many species which are monitored as rare in South Carolina..

The U.S. Forest Service, the S.C. Department of Parks, Recreation and Tourism and the Palmetto Conservation Foundation of Columbia, S.C. have recently constructed a hiker/biker trail connecting Oconee State Park with the Oconee Station Cove Historical Site. This trail, called the Oconee Connector, passes over a part of the Station Cove trail and is increasing damage to the trail which has already eroded down to the clay layer. Just constructing the trail segment has obliterated some plants. This new trail will increase traffic and cause walkers and/or bikers to circumvent the trail to avoid each other and to damage large areas because of concentrated impact.

On September 24, 2004, the Botanical Club Board of Directors voted to join with the S.C. Native Plant Society's Upstate Chapter and other conservation organizations requesting that the trail be closed and rerouted around Station Cove and that the damage to the existing trail be repaired. We received no response or acknowledgment from the U.S. Forest Service nor from the S.C. Department of Parks, Recreation and Tourism. A long e-mail response from the Palmetto Foundation defended the existence of the trail and offered little hope that these requests would be successful.



*Carex gracillima*  
Graceful Sedge

Some of the rare plants in the Cove are: *Aconitum uncinatum*, Blue Monk's Hood; *Asplenium rhizophyllum*, Walking Fern; *Carex gracillima*, Graceful Sedge; *Collinsonia verticillata*, Whorled Horsebalm, *Trillium simile*, Sweet White Trillium, *Viola tripartita var. tripartita*, Three-part Violet, and *Cardamine flagellifera*, Blue Ridge Bittercress.

A field trip is scheduled to Station Cove in April, 2005.

Answers to Tree Quiz: 1g, 2u, 3p, 4c, 5h, 6y, 7a, 8i, 9b, 10r, 11o, 12f, 13d, 14k, 15n, 16w, 17v, 18q, 19l, 20m, 21j, 22x, 23t, 24e, 25s

## Forest Trees --Match common to scientific names

Common Name	Scientific Name	Family
<u>1</u> American beech	<u>a</u> <i>Abies fraseri</i>	Pinaceae
<u>2</u> Black gum	<u>b</u> <i>Tsuga canadensis</i>	Pinaceae
<u>3</u> Black locust	<u>c</u> <i>Juglans nigra</i>	Juglandaceae
<u>4</u> Black walnut	<u>d</u> <i>Carya glabra</i> var. <i>glabra</i>	Juglandaceae
<u>5</u> Chestnut oak	<u>e</u> <i>Betula alleghaniensis</i>	Betulaceae
<u>6</u> Flowering dogwood	<u>f</u> <i>Betula nigra</i>	Betulaceae
<u>7</u> Frasier fir	<u>g</u> <i>Fagus grandifolia</i>	Fagaceae
<u>8</u> Fraser magnolia	<u>h</u> <i>Quercus prinus</i>	Fagaceae
<u>9</u> Eastern hemlock	<u>i</u> <i>Magnolia fraseri</i>	Magnoliaceae
<u>10</u> Mountain maple	<u>j</u> <i>Liriodendron tulipifera</i>	Magnoliaceae
<u>11</u> Eastern redbud	<u>k</u> <i>Sassafras albidum</i>	Lauraceae
<u>12</u> River birch	<u>l</u> <i>Liquidambar styraciflua</i>	Hamamelidaceae
<u>13</u> Pignut hickory	<u>m</u> <i>Platanus occidentalis</i>	Platanaceae
<u>14</u> Sassafras	<u>n</u> <i>Amelanchier laevis</i>	Rosaceae
<u>15</u> Allegheny serviceberry	<u>o</u> <i>Cercis canadensis</i>	Fabaceae
<u>16</u> Carolina silverbell	<u>p</u> <i>Robinia pseudoacacia</i>	Fabaceae
<u>17</u> Sourwood	<u>q</u> <i>Acer pensylvanicum</i>	Aceraceae
<u>18</u> Striped maple	<u>r</u> <i>Acer spicatum</i>	Aceraceae
<u>19</u> Sweetgum	<u>s</u> <i>Aesculus flava</i>	Hippocastanaceae
<u>20</u> American sycamore	<u>t</u> <i>Tilia americana</i>	Tiliaceae
<u>21</u> Tulip poplar	<u>u</u> <i>Nyssa sylvatica</i>	Nyssaceae
<u>22</u> Mountain ash	<u>v</u> <i>Oxydendrum arboreum</i>	Ericaceae
<u>23</u> American basswood	<u>w</u> <i>Halesia carolina</i>	Styracaceae
<u>24</u> Yellow birch	<u>x</u> <i>Sorbus americana</i>	Rosaceae
<u>25</u> Yellow buckeye	<u>y</u> <i>Cornus florida</i>	Comaceae

*Prepared by Aline Hansens for an earlier issue of SHORTIA. Answers, see p. 4*

## Spotted Orchids

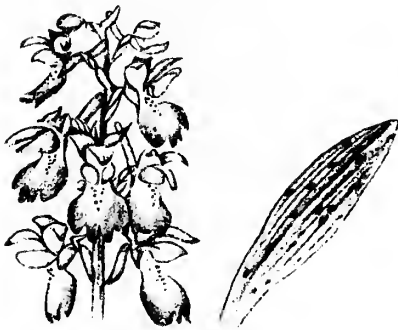
Spotted orchids have been seen by several club members during their travels.

Elisabeth Feil has seen a spotted orchid, *Dactylorhiza maculata*, in Germany. She writes: "The spotted orchid is common in Europe and quite variable. What is interesting is that authors don't agree whether they grow on limestone or acid soils. Some say they are found in either habitat....For N. America, I found only one reference to *D. maculata* as recorded in recent years in a lake shore habitat near Timmins, Ontario."

