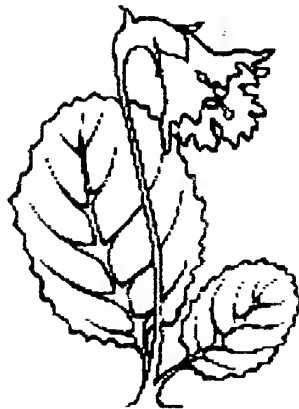


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SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

SPRING 2008



Shortia galacifolia

Oconee Bells

WESTERN CAROLINA BOTANICAL CLUB

<i>President</i>	<i>Jenny Lellinger</i>	<i>Treasurer</i>	<i>Larry Avery</i>
<i>Vice President</i>	<i>Helen Smith</i>	<i>Recorder</i>	<i>Ken Borgfeldt</i>
<i>Secretary</i>	<i>Juanita Lambert</i>	<i>Historian</i>	<i>Lucy Prim</i>

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From the PresidentJenny Lellinger

Favorite Wildflower Walks of Georgia written by Hugh and Carol Nourse, published by the University of Georgia in 2007, describes some enticing walks that are not very distant from us.

Both Hugh and Carol Nourse have been officers of the Georgia Botanical Society, are members of the Georgia Native Plants Society, and are involved in various other conservation efforts. Over the years they have traveled and botanized extensively throughout Georgia and have selected walks to represent each of Georgia's physiographic provinces.

From west to east, the Cumberland Plateau and the Ridge and Valley provinces in the northwestern corner of Georgia are combined into one chapter, followed by the Blue Ridge, the Piedmont, and the Coastal Plain. Because of their geology and soil composition, the two western most provinces provide opportunities to explore plant communities not found in the Carolinas. The mostly sedimentary underlying rock, much of it limestone or sandstone, hosts several endemics, prairie plants, and other unusual species.

For example, walk #2 takes us through cedar glades in the Chickamauga National Battlefield Park. These glades are "openings in the forest where soils over limestone bedrock are so shallow that hardwood trees cannot grow" --only Eastern Red Cedars can survive these harsh conditions. As in deserts, plants only bloom profusely following well-timed rainfall. The glades host several endemics, such as *Dalea gattingeri* (Purple-tassels) and *Leavenworthia exigua* (Tennessee Glade-cress).

Eleven of the twenty walks are located north of Atlanta! The walks described are all on public lands. Each includes a map, directions, site information, flowering season, peak flowering, walk length, difficulty rating, restroom availability, fee (if applicable), a discussion on the environment or plant communities, most commonly seen plants, and several insets featuring specific plants of interest.

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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.

MEMBER NEWS

New Members

Tina Duncan, Hendersonville Tina has been an amateur naturalist all of her life and has lived in several places in western North Carolina. She is an artist, interested in painting native plants.

Nancy Farley, Haywood County Nancy grew up in east Tennessee and worked for the Tennessee Valley Authority as a botanist and natural area manager before coming to North Carolina. She works for the National Park Service as a supervisor of Exotic Plant Management.

Emily Fox, Hendersonville Emily grew up in Rutherford County and has lived in Hendersonville for 33 years. She was in the Master Gardener program but resigned because native plants are her real interest. She is a member of the local plant rescue group.

Mary & Jim Hugenschmidt, Asheville Mary is a native of the piedmont section of North Carolina. She and Jim have lived in this area for 30 years. Mary is a new Master Gardener and is particularly interested in native plants. Jim plans to join her on some of our field trips.

Pam Humphrey, Mills River Pam retired to North Carolina from Florida where she worked in veterinary services in Gainesville. She lives on a 180 acre family farm which adjoins Pisgah Forest. She has recently joined the local plant rescue group.

Karen Koeling Karen grew up on a farm in northern Wisconsin and is happy to be here in western North Carolina to explore the woods. She is a Master Gardener in Transylvania County.

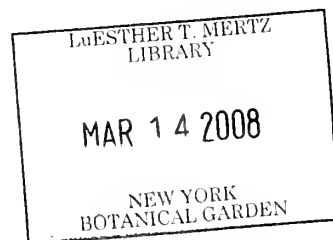
Liz Peeler, Brevard Liz was an earlier member, and has now rejoined.

John & Muriel Siddall, Asheville The Siddalls came from Ohio about six months ago and are now living at Givens Estate. They are tutoring at an Asheville elementary school on Mondays so won't be able to join us on that day for our field trips.

Charlie Williams, Charlotte Charlie is a retired librarian from Mecklenburg County, N.C. He presented a program for the Club in February 2007 on Andre Michaux and *Shortia galacifolia*. Charlie and his wife have property in Transylvania county and hope to be here in July & August to join in the club activities.

Any change of address, e-mail or telephone number please inform Larry Avery at 4 Windrush Lane, Flat Rock, N.C. 28731, Tel. 692-2679, e-mail: alavery@cytechusa.com.

Financial Statement for 2007 Western Carolina Botanical Club		
Income		
Dues	\$1,448	
Book Sale	228	
Total Income		\$1,676
Expenses		
Printing	\$ 640	
Postage	184	
Programs	150	
Donations/ Awards	85	
Supplies	58	
Total Expenses		\$1,117
Income over expenses		\$ 559



Submitted by Larry Avery, Treasurer, Western Carolina Botany Club

We had a very successful field trip season in 2007 as we completed 33 outings with very few (4) cancellations. In addition to visiting some of our favorite wildflower spots, we went to eight new locations.

We started the season with the Hardy Souls trip to the **Palmetto Trail**.

Tom Goforth led two walks. We visited **Paw Paw Cove** for the first time early in the year and later explored the woods and fields around his home in Pickens, S.C.

The visit to **Bonclarken** was a first for the club, even though it 's right in our own backyard. In addition to botanizing, we were treated to a historical home tour of the Heidelberg House.

The **Velma Haag Property** in Brevard was an opportunity to see one woman's lifetime effort to cultivate and to collect a wide variety of rhododendrons. The colors were memorable.

The trail from **Flat Laurel Creek to Sam's Knob** was another first for the club.

One of the highlights for the year was the overnight trip to Charlotte to view a **Prairie Restoration Project**. A highlight of the trip was the sight of two endangered species Schweinitz's Sunflower (*Helianthus schweinitzii*) and Georgia Aster (*Symphotrichum georgianum*) both in bloom at the time of our visit. After seeing the prairie restoration, some members visited the Latta Plantation home and others the Carolina Raptor Center.

The hunting season forced a change from a new location, **Dense Lake**, to a new, safer location, **Sherwood Forest**. The fall time frame yielded many fruit and seed identifications.

Once again in our own backyard, we walked the **Oklawaha Greenway**, a path connecting Jackson Park to Patton Park in Hendersonville.

This year we had a special focus location, **Buck Springs Nature Trail**. This trail has a special significance to the club in that a nature brochure was prepared a number of years ago for use on the trail by visitors to Pisgah Inn. We walked the trail about every six weeks through the season for a total of four visits. A focus of the walks was to make necessary changes to the brochure which is still in use. A revised brochure will be published with the results.

Now we look forward to 2008 and what I am sure will be another plant filled experience for us all.

Field Trip Cancellations. When a field trip has to be cancelled because of weather, every effort is made to notify members, either by email or for those without email, by a telephone call. If in doubt, call the contact person. Also, be sure to review page one of the club schedule for information on Botany Club procedures.

The Wild Trees: A Story of Passion and Daring

Bonnie Arbuckle first told me about Robert Preston's book, *The Wild Trees: A Story of Passion and Daring*. I read a positive review of it in a magazine and ordered it. I assumed the book would be mostly a study of *Sequoia sempervirens* (California Redwood) with the thrilling addition of discoveries about the habitat of their canopies. However the book is crafted around a handful of oddballs who are obsessed with redwoods, especially Steve Sillett, Michael Taylor, and Marie Antoine, and I got much of my information about the trees from their experiences.

Robert Preston tells us about their early years, how they got into exploring the redwood forests in California, what they found, and why their discoveries are so important. Climbing the largest trees on earth -- 32 stories high, with the lowest strong branch often 25 stories high -- is obviously dangerous. Several times while reading I felt acute suspense over the fate of the oddballs. Even walking through a redwood forest requires enormous effort. Among other difficulties, you have to climb over immense fallen trees with gaping cracks and could fall as much as 30 feet inside the log and break your bones.

Sillett is an explorer, compelled to climb the trees to discover new territory; Taylor's compulsion is to find the tallest redwood. They and Antoine eventually meet and work together, finding groves of giants unknown to loggers and forest rangers, and canopies teeming with species unknown to scientists. High up, redwoods elaborate themselves, sprouting multiple trunks. Here is Sillett describing a tree named Atlas:

"At 190 feet, Atlas splits into four huge trunks. In the center of the trunks is a crotch that contains a layer of canopy soil...one meter deep. It was a garden in the sky, containing tons of dirt, along with sheets and beds of ferns, and thickets of huckleberry bushes. The canopy soil has been accumulating in Atlas for unknown numbers of centuries. It is composed of a mixture of rotting redwood needles, twigs, the roots of plants, and dust from the sky."

Redwood canopy soil teems with soil mites -- 55 different species identified so far. Fern mats contain tiny aquatic creatures, crustaceans of an unnamed species of copepod. Redwoods also host lichens that don't exist on the ground, moss gardens, plankton, wandering salamanders, and large pink worms. Rhododendrons bloom at 150 feet and currant and elderberry bushes bear fruit.

Small trees of various species grow in trunks and limbs and in crotches hundreds of feet above the forest floor -- canopy bonsai of laurel, hemlocks, Douglas-firs, buckthorn, and Sitka spruce. Until recently, biologists catalogued only the diversity in tropical rain forests assuming that a temperate rain forest's biomass was just big trees. Sillett was the first to climb redwoods and discover their enormous biodiversity.

