SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

FALL 2006

Shortia galacifolia

Oconee Bells
FROM THE PRESIDENT.................................................................Jenny Lellinger

Like many other retirees, my husband Dave and I carefully selected THE place to enjoy our ideal retirement. We were living a dream when we relocated from Northern Virginia to the Western Carolina mountains. Among our many projects, Dave would design his dream house and I would botanize and explore nature to my heart’s content. I was chagrined to learn, however, that the NC Native Plant Society did not have a chapter in the western part of the state. How could this be, given the botanical riches in our area? Undaunted, I resorted to Google and voila! much to my delight I discovered a listing for the Western Carolina Botanical Club.

I was ecstatic to learn that the club botanized in the field at least once a week well into the fall, with a lecture series throughout the winter! This by far exceeded my expectations. No native plant society that I knew of offered as much field exposure. Unencumbered by incorporation, this group was simply, yet efficiently, organized and took botanizing seriously. Leaders and participants alike share a keen interest in learning more about our botanical world. Each walk is carefully scouted, and participants are issued a plant list alphabetized by up-to-date scientific names! You guessed it; I signed up and soon realized that one of the group’s greatest attributes is that, regardless of fair weather or foul, we have great fun botanizing.

However, we are not just a fun and games bunch. There is an educational component to our group. We support a variety of educational outreach efforts, including plant identification workshops offered through the Bullington Horticultural Center in Henderson County. In the area of field botany we informally fill another educational niche through our walks and lectures, which reach a growing segment of our local population, namely retirees. Retirees typically move to the Southern Appalachians because they value its wilderness and natural diversity. The more knowledgeable newcomers become about the natural world around them, the better equipped they will be to protect and exercise wise stewardship of the wild areas we so treasure.

I am delighted to be writing my first letter for SHORTIA as President of our Club and I feel honored to thus participate in the stewardship of such a fine group.

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

Carolyn Ashburn and Chuck Hearon, Campobello, S.C. Carolyn and Chuck both enjoy photography: He of plants, she of people. Chuck maintains trails for FENCE and FETA and monitors land in conservation easements for the Pacolet Area Conservancy. He hiked the entire Appalachian Trail in 1999. We all enjoyed his photographs at the recent annual meeting.

Dawn Bigelow, Sapphire, N.C. Dawn lives in Sarasota, Fla. but has summered in our area for the last 6 or 7 years. She has worked in a nursery and has taken courses in landscape design.

Dori Miller, Roseman, N.C. Dori works as an attorney inAtlanta from Tuesday to Thursday. She has been coming to our area for the last 18 months for long weekends. She is a member of the Transylvania Native Plant Stewards, a birding group, and a book club.

Kim Spencer, Pisgah Forest N.C. Kim came to Pisgah Forest in 1998 from the Mississippi Delta. She is a Master Gardener, a member of the Transylvania Native Plant Stewards and is an avid reader.

Aleen Steinberg, Cedar Mountain, N.C. Aleen has lived full time in Cedar Mountain for the last 8 years. For over 40 years she lived part time in Cedar Mountain and part time in Florida where she belonged to the Florida Native Plant Society. She is a member of Friends of Dupont Forest and is now serving as the Conservation Chair on the Advisory Board to Dupont.

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Overnight Field Trip. A field trip to the Buck Creek Serpentine Barren is scheduled for September 25, 26. Our guide will be Gary Kauffman, U.S. Forest Service Botanist. There will be an overnight in Franklin Monday September 25 with a group dinner at 6 p.m., followed by a program on serpentine barrens by Gary. Tuesday we will go to the Barren (bring a lunch), returning home later that day. Members are responsible for their own reservations. A block of rooms at the Franklin Hampton Inn (828-369-9200) has been reserved for club members. As of this time (Sept. 2) four rooms remain. Identify yourself as a club member to get a special rate. If you plan to join the group for dinner, notify Bonnie Arbuckle (696-2077) who will be making the restaurant reservation.

A Symposium on Shortia galacifolia, the Oconee Bell, is being planned at Clemson, S.C. for March 16-18, 2007. The program will feature presentations on history and botany and a field trip to Devil's Fork near where Michaux first found the plant in the 1780's. Registration information will be available soon.