Anne Ulinski saw a spotted orchid in Newfoundland. It is identified in The Flora of Iceland as *Dactylorhiza maculata*: and described: "Stem solid with 6-10 dark and spotted leaves..the perianth violet to pale reddish with dark red spots and stripes..."

Using a local plant book, Elaine Montgomery identified a spotted orchid in Ireland as *Orchis mascula*. There it is commonly called Early Purple Orchid or Blue Butcher. It is described as having deep purple or more rarely pinkish-mauve or white flowers. "The leaves are long and blotched. It is to be seen all over the country near woods and on open pastures..especially in west Clare." A spotted orchid also grows in Scotland as reported by Bonnie Arbuckle.

The Integrated Taxonomic Information Service (ITIS) lists *Dactylorhiza maculata* with a common name Heath Spotted Orchid, but shows no location for this plant in the United States. If any members have seen a spotted orchid in the United States or in their travels, please let us know.



*Orchis mascula*  
Ireland



*Dactylorhiza maculata*  
Newfoundland

*Dactylorhiza maculata*  
Germany

Pressed flowers. Bird nests, butterflies behind glass, shells.  
Hand lenses and tattered field guides. A child reaching for a  
feather in the grass. Natural history.

It's going extinct. And nowhere more quickly than where we  
need it most - in our colleges and universities. These days, you  
don't need an understanding of -- or even an interest in -- natural  
history to get into a graduate programme in ecology or any  
other branch of biology....The close, scrupulous observation  
of nature has a long and illustrious history, but is now sliding  
into oblivion in schools and universities, government  
agencies and research foundations.

So write Thomas Eisner and Mary Woodsen of Cornell University in their article  
“The Science of Wonder: *Natural History in the Balance*” that first appeared in the  
Spring/Summer 2004 issue of *Wild Earth* and was later excerpted for *Plant Talk*.

The authors go on to explain that it is as if biology has been split into two parts,  
for-profit and not-for-profit. The for-profit is the new molecular biology and  
understandably it is the vogue because discoveries at the molecular level have  
revealed layer upon layer, wonder after wonder in a world of complexity never  
conceived of a half century ago. This has led to the reductionist point of view which is  
that everything in biology is explicable at the molecular level.

The not-for-profit biology is natural history. It is a field for the passionate  
amateur and the inspired school teacher and until lately the professional biologist.  
But new biology departments are phasing out traditional natural history courses.

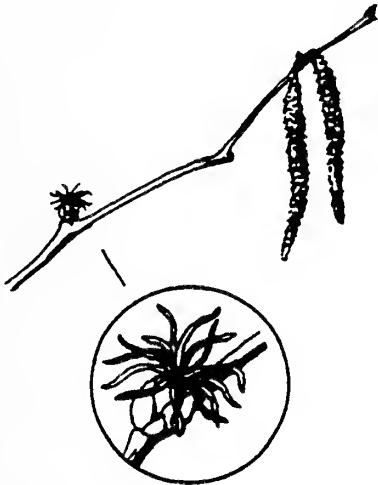
The authors believe that a thorough grounding in natural history is necessary if  
we are to “grasp life in its interactive complexity.” So in the spring of this year they  
offered a course on the Cornell campus, “The Naturalist’s Way”. They brought in  
directors of institutes: the Paleontological Research Institute, The Cornell Laboratory  
of Ornithology, the Shoals Marine Laboratory. They invited poets, herpetologists,  
zoologists, behaviorists, mycologists. They brought in a wheelbarrow full of their  
favorite books and had a class just on book talk. The hundred plus students who  
enrolled had nearly perfect attendance.

The goal of the course was “to seek explanations at all levels of inquiry:  
exploring function through the molecule, origins and interaction through evolution and  
behavior, and impact and meaning through ecology and environmentalism”. The  
authors explain:

How, except through a fundamental knowledge of natural  
history, can we imagine creating a recovery plan for a threatened  
and endangered species, or for...preserving corridors and wilderness  
from human encroachment...or for reclaiming, maintaining and  
conserving any part of nature?

# LOOK AGAIN !

Without leaves or flowers, winter identification of woody plants depends principally on examination of the twigs, with their buds and other features. Carrying on this activity into late February brings with it the chance of coming upon the blossoms of one of the very earliest-blooming shrubs of the year, the hazel.



The staminate catkins are not especially remarkable, looking pretty much like those of other members of the birch family; it is the pistillate flowers that are worthy of a close look (use a hand lens, for they really are tiny). These flowers are gathered into clusters and even at this late stage are almost entirely concealed by bud scales. All that protrudes is a bunch of stigmas - less than three millimeters long, but a glistening ruby-red. Were it not for their small size, the astonishing color would make them light up the late winter woods like lanterns.

The flowers do not, however, help us to decide whether we are looking at American hazel (Corylus americana) or beaked hazel (C. cornuta), so if we wish to know we must go back to studying the twigs. There the evidence is plain, but don't put the lens away. The twigs of C. americana will be densely beset with bristles and stalked glands, while those of C. cornuta will be smooth or at most will have a few scattered soft hairs.

Final proof of their identity will not come until fall, when the faintly pungent nuts - sometimes called filberts - ripen, but it is very positive! Hidden by the scales



beneath the red stigmas were minute bracts, and these have now grown enormously, the pair subtending each flower forming an involucre to completely enclose the nut. In C. ameri-

cana they resemble leaves, with their raggedly cut edges, but in C. cornuta they fuse together and are prolonged far beyond the nut into a narrow, tubular beak.



Dick Smith

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