The characters in *Wild Trees* are fun to know, including the author who inserts himself into the story. Their achievements have greatly augmented the importance of these ancient trees, "the largest individual organisms to ever exist on our planet, capable of surviving as long as 2,000 to 3,000 years," and providing habitat for life forms completely oblivious to life on the ground.

PLANT ORIGIN TERMS

Native Plant. A plant species that is found in a region because it developed and evolved in that region over thousands of years.

Exotic (introduced plant). A plant species that exists in a region because it was brought to that region by man, during and since settlement of the region. We are still introducing exotic plants, by intention and by accident.

Naturalized plant. An exotic plant that was introduced into an area, escaped from cultivation and reproduces on its own (includes exotic invasive plants). Many plants commonly thought to be natives were actually introduced by early settlers.

Exotic invasive plant. An exotic plant species that is able to invade and overrun native ecosystems. Some native plants can become invasive under certain conditions, but most invasive species are introduced (exotic).

Variety. Within a species, a naturally occurring sub-group of plants that have one or more minor characteristics that set it apart from the rest of the species. Ex: *Solidago odora* var. *chapmanii*.

Ornamental plant. A plant species or cultivar that is grown for its beauty (in its end use), rather than for commercial or production reasons.

Cultivar. Short for "cultivated variety". A plant "variety" developed by man via plant selection and/or genetic manipulation to exhibit a set of plant characteristics. Cultivars are maintained via controlled pollination or vegetative means, so cultivar characteristics are passed to ensuing generations.

Ecovar. Short for "ecological variety". A plant "variety" developed by man from a collection of plants of a native species that were selected from several to many natural populations in a specific region. The purpose is to have high genetic diversity in the parent collection which reflects the natural diversity within that species in the defined region. To maintain genetic diversity in ensuing generations, little to no selection is done during the ecovar development process. An ecovar is an intermediate step between a true native plant and a cultivar.

Source-identified seed. Off-spring of plants collected from a single defined natural population of a native species for production of seed. No selection is done during the collections and subsequent seed increase steps, so as to conserve genetic diversity. The genetic diversity is less than for an ecovar.

NOTE: Cultivars, ecovars, and source identified seed are usually named, and that name is used to denote any plant material subsequently marketed from these seed parent sources.

What's In A Name?

Swedish professor and naturalist Carl Linne helped develop and popularize a system of plant classification. Each plant was given a two part name. The first part (Genus) identifies the genus or family group. The second part (species) refers to a plant characteristic, person or place. This system of binomial nomenclature is used internationally. Many names used Latin terms, the official language of that time. Carl Linne latinized his name as well. We know him by Carlos Linnaeus.

It's easier to remember scientific names when you know their meaning and origin. Look for these early spring plants on Western Carolina Botanical Club field trips and practice using the scientific name.

Tiarella cordifolia (Foam flower)

Tiarella means little tiara. The Greeks thought the yellow pistils formed a golden crown or tiara. Cordifolia refers to the heart shaped leaf base.



*Tiarella
cordifolia*

Hepatica acutiloba (Liverleaf)

The leaves of this plant resemble a human liver so Hepar, which is the Greek word for liver, was used to name this plant. According to the doctrine of signatures the plant could be used to cure liver diseases. Acutiloba refers to the acute or sharp lobes of the leaf.



*Hepatica
acutiloba*

Sanguinaria canadensis (Bloodroot)

Sanguis is Latin for blood. The reddish brown sap from the root of this plant was used as a dye plant by the American Indians.

Trillium grandiflorum (Great white trillium)

Trilix is Greek for triple. Trilliums have three leaves, three sepals and three petals. Grandiflorum refers to the large flower size.

Trillium catesbaei (Catesby's trillium) was named in honor of early naturalist Mark Catesby, author of "A Natural History of Carolina".

Trillium erectum (Wake Robin) has flowers that stand stiffly and erectly above the leaves.

Trillium undulatum (Painted trillium) has undulating rose colored lines on its petals.

Trillium luteum (Yellow toadshade). Luteum denotes the yellow color of the petals.



Trillium erectum

TREES

In 2004, the Norwegian Nobel Committee made an historic decision to honor the environment, and to make a connection between the sustainable management of resources, good government and peace. They awarded the 2004 Nobel Peace Prize to Wangari Maathai and she became not only the first African woman to win the prize, but the first environmentalist.

Early Years Wangari Maathai was born on April 1, 1940, the third of six children, the first girl after two sons, in the small village of Ithite in the central highlands of British Kenya. Her parents were members of the Kikuyu community, one of the forty-two ethnic groups in Kenya. They were peasant farmers living from the soil and kept cattle, goats and sheep. Wangari learned to garden at an early age when her mother gave her a small garden plot of her own. The family lived in a mud-walled house with no electricity or running water. She has described the land at the time of her birth as lush, green and fertile. The slopes were covered with vegetation, the soil was rich, the streams were clear and the nearby forests were clean. The people of the central highlands worked hard and because of the fertile soil, good climate and abundant food, they were healthy. Wangari writes in her memoirs "...the ancestors had conserved a world of plenty and good that came from the soil."

Education It was not usual for girls to be educated, but one of her older brothers persuaded Wangari's mother that Wangari should be educated, so she attended a nearby school, walking barefoot everyday with her older brothers and cousins. (She did not own a pair of shoes until she went to high school.) Finishing 8th grade Wangari was first in her class and won a scholarship to a Catholic high school near Nairobi. She graduated in 1959 and was chosen to attend college in the U.S. under a program financed by the Joseph P. Kennedy Foundation. In 1966 she returned to Nairobi after graduating from Mount St. Scholastica College in Atchison, Kansas. She then worked as a lecturer and researcher at the University of Nairobi and completed her Ph.D. in 1971.

The Green Belt Movement On her return to Kenya, Wangari saw how much land had been cleared for development and tea and coffee plantations. Rivers were rushing down the cleared slopes, soil was eroding, paths and roads were silted. Exotic trees were displacing the African native trees. There was little grass, and what there was, was no longer nutritious. This was the beginning of her initiative to encourage the planting of trees, which became the Green Belt Movement. Wangari believed that trees would heal the land and regenerate the earth. Seedling nurseries were established in local communities and rural women began the first tree plantings. Now, thirty years after the start of the Green Belt movement, her followers, mostly women, have planted more than 30 million trees on their farms, and on school and church compounds.



Educated women were still few in Kenya when Wangari returned. The government treated her and the Green Belt Movement with suspicion. Through the years she and her followers suffered opposition which included police harassment, arrest and imprisonment. Despite these problems, she became known internationally for her work, and she received numerous awards from other countries. Among them were honorary doctoral degrees from Yale University and the University of Norway. The French President, Jacques Chirac, awarded her France's highest honor, the Legion d'Honneur.

In 2002, under a changed government, Kenya's new President appointed Wangari Maathai the Assistant Minister for the Environment.

References:

- The Green Belt Movement: Sharing the Approach and the Experience* by Wangari Maathai. 2003, revised 2006
Unbowed, A Memoir by Wangari Muta Maathai. 2006
Web site: The Green Belt Movement www.greenbeltmovement.org

MORE TREES

Let's plant One Billion more trees in 2008! In 2007 after the UN climate meeting in Nairobi, the Green Belt Movement, the United Nations Environment Programme (UNEP) and the World Agroforestry Center launched the first One Billion Tree campaign. By year end their goal was met. Now UNEP has launched a 2008 major worldwide tree planting campaign. Under the "Plant for the Planet: Billion Tree Campaign", people, communities, business and industry, civil society organizations and governments are encouraged to enter tree planting pledges online with the objective of planting at least one billion trees worldwide each year.

...Forests are natural and economically important "sinks", sequestering carbon from the atmosphere and locking it away in trunks and branches. Globally, forest cover is at least one-third less than what it once was. It is time to reverse trends, it is time to act."

-Achim Steiner, UNEP Executive Director

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"At first, I thought I was fighting to save rubber trees, then I thought I was fighting to save the Amazon rain forest. Now I realize I am fighting for humanity."

-Cites Mendes, Brazilian Environmentalist.

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ASHEVILLE, NC 288

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

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SHORTIA

Vol. XXX No. 1

SPRING 2008

A quarterly publication of the Western Carolina Botanical Club

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

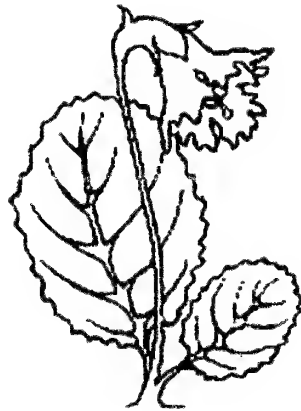
Please submit contributions for the next issue by May, 15, 2008 to: Anne Ulinski
1212 Chanteloup Drive, Hendersonville, N.C. 28739

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

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WESTERN CAROLINA BOTANICAL CLUB
SUMMER 2008



Shortia galacifolia

Oconee Bells

WESTERN CAROLINA BOTANICAL CLUB

<i>President</i>	<i>Jenny Lellinger</i>	<i>Treasurer</i>	<i>Larry Avery</i>
<i>Vice President</i>	<i>Helen Smith</i>	<i>Recorder</i>	<i>Ken Borgfeldt</i>
<i>Secretary</i>	<i>Juanita Lambert</i>	<i>Historian</i>	<i>Lucy Prim</i>

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From the PresidentJenny Lellinger

The Western Carolina Botanical Club will celebrate its 35th anniversary at the annual meeting this coming July. The Club was founded in 1973 by a small group of residents in Western North Carolina who wanted to learn about the plants of the Southern Appalachian Mountains. I thank the founders for leaving us such a wonderful legacy.

Having moved to this area just four years ago, it has given me great pleasure to be introduced to the floral diversity of the Southern Appalachian Mountains by such a knowledgeable group of leaders who know exactly where to go to maximize a botanizing experience. I am very grateful to fellow club members who keep the WCBC alive and continue to share the secrets of our flora.

WCBC members, old and new, enrich our activities. Some pass on their knowledge through winter lectures, some through field trips. Others share their quest for expanding their knowledge about specialized components of our flora, such as trees or mosses, and occasionally fauna, such as birds or butterflies.

My term as president is up, and a new president will be elected and installed at our annual meeting in July. I would like to thank all the members who supported me during my period as president --too many to name here-- and I look forward to enjoying many, many more field trips and lectures.

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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.

MEMBER NEWS

New Members

Glenda Bentley-Hendersonville. Glenda has rejoined our club.

Barbara Koch - Hendersonville. Barbara and her husband have lived in the area eight weeks. They found about our club at a wildflower identification class at Bullington. Barbara is originally from the Raleigh area but has been coming here in the summer for quite a while. Her husband likes to photograph flowers.

Andy Tait-Asheville. Andy found out about the Botanical Club at the native plant symposium at the Arboretum in the spring. He is a forestry major and is the natural resource supervisor for Givens. (Givens has 120 acres of natural area in addition to landscaped area on the grounds). Andy comes here from the Boston area.

April Wasson-Greenville, S.C. April moved to Greenville, S.C. from Colorado where she belonged to a native plant society. She has also joined the S.C. native plant society. She has a degree in biology with an emphasis on botany. She learned about our club through Erna Prickett.

Apologies to Nancy Fraley for misspelling her name in the last Shortia.

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Students Plant a Tree for the Planet

On March 19, 2008 under the guidance of John Murphy, Coordinator of the Bullington Center, six high school sophomores in the BOOST program, (Bullington Onsite Occupational Student Training) planted a "tree for the planet". The tree, an 8 foot cucumber magnolia, was donated by the Western Carolina Botanical Club and Laurel Springs Nursery.

The United Nations Educational Program has estimated that at least one-third of the world's forests has been destroyed and is asking people, communities, governments, businesses, and industry to plant at least one billion trees in 2008 and every year thereafter.

Dedication speeches were made by student Alex Williams and Jenny Lellinger, Botany Club president. A plaque, donated by the Botany Club, will stand by the tree to identify it as the Bullington Center and Botany Club response to reforest our planet. John Murphy has registered the cucumber magnolia with the United Nations.

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Field Trip Cancellations. On occasion field trips need to be cancelled or changed either for weather conditions or other reasons such as road closings. Such changes are sent out by e-mail to all members at the latest by 7 a.m. the day of the field trip. If you do not have e-mail access, we will try to reach local members by telephone by 7 a.m. If in doubt, contact a leader or co-leader whose telephone number is listed on the schedule.

When a field trip is cancelled, no member will be at the contact point.

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Any change of address, e-mail or telephone number please inform Alan Graham, 544 Tip Top Road, Brevard, N.C. 28712. 828-884-5947 <ljgraham@citcom.net.

The year started nicely with a successful **Hardy Souls Hike** on the **Negro Prong Trail** in Pisgah National Forest. While the weather was chilly, everyone had a nice walk in the woods. We were too early for any blooming plants.

The day at **Pearson Falls** was cloudy and cool which seems to be normal for that walk. A light drizzle didn't deter the group! The trail was damp in places but Sharp-lobed Hepatica (*Hepatica nobilis v. acuta*) was abundant.

The trip to **Baxter Creek Trail** in the Smokies was outstanding. Without the freeze that destroyed many of the blooming plants last year, the trail was a feast for the eyes. Loads of blooming plants were seen - Bishop's Cap (*Mitella diphylla*), White Wake Robin (*Trillium erectum*), Yellow Toadshade (*Trillium luteum*) to mention a few.

The section of **Pulliam Creek Trail** through the prescribed burn area was pretty barren especially since it's been two years since the burn. Once we passed the burn area blooming plants were plentiful. Species of note included Toadshade (*Trillium cuneatum*) and Long-spurred Violet (*Viola rostrata*).

The **Twin Bridges area in Pacolet River District** was a new field trip for the club. The day was cool and cloudy and the group small but the walk was excellent. A wide variety of blooming plants were found including large patches of Purple Phacelia (*Phacelia bipinnatifida*). Lunch on the Saluda Grade of the old railroad was an unusual treat!

The trip to **Flat Laurel Creek to Sam's Knob** was a little early for predominant species on that trail. Tree botanizing was the order of the day although Mountain Fetterbush (*Pieris floribunda*) were blooming.

We had a sunny day at **Kanati Fork Trail** in the Smokies. Once again blooming plants were abundant. Species of note included Dwarf Ginseng (*Panax trifolius*) and Brook Lettuce (*Saxifraga micranthidifolia*).

Moore Cove field trip is normally scheduled for the fall so it was a treat to see spring flowers on this trail. Eight different species of violet were found including Southern Wood Violet (*Viola hirsutula*) with its deeply purple leaf veins.

Coleman Boundary was open for a change as it has been closed the past two years for various reasons. As usual we were not disappointed. This "drive and stop" trip could have taken several days with all of the various plant communities that are present. Of particular note, we found Wild Comfrey (*Cynoglossum virginianum*) just coming into bud.

Through this time period only one field trip was cancelled - **Corneille Bryan Nature Center at Lake Junaluska** due to rain

Western Carolina Botanical Membership 2008*

Asheville, N.C.

Beyer, Patsy
Conway, Rachel M.
Durpo, Wilma
Fraleigh, Nancy
Hankins, Diane
Hansens, Aline
Hugenschmidt, Mary & Jim
Kolton, Marilyn
Lackey, Charlotte
Middleton, Dave & Milly
Reed, John
Robbins, Paula
Siddall, John & Muriel
Tait, Andy

Balsam, N.C.

Chattaway, J.R. & Pat

Black Mountain, N.C.

Feil, Elisabeth

Bon Air, VA.

Verduin, Bill & Evelyn

Brevard, N.C.

Blaha, Millie
Farrar, W. Edmund & Carver
Graham, Alan
Hudson, Jack & Dorothy
Iha, Nancy
Jones, Betty
Lellingner, Jenny & Dave
Peeler, Elizabeth
Schifeling, Daniel & Annalee
Smith, Jeanne
Walls, Harriet

Campobello, S.C.

Ashburn, Carolyn/Hearon, Chuck

Candler, N.C.

Carlson, Betty

Canton, N.C.

Fishback, H.D. and Jan

Cedar Mountain, N.C.

Steinberg, Aleen
Wilcox, Gail

Charlotte, N.C.

Williams, Charlie

Columbus, N.C.

Smoke, Henry & Therese

Etowah, N.C.

Barnes, Christine
Charlebois, Joy
Hart, Pierre

Flat Rock, N.C.

Arbuckle, Bonnie
Avery, Larry
Blackwell, Rusty
Gibson, Ruth Anne & John
Jones, Frances
McCurdy, Mike & Cynthia

Fletcher, N.C.

Bachand, Bob & Kathy

Greenville, S.C.

Wasson, April

Hendersonville, N.C.

Anderson, Kenneth & Jane
Armstrong, Rebecca
Bentley, Glenda
Bockoven, Paul & Beth
Borgfeldt, Ken & Chris
Collins, Ed
Dice, Bill & Ann
Duncan, Tina
Fouts, Carol & Gregory
Fox, Emily
Herrman, Don & Dana
Koch, Barbara
Kotch, Joel & Sharon
Lambert, Larason & Juanita
Lenhart, Jean
Mizeras, Alan
Montgomery, Bob and Elaine
Pearson, Bud & Laverne
Petteway, Jo
Polchow, Peggy
Prim, Lucy and Bob
Ulinski, Anne

Highlands, N.C.

Davis, Charlton & Patricia
Landwehr, Barbara
Poole, Kay & Edwin

Hilton Head, S.C.

Strayer, Lucie A.

Horse Shoe, N.C.

Hudelson, Francis
Humphrey, Pam

Lake Toxaway, N.C.

Allen, Barbara D.
Dziedzic, Betty

Lexington, N.C.

Fisher, Don

Marion, N.C.

Goldsmith, James W.

Norcross, Ga.

Arrington, Daisy

Ormond Beach, Fl.

McDaniel, Lois

Pisgah Forest, N.C.

Goldthwaite, John & Sheila
Hauschild, Linda
Johnson, Kathy
Koelling, Karen
Schmidt, Christine
Smith, Helen M.
Spencer, Kim

Rutherfordton, N.C.

Mitchell, Patsy

Saluda, N.C.

Pearson, Millie

Sapphire, N.C.

Bigelow, Dawn

Spruce Pine, N.C.

Gray, Gussie

Stone Mt, Ga.

Lennox, Susan & David

Suwanee, Ga.

Drake, James, P. (Jim)

Sylva, N.C.

Harris, Mary Helen
Home, Ann and Lynn
Miller, Earl & Bettye
Stenger, Raymond & Gloria

Tallahassee, Fla.

Center, Dan and Barbara

Travelers Rest, S.C.

Prickett, Erna

Waynesville, N.C.

Couric, Elrose/Hollinger, Sue
Thomas, Jane and George

*Some members are summer visitors

What's In A Name?

Some plants are named in honor or recognition of a person. Johan Gronovius named *Linnea borealis* (American Twinflower) for his friend Carlos Linnaeus, the father of binomial nomenclature.

Many early botanist and plant collectors were physicians. The names of these plants recognize their contribution to this science.

Amsonia tabernaemontana (Blue Star) was named in honor of Dr. Charles Amson, an 18th century Virginia physician. The species name recognizes Jacob Theodorus Tabernaemontanus, a German physician and botanical author.



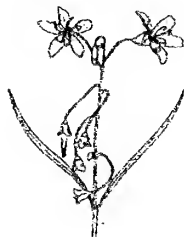
Amsonia tabernaemontana

The genus *Houstonia* is named for Dr. William Houston, a Scottish ship surgeon and plant explorer. Bluets are often seen on our botanical field trips. *Houstonia caerulea* (Common Bluets) uses the Latin word for blue. *H. serpyllifolia* (Thyme-leaved Bluet) refers to the thyme leaved structure of this species. And *H. pupurea* (Purple Bluet) denotes purple or summer bluets.

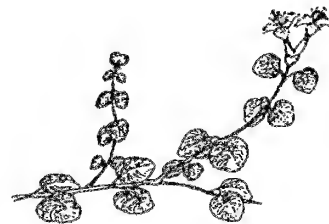
The *Lobelias* are named for Mathias de l'Obel, a Finnish botanist and physician to James I of England. The flowers of *Lobelia cardinalis* (Cardinal Flower) are scarlet like the robes worn by the Cardinals of the Catholic church.

Claytonia caroliniana (Carolina Spring Beauty) and *C. virginica* (Virginia Spring Beauty) are named for Dr. John Clayton a botanist and physician from Virginia. He collected plants and sent them to Johan F Gronovius who wrote "Flora of Virginia". The species names *caroliniana* and *virginica* denote the place where the plants were found.

Mitchella repens (Partridgeberry) was named for Dr. John Mitchell of Virginia. He prepared maps of North America that were used to settle boundary disputes. *Repens* refers to the creeping habit of the plant.



Claytonia caroliniana



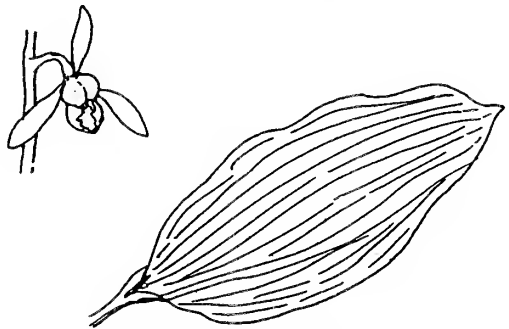
Mitchella repens

LOOK AGAIN !

Many wildflowers retain at least some of their leaves throughout the winter--a property that helps us to keep track of the plants until the time comes for them to bloom. There are a few, however, whose foliage is slightly less persistent and, in fact, has the unsettling habit of vanishing just when it would have become most useful as a locator.

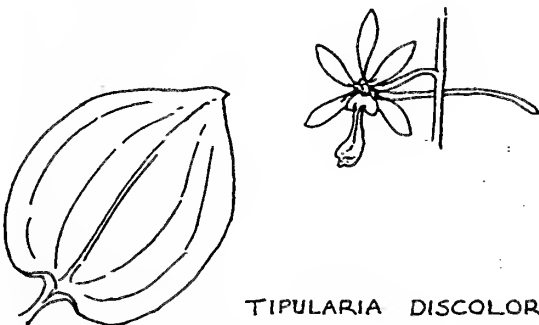
Two species that come to mind are native orchids: Aplectrum hyemale, known as Puttyroot or Adam-and-Eve, the only member of its genus; and Tipularia discolor, the Crane-fly Orchid, which has only two close relatives, both of them Asian.

Aplectrum produces a solitary leaf in late summer or fall, and it decays in early spring before the flower stem emerges in May or June. The leaf is 4 to 6 inches long, elliptic, with wavy margins and a great many impressed whitish longitudinal veins that give it a corrugated appearance. The inflorescence is a raceme of up to 15 flowers with sepals and petals about 1/2" long, the lip white marked with violet, otherwise varying to yellowish or greenish with magenta markings.



APLECTRUM HYEMALE

Tipularia discolor also emits a single leaf, but it is ovate with a depressed midvein and 2 to 6 prominent side veins, dull green above and glossy purple beneath. A slender scape appears in late summer bearing a raceme of many delicate, slightly nodding flowers; the floral parts are 3/8" long except for the much longer spur, and usually are pale purplish but vary considerably in color. By that time the leaf has disappeared.



TIPULARIA DISCOLOR

Dick Smith

Sixteen Years of DiscoveryBetty Jones

It has been 16 years since Morgan and I spotted the “LAND FOR SALE” sign at the end of a dirt road in the Dunns Rock area of Transylvania County. We were in the market for approximately 10 acres of land on which we could build our retirement home. We called the realtor and made an appointment to see the property. We were told that the land had been in the same farming family since the late 1700’s and was now being sold to settle an estate. Family members were living on parcels of land surrounding this tract.

On a beautiful day in late March, the realtor drove us up the dirt road, turned right onto a tractor path, forded a shallow creek and parked in an open grassy area. Our first impression was not particularly favorable. The creek was bordered by a thicket of berry brambles and multiflora roses. Japanese honeysuckle covered several large lumps that later proved to be a chicken house, a hog pen and a shed for storing harness and farm tools. Old sheet metal lay on the ground and coils of barbed wire were evidence of long collapsed fences.

We followed the tractor path up a gentle hill, passing three larger buildings and an abandoned rusting truck. We reached the top of the hill where the tractor path opened out onto a large cleared area that the realtor referred to as the “potato patch”. We turned around and looked back toward the Blue Ridge Mountains and ... gasp ... what a beautiful view! Perhaps this place wasn’t so bad after all and wouldn’t this make an ideal spot for a house?

We could hear the creek that we had forded earlier and that was our next destination – an old logging path that ran along Johnson Creek. We started up the path and there before us were thousands of trout lilies (*Erythronium umbilicatum*)! I zigzagged behind the realtor, not wanting to step on a single blossom. As far as I was concerned, he had just made a sale.

We were told that there were waterfalls on the property. We were driven further up the dirt road to a spot where we could view the upper part of the tract and see for ourselves that there were no undesirable businesses or polluters above us. That clinched it, and within a month we were the excited owners of – not 10 – but 68 acres of land!

We spent the first year “discovering” a mountain of trash around the old buildings and clearing away honeysuckle and brambles. We also “discovered” our first waterfall and cut a trail through the rhododendron and dog hobble to get to it. We were clearly not the first to find this falls; two black plastic pipes snaked their way down from the falls to supply water to a family plant nursery. I also began my discovery of the native plants. I faithfully read Millie Blaha’s column in the Transylvania Times and I took a wildflower class conducted by Ina Warren. We moved into our new home in September of 1993 and gave it the name Dunn Muvin’.

Over the next couple of years, we scrambled up and down the mountain and discovered two more falls above the first, another pair of falls off to the side and a pretty grotto along Louise Branch that is covered with mountain lettuce (*Saxifraga micranthidifolia*). I started keeping a list of the flowering plants that I found and when Jeanne Smith learned of my interest in wildflowers, she invited me to accompany her and Dick on a WCBC field trip. That was when my education really began. Dick became my mentor. With some trepidation I gave Dick a copy of my plant list for his critique. Being the gentleman that he was, his corrections were always most diplomatic: “This would be an unusual find for this area ... but we should check it carefully,” or “This might be correct, but since xxx is much more widespread, you may want to re-check...” I joined the WCBC in 1997 and became its Recorder the following year.

I continued to keep annual records of the date on which I first saw a plant in bloom, calling it my "Dunn Muvin' Blumin' Things" list. I recorded and took pictures of *Cleistes divaricata* (Rosebud Orchid) in July of 1997 and *Platanthera lacera* (Ragged Fringed Orchid) in June of 2000 and have not seen them since. I introduced *Shortia galacifolia* and *Polygala paucifolia* (Gaywings) and both are thriving. The list grew to over 300 plants (including the tiny ones in the grass that most of us ignore). With Jenny Lellinger's help, over 20 ferns and fern allies were identified.

A new period of discovery began in April of 2006 when Ed Schwartzman of the North Carolina Natural Heritage Program contacted us requesting permission to take a biological inventory of our property. We readily consented and Ed spent several hours surveying plants, animals and topography. He, with Dan Pittillo, returned a month later to look in the cracks of the rocks high above the creek. There they found *Vittaria appalachiana* (Appalachian Shoestring Fern) and *Trichomanes intricatum* (Grotto Felt). Ed and his associates came back a few days later, after dark, to look for the rare green salamander which had been found on a neighboring property. No luck this time, however.

In his draft summary report of his survey, Ed describes the Dunns Rock Area (which includes our property) as follows: "Dunns Rock is a state significant site with an unusual cliff complex that harbors one of five extant populations of sword moss (*Bryoxiphium norvegicum*) in the state. Populations of other rare plant species, including sweet pinesap (*Monotropis odorata*) and French Broad heartleaf (*Hexastylis rhombiformis*), also occur on site." I had passed the French Broad heartleaf for years, assuming it was little brown jugs (*Hexastylis arifolia*).

Topographically, Ed describes the site thus: "Dunns Rock occupies steep, north-facing slopes dissected by a series of coves and ravines. The slope is covered with heath dominated forests, areas of boulders and exposed cliff-faces." He refers specifically to our Johnson Creek area, saying, "An unusual Canada Hemlock Forest with elements of Rich Cove Forest is found in the broad basin along the upper and middle-reaches of Johnson Branch. The forest is quite mature and may represent the best example of mature hemlock forest in the vicinity." Unfortunately, these hemlocks are showing the effect of the wooly adelgid.

This paragraph from Ed's report describes many of our sites, "Several Spray Cliffs occur in association with waterfalls and rocky seepage areas on the site. These communities support diverse non-vascular communities, particularly in grottoes beneath the falls where dense mats of mosses and liverworts form lush green carpets. Gametophytic ferns, Appalachian shoestring fern and grotto felt are also present in the back walls of grottoes. Vascular plants such as seepage rue (*Thalictrum clavatum*), Michaux's and brook saxifrage (*Saxifraga michauxii* and *S. micranthidifolia*) are common in the spray zones."

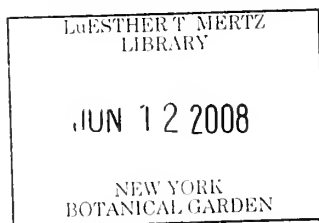
Ed's report reminds me that I have much to learn. Trees, mosses, liverworts, lichens, mushrooms and the more exotic ferns are all waiting to be "discovered". I am motivated to be a good steward of this land and to maintain it in a way that preserves its natural features. I want it to be here for my grandchildren and others who appreciate its special value. To that end, with our children's approval, Morgan and I plan to protect this land by placing a conservation easement on most of the property.

Here's to 16 more years of discovery!

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



FIRST CLASS



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SHORTIA

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SUMMER 2008

A quarterly publication of the Western Carolina Botanical Club

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

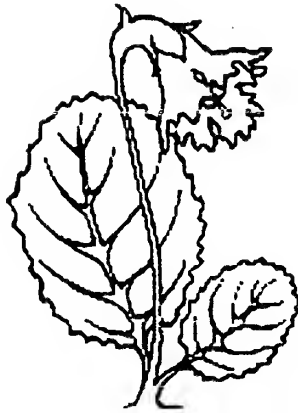
Please submit contributions for the next issue by August 15, 2008 to: Anne Ulinski
1212 Chanteloup Drive, Hendersonville, N.C. 28739

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: Alan Graham, 544 Tip Top Road, Brevard, N.C. 28712

SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

FALL 2008



Shortia galacifolia

Oconee Bells

WESTERN CAROLINA BOTANICAL CLUB

<i>President</i>	<i>Juanita Lambert</i>	<i>Secretary</i>	<i>Cynthia McCurdy</i>
<i>Vice President</i>	<i>Francis Jones</i>	<i>Treasurer</i>	<i>Alan Graham</i>

From the PresidentJuanita Lambert

The Club begins its 36th year with a new slate of officers. We are all fairly new members, with differing backgrounds, but with a common interest in the flora of the Southern Appalachians. I introduce this new team to you.

Juanita Lambert, President I am originally from New Jersey. I spent the bulk of my 34 year career with the U.S. Department of Agriculture in Washington, DC, where I evaluated food aid programs during the last half dozen years. I have always been interested in gardening, plants and trees, especially the parts of a flower which I learned in junior high school. I have learned much botanically from the members, not only finding and identifying the plants on our property but co-leading and recording field trips. I was the Board Secretary for six years and have represented the Club as part of the "Bullington Botanical Bunch".

Frances Jones, Vice President Francis retired to North Carolina two years ago from Washington, D.C. after 28 years working for the State Department as a Foreign Service Officer. She says "plants were not part of my life in all those years. Moving to this beautiful area and suddenly having three acres of land encouraged me to explore my surroundings and learn the names of plants and how they grow." She joined the Botanical Club, became a Master Gardener, and discovered she could fulfill her volunteer obligations by working at Bullington where she joined the "Bullington Botanical Bunch" in developing the Native Woodland Garden.

Cynthia McCurdy, Secretary Cynthia came to North Carolina from Illinois where she says "in my previous life I was an office manager for medical practices." She became interested in Botany when she was 13 years old and had to make a leaf collection for school. To meet her science requirements in college, she took Botany classes. Her Botany department sponsored a five-day field trip to the Smoky Mountains, and she says she has never forgotten that learning experience. Cynthia has acted as recorder for club field trips, and recommends being the recorder as a way to become more familiar with the various flowers.

Alan Graham, Treasurer Born and raised in Dayton, Ohio, Alan writes that he bailed out to Atlanta in 1967 to avoid Ohio weather. As a mechanical engineer by training, he spent the last 30 years of his career in technical sales. He moved to Brevard in 2004 and was interested in the variety of plant life. He joined Master Gardeners to learn more, but found their plant identification was not robust enough and moved on to the Botanical Club. He participates in most of the field trips and says he has learned lots and lots, but still has a long way to go.

-President's message continued on page 4

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.

Member News

New Members

Elaine Blake, Pisgah Forest. Elaine grew up in Kansas and Chicago. When she moved to Nashville, Tennessee, she was thrilled with all of the plants and flowers and developed a native garden. Now she lives in Pisgah Forest and wants to learn about the N.C. native plants and develop a garden here.

Jackie Fitts, Tuscaloosa, Al. Jackie lived in the Atlanta area when she became interested in native plants. She and Botany Club member, Barbara Allen, were part of the group that founded the Georgia Native Plant Society. Jackie lives on Balsam Mountain in the summer and enjoys our Botany Club.

Stephanie Gordon, Hendersonville. Stephanie is originally from East Tennessee where her great grandmother taught her about flowers and their names. She moved to Hendersonville 19 years ago and worked at the Carl Sandburg Home until ten years ago taking care of their museum.

Ann Houghton, Balsam. Ann has rejoined our club. She teaches so she doesn't make it to many of our activities.

Odessa Galda, Tryon. Odessa is Millie Pearson's sister. She always bakes something for the gathering at Millie's home after our field trip to Pearson Falls.

Jean Kirkland. Jean lives in Baton Rouge, Louisiana. She is a volunteer with the LSU Hilltop Arboretum where she does plant propagation and helps with the annual plant sale. She has a home in Laurel Park because her daughter, son-in-law and three grand daughters live in Hendersonville. Jean comes in the summer and fall.

Nancy Schuman, Asheville. Nancy Schuman was originally from the Chicago area and has also lived in Maine, California and New Mexico. She has enjoyed the wildflowers as she and her husband are hikers. Her mother had an interest in wildflowers and had a clump of shortia in her yard that Nancy now has on her Asheville property.

Jean Woods. Jean has moved from Charlotte to Brevard and rejoined our club. She has been a board member for the Catawba Lands Conservancy and led walks for them. She is the chairman of the Education Committee for the NC Native Plant Society and also monitors a section of the Appalachian Trail and Roan Mountain for four endangered species. She was our leader when the club went to see the prairie restorations near Charlotte last year.

Any change of address, e-mail or telephone number, please inform Alan Graham, 544 Tip Top Road, Brevard, N.C. 28712. 828-884-5947 <ljgraham@citcom.net.

The **Green River Preserve**, home to a camp for gifted children and also a 3400 acre Nature Preserve with 2600 acres in conservation easement with the Carolina Mountain Land Conservancy, was toured for the first time. Ed Schwartzman led the walk where we saw an abundance of Yellow Lady Slippers (*Cypripedium calceolus*) and French Broad Heartleaf (*Hexastylis rhombiformis*).

The trip to **Pilot Mountain** was worrisome due to a controlled burn in the area in March. However the Pinkshell Azaleas (*Rhododendron vaseyi*) were blooming profusely. It was a perfect day and little damage was evident from the spring burn.

It was overcast when we walked the **Tanbark Ridge to Bull Gap**. The Whorled Pogonias (*Isotria verticillata*) were a notable plant. We were a little early so early bloomers, Showy Orchis (*Galearis spectabilis*), as well as late bloomers, Large-leaf Waterleaf Bloom (*Hydrophyllum macrophyllum*), were found.

The Parkway to Graybeard Mountain was closed so **Frying Pan Gap Trail** was substituted. This was a new trail for the club in the Frying Pan Mountain area. Notable plants included Rose Twisted Stalk (*Streptopus lanceolatus* v. *roseus*) and Painted Trillium (*Trillium undulatum*).

The club visited **Fernhaven** and was treated to a walk around the forest gardens of the Lamberts. A multitude of ferns and fern types were seen. Emphasis was given to landscape design and site requirements rather than species identification.

Another new walk, **Black Balsam to Looking Glass Overlook**, follows a part of the Mountain to Sea Trail that straddles the Transylvania/Haywood County lines. Notable plants included Speckled Wood Lily (*Clintonia umbellulata*) and species variants that are only found at higher elevations in the Southern Appalachian Mountains.

The ride to **Soco Gap to Heintooga** requires a long ride on the Parkway but the pale pink of the Mountain Laurel combined with the deep rose-pink of the Catawba Rhododendron and the occasional splashes of the orange Flame Azalea made the Parkway look like a picture postcard. Two seldom seen plants were the Tassel Rue (*Trautvetteria carolinensis*) and Devil's Paintbrush (*Hieracium aurantiacum*). The other exciting find was the Small Purple Fringed Orchid (*Platanthera psycodes*) along the road at Heintooga just where they were advertised to be.

The **Southern Highlands Reserve** is a property held under a conservation easement and dedicated to plants native to the southern Appalachians. The field trip was a first for us. Much of the Reserve is being "developed" to display native species. Plants of the day included Fly Poison (*Amianthium muscaetoxicum*) and Galax (*Galax urceolata*) which were found in large blooming expanses.

The **Bear Pen Gap** walk was led by Tom Goforth (two stream crossings!). Tom gave his interpretation of the evolution of the wood fern. The most noteworthy plant observed was the Hybrid Wood Fern (*Dryopteris campyloptera* x *intermedia*).

The stop and go field trip down **Sky Valley Road** was hot and dry which is usual for this walk. The signature plant for the trip was the Yellow Fringed Orchid (*Platanthera ciliaris*).

We returned to the **Flat Laurel Creek Trail**. Plants of note included Appalachian St. John's-wort (*Hypericum buckleyi*), Blue Ridge St. John's-wort (*Hypericum mitchellianum*) and Inundated Club Moss (*Lycopodiella inundata*).

A Rare Lily

This past March, Jim Drake received an e-mail from Henderson County property owners, Stephanie and Ken, who inquired whether a lily found growing near their house the previous summer could possibly be Gray's lily (*Lilium grayi*). After reviewing photographs provided by Stephanie, the possibility of Gray's lily could not be completely ruled out. Her excellent photos clearly showed a distinctively red liliium bloom at anthesis. However, due to the relatively low altitude growing area of the plants, not the usual habitat of Gray's, other possibilities were considered. From this point, anxious anticipation ensued for the flower's return the following summer to allow closer examination of the bloom.

Hope diminished in early June when no emerging sprouts were found in the usual growing spot. Last year's drought condition was felt to be the culprit. Miraculously, in late June, Stephanie found the same lily flowering in two other locations on their property. Arrangements were then made for Bonnie Arbuckle and Jim to visit the site to attempt positive identification.

Using *Lilium* keys from Wofford's *Guide*, Weakley's *Flora*, and Radford, Ahles and Bell's *Manual*, descriptions from Horn and Cathcart's *Wildflowers of Tennessee*, and Justice, Bell and Lindsey's *Wild Flowers of North Carolina*, and considering other traits such as flower color and structure and growing habitat, Bonnie and Jim concluded the specimens in question were the uncommon *Lilium canadense* var. *editorum*, the red variation of Canada lily, a rare find indeed.

-President's Message continued from page 1

Bonnie Arbuckle and Ken Borgfeldt have agreed to head the scheduling committee, taking over from Helen Smith who has so effectively served the club as scheduler since 2001. Bonnie will conduct the meetings and Ken will handle the computer logistics for developing and disseminating the schedules to members. If you have ideas about new field trips, contact Bonnie at 696-2077.

Ken will continue as master recorder, Lucy Prim as historian and Anne Ulinski as editor of our quarterly newsletter, Shortia. These members plus the officers and the outgoing president comprise the Executive Board which guides the functioning and direction of the Club .

Nose to the Ground

Rogue is a 4-year-old sheepdog. Kincaid lupine is a threatened plant, host to the endangered Fender's blue butterfly which is found only in Oregon's Willamette Valley. Greg Fitzpatrick is a steward working for The Nature Conservancy in Oregon.

The Oregon Conservancy has been working for more than a decade to improve the habitat for the Fender's blue in the Willamette Valley where less than two percent of historic upland prairie and oak habitat remain. Fitzpatrick found that surveying for Kincaid's lupine was often arduous work over difficult terrain. And humans can only survey when the lupine is in bloom and easily identifiable.

Fitzpatrick thought maybe dogs could do a better job than people and contacted Dave Vesely of the Oregon Wildlife Institute who had used Rogue for native turtle work. And he contacted Alice Whitelaw, co-founder of the "Working Dogs for Conservation Foundation" in Montana. The team decided to give Fitzpatrick's idea a try.

This year three dogs worked in eight locations skirting Corvallis, running over a mile of transects and putting their accuracy to the test. Of the 364 plots, the dogs made only six errors. The dogs even surprised their handlers one day when they refused to alert on lupine at a new site. It turned out the lupine was a different species, and it was the handlers who had made a mistake.

So on a recent morning, Rogue, Vesely and Fitzpatrick waded through yellow, knee-high prairie. When ready, Vesely hollered "Search!"

And Rogue did. Nose to the ground, he purposefully wove through the grass, then sat. He anxiously waited beside a leafy plant, his black ears visible through the tangle of grasses. "Good boy!" Vesely exclaimed when the leafy plant turned out to be the lupine.

"Dogs, in most cases, are more accurate and quicker than people" explains Whitelaw. Her detection dogs work around the globe to support projects on bears, wolves, cheetahs, snakes, invasive plants and more. "[The lupine work] is huge, in terms of the dog's ability to discern species and how that can be used for conservation."

Meanwhile, Whitelaw continues to lavish praise on project partners and working dogs, Fitzpatrick is stunned his idea has come full circle, and Vesely is intent on compiling the data and fishing for more funding to continue the project. The research is currently funded by a grant from the Disney Worldwide Conservation Fund and is supported by the Conservancy, U.S. Fish & Wildlife Service, Greenbelt Landtrust and others.

What's in a Name?

Autumn roadsides are brightened by the golden blooms of a number of plants in the Aster family, the Asteraceae. Aster is from the Greek word for star. Legend says these flowers were created from star dust when Virgo wept. They are easily recognized by their daisy like flower composed of ray flowers that form the petals and disk flowers that form the central part.

The name for *Chrysopsis mariana*, Maryland Golden Aster, is formed from two Greek words: chrysos meaning gold and opsis appearance. The species name mariana refers to the virgin Mary .

The Grass-leaved Golden Aster *Pityopsis graminifolia* was once classified as *Chrysopsis graminifolia*. Graminifolia refers to the grass like leaves of the plant. They are covered in appressed silvery hairs that give the plant another common name, Silk Grass.

Sunflowers belong to the genus Helianthus that combines two Greek words helios meaning sun and anthos meaning flower. They are common along road sides.

The Hairy Wood Sunflower *H. atrorubens* is characterized by a hairy dark red stem. Atr means dark and rubens means red

The Woodland Sunflower *H. divaricatus* has a straggling spreading growth habit indicated by the genus name divaricatus

H. microcephalus is the Small Wood sunflower. Micro meaning small and cephalus meaning head refer to the small flower size of this sunflower

Wingstem and Crown Beard are tall roadside plants of the genus Verbisina. They both have winged growth along the stem and are differentiated by the leaf pattern.

Crown Beard, *V. occidentalis*, has opposite leaves. Occidentalis refers to the western hemisphere where it grows

Wingstem, *V. alternifolia*, has an alternate leaf pattern

Tickweed, *V. virginica* also has alternate leaves. It has white or virginal flowers

More than sixty species of goldenrods grow in the United States and add fall color throughout the country. Goldenrods have been selected as the state flowers of Kentucky, Alabama and Nebraska. The Latin word solido meaning to make whole refers to the healing quality attributed to some of the goldenrods. Dried flowers and leaves have been used to make teas and infusions. Because they hybridize, goldenrods are difficult to identify. Begin your identification with these.

Silverrod, *S. bicolor* has white ray and yellow disk flowers

Sweet Goldenrod, *S. odora* has anise scented leaves

Bonnie Arbuckle

Thoreau at Walden Paula Robbins

This October, the North Carolina Arboretum will present "Walden at 150," a traveling exhibition presented by the Harvard Museum of Natural History that will invite visitors to return to the outdoors through twenty-nine photographs which capture the natural beauty that inspired Henry David Thoreau. It will also include:

- An artifact case of specimens and artifacts connected to the natural environment.
- A short video presentation about Thoreau's legacy and how his writings influenced contemporary thinking about the natural world and our place in it.
- A hands-on nature station and nature activity cards to engage the visitor in local forest ecology.
- A feedback area where visitors may leave pictures and thoughts about their own "Walden."

In preparation, WCBC members may want to reread *Walden* but may also wish to look more closely at Thoreau's later work with its emphasis on botany and ecology. To do so, they can read the editing by Bradley P. Dean of the Thoreau Institute at Walden Woods, Lincoln, Massachusetts, of the works left unfinished by Thoreau's untimely early death from tuberculosis: *Faith in a Seed: The Dispersion of Seeds and Other Late Natural History Writings*. Ed. Bradley P. Dean. Washington, D.C.: Island Press, 1993, as well as the most recently rediscovered manuscript, *Wild Fruits*. New York: W.W.Norton, 2000, also edited by Dean.

According to Laura Dassow Walls in *Seeing New Worlds: Henry David Thoreau and Nineteenth-Century Natural Science*. (Madison: The University of Wisconsin Press, 1995), by 1860, Thoreau was "shaping interlinked clusters of essays, drawing details of rural nature---acorns, autumn leaves, wild apples, huckleberries---into explorations of perception, epistemology, economics, and morality. In effect, what came after *Walden* was a deep concern with what comes after: with principles of succession, continuity, daily sustenance, and the ongoing, chaotic processes of life."

In 1859, Thoreau was appointed a member of the Harvard Visiting Committee in Natural History, charged with the annual evaluation of the college curriculum. Thoreau's presence on the committee suggested to Thoreau biographer, Robert D. Richardson, that he was by now considered a member of the science establishment. Richardson reports that on January 1, 1860, Charles Brace, a New York social worker and general intellectual, arrived in Concord with a newly published copy of Darwin's *Origin of Species*, which he had picked up from Asa Gray, Harvard professor and Darwin's American champion. The book had only been out for a month, and Brace, Franklin Sanborn, Bronson Alcott and Thoreau had dinner and discussed the book, which Thoreau soon got hold of, read, and made notes from. He quickly picked up several of Darwin's main ideas, and these play an important part in Thoreau's late unpublished work.

I have often wondered what Thoreau might have written had he lived another twenty years instead of dying at age 44 on May 6, 1862.

(Robbins lived in Concord, Massachusetts for 20 years and is the author of *The Royal Family of Concord: Samuel, Elizabeth and Rockwood Hoar and their Friendship with Ralph Waldo Emerson*. Philadelphia: Xlibris, 2003.)

P.7

NameThatPlant.net

Kim Spencer sent us a website she learned about at the recent Cullowhee conference. The site is entitled Name That Plant and is described as follows:

"[It] is a clearing-house about native and naturalized plants of the Carolinas. You can search for a plant by its common or scientific name, or by the family that it belongs to. You can ask for a list of native plants recommended for home landscapes or to attract wildlife. You can describe a plant that you've seen and ask for plants that meet those criteria. And, for an ever-growing number of botanically interesting areas, you can access a list of plants that you might see on your next visit.

On the plant detail page, you will see the plant's scientific names, as cited by several authorities. Most field guides will use one of the names.

If there is a button beside the name, you can click it to hear the Latin name pronounced.

Photographs are displayed for many of the plants, showing leaves, fruit, bark, and habit[at] as well as flowers. The pictures sort sequentially to show *seasonal* changes.

"Some of the photos are accompanied by notes pointing out specific features to look for, much as a teacher might mentor a student. This commentary comes from various books and experts. As pictures are paired with verbal descriptions, the viewer learns not only to see, but he gradually becomes acquainted with the vocabulary of botany.

Clicking a "thumbnail" photo provides a larger image.

You can compare confusingly similar plants side by side, like a police line-up!

NameThatPlant.net is a work-in-progress. At the date of this printing it features 2308 plants, 1433 of which are pictured (6932 photos)."

In addition, here are a few quotes from the site:

"In the 19th century we devoted our best minds to exploring nature. In the 20th century we devoted ourselves to harnessing and controlling nature. In the 21st century, the best minds are working on how to restore nature."

-Stephen Ambrose

"I can't but feel that one who knows the names, lore and uses of the things found in nature is more likely to care for the remaining wild places. A forest trail becomes a richer, more complex and beautiful place as one's understanding of it increases."

- Daniel Reed

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A quarterly publication of the Western Carolina Botanical Club

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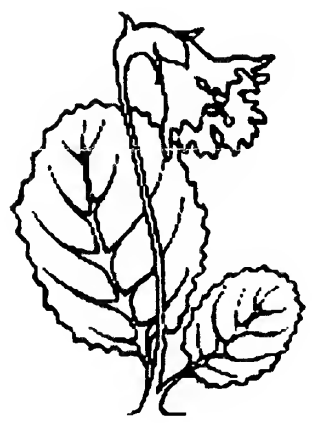
Editor: Anne Ulinski
Editorial Assistant: Jean Lenhart
Member News: Ruth Anne Gibson

Please submit contributions for the next issue by November 15.

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SHORTIA
NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB
WINTER 2008



Shortia galacifolia

Oconee Bells

WESTERN CAROLINA BOTANICAL CLUB

<i>President</i>	<i>Juanita Lambert</i>	<i>Secretary</i>	<i>Cynthia McCurdy</i>
<i>Vice President</i>	<i>Frances Jones</i>	<i>Treasurer</i>	<i>Alan Graham</i>

From the PresidentJuanita Lambert

As we walk through the fields and forests, observing and identifying various herbaceous plants, shrubs and trees, we also encounter nonnative invasive plants. These plants may be called exotic, alien, or obnoxious weeds, or some combination of these terms. Some have been introduced accidentally, and some intentionally. These often robust plants arrived without their natural predators of insects and diseases and thus ultimately, if not controlled, may snuff out native plants.

The invasion of these nonnative plants over time changes the ecology and habitat of an area. These plants are annuals or perennials, with varying flowering and seeding times. Many of them were introduced as ornamentals, wildlife food, and soil stabilization and improvement.

We have identified many of the invasive nonnative plants on our field trips. They include: *Ailanthus altissima* (Tree-of-Heaven), *Elaeagnus umbellata* (Autumn Olive), *Ligustrum sinense* (Privet), *Lonicera japonica* (Japanese Honeysuckle), *Rosa multiflora* (Multiflora Rose), *Celastrus orbiculatus* (Oriental Bittersweet), *Pueraria montana* (Kudzu), *Lespedeza bicolor* (Bicolor Lespedeza) and *Microstegium vimineum* (Japanese Stilt Grass).

What should be our response to these plants, individually and as an organization? At Fernhaven, we aggressively wage war against English Ivy, Japanese Stilt Grass, Japanese Honeysuckle, Multiflora Rose, Oriental Bittersweet, and the Lespedezas. On the other hand, we have ourselves introduced some exotics that have run rampant, forcing us to draw a "line in the sand", and control their spread (some of our native fern plantings are getting out of hand, too).

On our botanical outings, we cannot attack all invasive exotics we encounter - it would be inappropriate and would turn our outings into weeding sessions. However, I would suggest that it might be quite appropriate to pull a few weeds that might be threatening a particularly unique or attractive plant.

The U.S. Forest Service has published a field guide identifying approximately thirty-three nonnative invasive plants of southern forests. The guide (General Technical Report SRS-62) provides recommendations for the prevention and management of these nonnatives. It's available free of charge via email <pubrequest@srs.fs.usda.gov> , phone (828-257-4830) or mail the Southern Research Station, 200 W.T. Weaver Blvd., Asheville, NC 28804.

Member News

ANNUAL DUES. January 1, 2009 is the date for all membership renewals. Please fill in all the information on the green form and return it with your check so we can verify our membership records.

Winter Meetings. These meetings will automatically be cancelled if the Henderson County Schools are closed. Check the weather reports or telephone the Henderson County Office at 697-4733.

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A former member, Anne Matthes, recently moved to the west coast to be near a son. Before she left she donated over 60 of her books to the club. These will be added to others for our next book sale.

Congratulations to member, Lucy Prim. Two of her paintings, one of the goat barn and one of Connemara, the Sandburg house, were recently purchased for the Carl Sandburg Home National Historic Site.

Club Volunteers

The Bullington Center: Ken Anderson, Bonnie Arbuckle, Becky Armstrong, Frances Jones and Juanita and Larason Lambert

The North Carolina Arboretum: Lucy Prim and John Siddall

The Botanical Garden at Asheville: Elisabeth Feil who serves on the Board of Directors

Thanks

To our Board of Directors and Scheduling Committee who keep everything running smoothly

To our master recorder, Ken Borgfeldt, who prints out and distributes the plant lists to the leaders, keeps master lists of all our field trips and sends out the field trip changes and cancellations

And to all those members who volunteer as leaders, co-leaders and recorders and make our field trips possible

Any change of address, e-mail or telephone number, please inform Alan Graham, 544 Tip Top Road, Brevard, N.C. 28712. 828-884-5947 <ljgraham@citcom.net.

We returned to **Kellogg Center** after a short hiatus. The Cranefly Orchids (*Tipularia discolor*) were a flower of note. Also, a large Brain Coral fungus drew a lot of attention.

The trip to **Hickory Nut Falls** that was cancelled earlier this year was finally conducted. It was noted that the Carolina Rhododendron (*Rhododendron minus*) seemed much more stressed by the summer drought than the Great Laurel (*Rhododendron maximum*). The "Plant That Ate the South" (Kudzu) was in bloom.

We walked the trail behind the **Jackson Park** Administration Building in addition to the usual path around the boggy area. Parrot Feather (*Myriophyllum aquaticum*), an exotic invasive, is taking over the waterways in the park. White Cardinal Flowers (*Lobelia cardinalis*) were an unusual treat.

The **Parkway South** was a drizzly, foggy day. We were rewarded with a showy display of Grass-of-Parnassus (*Parnassia asarifolia*). We also found the endangered False Asphodel (*Tofieldia glutinosa*) that seems to be flourishing in the drainage ditch area.

Exploring with Tom Goforth involved a walk in the vicinity of Wadacoe and Horse Mountains. Surprisingly, no streams were waded! We did see a few unusual plants including Bearsfoot (*Smallanthus uvedalia*) and Carolina Elephant's Foot (*Elephantopus carolinianus*).

The **Coon Branch Trail** was generally good although a part of the bridge was washed out and there were lots of downed trees since our last visit. The One-flowered Hawthorn (*Crataegus uniflora*) was a plant on note.

It was late in the year for the visit to **Ashmore Preserve** and most of the plant spotting was "fruit and seed". We changed the usual trail routine and saw the West Fork of Wattacoo Creek Falls. Unfortunately the drought conditions were not conducive to much water falling!

The walk to **Bridal Veil Falls** saw very few blooms due to the early onset of freezing weather, so focus was on trees. Noteworthy sightings included Four-wing Silverbell (*Halesia tetraptera*) in fruit and Witch Hazel (*Hamamelis virginiana*) in bloom.

The last walk of the season was **FENCE**. The day was cloudy and foggy but a nice walk nonetheless. We were successful at finding the seeds from the ever popular Seedbox (*Ludwigia alternifolia*) and Meadow Beauty (*Rhexia virginica*).

Overall we had a successful outdoor season even though the drought certainly messed up the blooming times and conditions. In fact toward the end of the season it seemed that drizzly, cloudy days were more the norm. Despite the weather conditions only three walks were cancelled all year and we look forward to a successful 2009.

Muddy Sneakers

Following a successful trial run last Spring, Muddy Sneakers, an educational initiative designed to offer outdoor classroom expeditions and tailored to meet objectives of North Carolina's Standard course of Study, found a foot hold in the North Carolina Schools. Now eight hundred and seventeen 5th and 8th graders from eleven schools in four Western North Carolina counties have left their footprints on forest trails, along streams and lake sides as the first full semester of field studies comes to a close.

Partnering with classroom teachers, the naturalists and instructors used local forest and parks as classrooms. Students studied the hydrosphere, the health of an eco system, an introduction to weather patterns, nature's technology, animal habitats, erosion, water pollution, chemistry in nature, evolutionary theory and motion.

A Brevard Elementary Teacher writes: "I thought it was great for the students to see what we had learned about in our textbook. some of these students never get out in the woods They do not have many real life experiences, so it was great to see them out there learning."

Included in a student's Muddy Sneakers day, is quiet time spent reflecting on what they have done or seen during the day, then journaling about it.

Among the many thoughtful student quotes.....

"I never knew a rotting log could be so full of life! The fungus we found looked like white slime! When you showed us how important trees were, I wanted to help save trees like the American Chestnut."

--William, Brevard fifth grader

"I won't take things like plants for granted. They give us things we need and want. I like the sound the grouse made. It sounded like a helicopter. I learned how to tell the difference between a white pine and a maple. My parents learned things from what I told them. Thank you so much for taking us on the trail, I learned so much."

--Camerron, Brevard fifth grader

"Thank you for taking us on that fun ecosystem hike. I learned lots of plants names and now I will be able to identify them too. Although I am pretty sore, I still learned a lot and had fun. My favonte plant was the ground pine. I like the shape of it and I have earrings that look like that! Catching the stuff in the river was fun. I liked the baby salamander best. "

--Anna, Brevard fifth grader

Last Spring, one of the students in the first class wrote, " I learned about a bunch of plants I see every day. I learned about ones I've never noticed before, too. To sum it all up, I had an awesome time and hope to do it again.".....

Lessons and life found in the woods and fields around us.....they are awesome, aren't they!

- Aleen Steinberg

The Center for Plant Conservation

The Center for Plant Conservation (CPC) is dedicated solely to preventing the extinction of America's imperiled, native flora. It's national office is hosted by the Missouri Botanical Garden in St. Louis, Missouri. The Center consists of a network of America's leading botanical institutions, each of which study and preserve one or more of these imperiled native flora. The participating institutions work with the assigned plants offsite and in the wild. In the greenhouse, institution scientists conduct horticultural research and learn how to grow the plants from seed or cuttings. Institution scientists also assist in monitoring populations in the wild, managing habitat and restoring plants to native habitats. The North Carolina Arboretum and the N.C. Botanical Garden in Chapel Hill are two of these institutions.

National Collection of Endangered Plants

CPC also maintains the National Collection of Endangered Plants, a collection of more than 600 of the country's most imperiled native plants and seeds in the United States. This is an important conservation resource, a back-up in case a species becomes extinct or no longer reproduces in the wild. The Collection provides the material for restoration of any of the species which are stored at the Center's participating institutions across the country with parts of the Collection stored and maintained at the USDA's National Center for Genetic Resources Preservation.

Since 1992, the N.C. Arboretum has been a member of the Center for Plant Conservation, one of the 33 institutions that participate in conserving rare and endangered species. The Arboretum maintains ten species of the National Collection.

The N.C. Arboretum Plants

<i>Cardamine micranthera</i>	Small-anthered bitter-cress
<i>Carex roanensis</i>	Roan Mountain sedge
<i>Conradina verticillata</i>	Cumberland rosemary
<i>Crataegus harbisonii</i>	Harbison hawthorn
<i>Geum radiatum</i>	Appalachian avens, spreading avens
<i>Hedyotis purpurea</i> var. <i>montana</i>	Roan Mountain bluet
<i>Hudsonia montana</i>	Mountain golden-heather
<i>Rhododendron austrinum</i>	Orange azalea
<i>Shortia galacifolia</i>	Oconee bells
<i>Sisyrinchium dichotomum</i> .	Reflexed blue-eyed grass

The CPC program slowed for a few years when budget problems made it impossible to fund a staff member. But now Joe-Ann McCoy has joined the N.C. Arboretum to help reactivate the CPC projects in 2009.

Joe-Ann writes: "We'll be contacting the Atlanta Botanical Garden (Jenny Cruse-Sanders) and NC Botanical Garden (Mike Kuntz), who have been working with some of the species, for their advice and potential collaboration. What I would envision would be to analyze the native range for each species to determine approximate population sizes, then if possible we'll collect seed samples for long term storage and DNA samples. We will collect vouchers and photos, and if the populations are large enough perhaps develop a propagation protocol for future reintroductions if necessary. These species would be 'black boxed' or "undistributed" and stored purely for conservation purposes."

The Arboretum also hosts the French Broad Heartleaf Preserve, a registered State Natural Area onsite which protects the largest known population of *Hexastylis rhombiformis*.

Joe-Ann has invited the club to come to the Arboretum for a program about the CPC work.

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Another Dog Detector Story Bonnie Arbuckle

Do you think a botanist would be interested in white diamonds? The answer is a definite yes if the "white diamond" is the white truffle of the Italian piedmont. This rare and highly prized gourmet's delight is a hypogenous fungus that grows on the roots of oak, poplar and linden trees in the hilly Langhe region of northern Italy.

In the fall, truffle harvesting is done by trifolau (truffle-hunters) and their dogs. This mushroom, *Tobaer magnatum*, has a distinctive musky scent. In the selected woody area, the dog runs around with her nose to the ground. When she detects the scent, she begins to stroke the ground. The trifolau removes the truffle taking care to not damage the root, and rewards the dog with a treat. Mixed breed dogs with a keen sense of smell are used for truffle hunting. There is a close relationship between dog and hunter.

On a recent trip to Italy Frances Jones and I went on a truffle hunt with Ezio Costa and his dog Gioli. The hunt was followed by a delicious lunch where finely shaved truffles were served on two dishes, celery salad and sunny side-up eggs.

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During December, two of Patrick McMillan's "Expeditions" programs will be broadcast on UNC-TV . On Sunday December 21 from 12-12:30 p.m. the program will be "The Strange & Secret Lives of Bats" and on Sunday Dec. 28, 12:00-12:20 p.m. "Salamander Mimicry: Who Tastes Good"?

Monitoring Plants along the Appalachian Trail
Jean Woods

The Appalachian Trail Conference (ATC) had natural heritage inventories done on all the land owned by the Conference in 1989-2001, covering the 14 states crossed by the Trail. Here is an excerpt from a talk by Kent Schwarzkopf:

“The 14 AT natural heritage inventories documented approximately 2,050 occurrences of rare, threatened, or endangered (RTE) species and rare or exemplary natural communities of 515 natural heritage sites within the AT corridor. The number of RTE occurrences within the AT corridor is believed to be the greatest of any National Park Service unit. Plants make up 88% of the RTE species occurrences identified in the inventories and 12% are animals. Approximately 330 of the occurrences are of globally rare species identified as G1, G2, or G3 by The Nature Conservancy. The greatest numbers of globally rare species are found along the AT from Virginia southward. The largest concentrations of RTE species occurrences are located in the Presidential Range of New Hampshire (215 RTE species occurrences), the Mt. Rogers-Whitetop area of southwest Virginia (79 RTE species occurrences), and the Roan Mountain area along the North Carolina-Tennessee border (67 RTE species occurrences)”

As you can see North Carolina is well represented in this study. Monitoring workshops have been held to train volunteers to monitor the endangered species. I attended a workshop and then met with a botanist on my section for further directions on locations and monitoring protocol. My section is on Roan Mt. from Carvers Gap to Jane Bald which I have monitored since the late 1990's. Basically I visit the site once a year and count stems of the specified plants. All have a Global (The Nature Conservancy) endangered rank. I also take pictures, fill out a form for each population, suggest actions that should be taken if a problem is noted and send all this to the ATC office in Asheville.

Below is a list of the plants that I monitor:

Gray's lily	G2	<i>Lillium grayi</i>
Schweinitz's ragwort (renamed <i>Packera schweinitziana</i>)	G5	<i>Senecio schweinitzianus</i> ,
Bent avens	G2	<i>Geum geniculatum</i>
Appalachian fir clubmoss	G3	<i>Huperzia appalachiana</i>
Greenland sandwort	G5	<i>Minuartia groenlandica</i>
Roan rattlesnake root	G3	<i>Prenanthes roanensis</i>

The trail from Carvers Gap to Round Bald previously ran straight up the slope and was badly washed out and rutted. The trail was rerouted some years ago and now does a zigzag through the forest. The Appalachia clubmoss was just off the old trail about half way up on a short ledge which was just right for people to sit and rest with deleterious consequences for the clubmoss! Since the trail was re-routed, the clubmoss is recovering. I go up the trail from Carver's Gap, into the woods, and then across the slope to this location. The clubmoss likes to grow under rhododendrons and it usually takes me a minute to spot it.

I monitor during the last weeks in June because, usually, the Gray's lily, bent avens, sandwort, and ragworts are in bloom. Schweinitz's ragwort covers the slope during this time and is most abundant in Engine Gap. The common ragwort also blooms at this time but it is easy to distinguish the two. Schweinitz's ragwort has a distinctive leaf that is ovate to lanceolate with a truncate base. When I began monitoring, we would try to count these, which was impossible and not very practical. Now, we note the general health and enjoy the display. The ragwort is a disjunct left over from the Ice Age. It still occurs on the high balds in the Appalachian Mountains, but the nearest other populations exist far to the north.

As you walk the trail, you will see alders all along the path. This alder, *Alnus viridis* ssp. *Crispa*, is also a disjunct from the Ice Age.

Near Round Bald, the Gray's lily begins to appear and will continue in the open all over the mountain. I count the stems 200 feet on either side of the trail. The Southern Appalachian Highlands Conservancy hires a seasonal employee to do management on Roan during the summer and he or she will count the lilies on the remainder of the mountain, which is a pretty big job. ATC is mainly concerned with the trail corridor, but works in conjunction with the conservancy to monitor the health of the entire ecosystem.

Grays' lilies hide in the tall grass and often have their heads missing due mainly to deer and some misguided hikers. It is always a challenge to count the stems and spot the ones not in bloom or missing their bloom. However, I am always amazed at how the eye becomes accustomed to the outline and how many I can pick out. They are beautiful and exquisite, with the brilliant color and the spotted throats.

On Round Bald, I get off the trail and start looking for a particular rocky place. The tiny Greenland sandwort grows in this rocky area. It is one of those tough, tiny, alpine plants that seem to thrive in tough places. It is hard to distinguish and very hard if there is no bloom. I am supposed to count separate plants, but it can be difficult to decide what a separate plant is and what is not because of their tiny size and clumping form. I do the best I can.

When I began monitoring, I was shown a population of sedge in Engine Gap and told it was *Carex misera*. We dutifully measured the area and photographed it for years, only to learn a few years ago that it had been misidentified and was a more common sedge. We no longer monitor it. No wonder I have such trouble keying out sedges!

As the trail starts to become steep again, I turn off to the right to an old and decaying tree. At its base is the Bent avens. This population is struggling, but hangs on somehow. I clip the grass away from the plants each year and attempt to give them some room in the tangle of vegetation. When the tree was alive and providing shade, the plants had a better chance. The bloom is not showy, but I find them attractive.

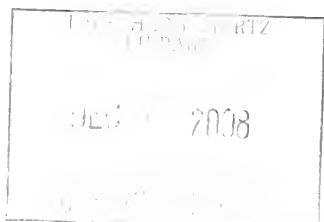
The other plant that is noted in this section of the trail is Roan rattlesnake root. It blooms around Labor Day and is not very eye catching. This was another one that we were originally to count, but it is numerous and the protocol now is not count or to monitor.

I will be monitoring next June and anyone who is interested is invited to go with me. Maybe we can make it one of the Friday outings. It is a bit of a drive, so, perhaps better handled as a separate trip. I am open to suggestions and help.

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