Field Trip and Indoor Program Changes. Every effort is made to keep to the published schedule but in case of changes, e-mails are sent out. For those without email, a telephone call will be made. If you want to receive this information be sure that Larry Avery has your e-mail address and/or telephone number. If members have a change of address, e-mail or telephone number please inform Larry Avery at 4 Windrush Lane, Flat Rock, N.C. 28731, Tel. 828-2679, e-mail: alavery@cytechusa.com.

Winter meetings are automatically cancelled if the Henderson County Schools are closed because of weather conditions.

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It's time again for a summary of our walks. We've had an active spring/summer with very few cancellations, so here goes:

The easy walk to Davidson River/Sycamore Flats featured a wide variety of spring bloomers including an abundance of Golden Ragwort (Packera aurea) and May Apple (Podophyllum peltatum).

Tommy Shinn led the walk through Shinn Gardens, which was very lush with diverse flora. We observed and noted the differences between Pale Yellow Trillium (Trillium discolor) and Yellow Toadshade (Trillium luteum). There were at least 18 fern species for our fern lovers.

We were able to visit Coleman Boundary this year as the road washed out by the hurricanes has been repaired. However, the forest service has gated the road to Douglas Falls so we did not lunch there as in the past. The Dwarf Larkspur (Delphinium tricorne) was as abundant as ever and we were able to find the Wild Comfrey (Cynoglossum virginianum) in bloom.

We returned to Cedar Rock in DuPont State Forest for our May visit. Berries or berry producing shrubs were the major topic of discussion as we saw quite a variety. Additionally, a beautiful Fringe Tree (Chionanthus virginicus) was in bloom as were the Pinxter Flowers (Rhododendron periclymenoides).

It was a sunny day as Don and Dana Herrman welcomed us to Ramblewood for our summer picnic. Dana led us on a ramble around the property. A highlight of the day was the celebration of Millie Blaha's birthday. She entertained us with a short history of the club and its beginnings.

The sightings of numerous blooming Whorled Pogonias (Isotria verticillata) highlighted the walk to Tanbark Tunnel/Rattlesnake Lodge. We also saw Shooting Star (Dodecatheon meadia) and Flame Azalea (Rhododendron calendulaceum).

At Cold Mountain Trails, Happy and Jan Fishback led a walk around their property after which we lunched on the deck of their home. We saw a wide variety of blooming plants including an abundance of Flame Azalea (Rhododendron calendulaceum) and Wild Geranium (Geranium maculatum).

The visit to Falling Creek Camp marked the first rainy walk of the season. We had an off and on drizzle throughout the walk. We generated a number of new additions to our plant list. The camp naturalist, Yates Fair, has requested a copy of our final tally.

At the Bluff Mountain Preserve, Beth Bockhoven met us and introduced us to our guides Doug Monroe, Volunteer Preserve Manager, and Fowler Bush, Volunteer Guide. We had a wonderful time and the weather cooperated beautifully. We saw a variety of unusual plants. The star plant was the inconspicuous, yet rare, Lyre-leaved Rock-cress (Arabidopsis lyrata) threatened or endangered in various states.

We were joined on our monthly walk to Cedar Rock in DuPont State Forest by biologist Ed Schwartzman who, along with Dan Pittillo, is conducting the Transylvania County plant inventory for the NC Heritage Program. We saw a French Broad Heartleaf (Hexastylis rhombiformis) which is endemic to a small area south of Asheville that extends south to the headwaters of the Saluda River.

The temperatures at Craggy Pinnacle near Craggy Gardens were quite nippy. The Catawba Rhododendron (Rhododendron catawbiense) was disappointing with just a few blooms. However, the Tassel Rue (Trautvetteria carolinensis) was excellent. The lunch spot near the top of the pinnacle afforded excellent views.

We visited the Buck Spring Nature Trail after a seven-year absence. The brochure prepared by the club has been reissued and we found that all 25 markers were still in place. Some plants identified in the brochure have been crowded out by others but in general the brochure is still relevant. We found a large number of species and feel it might be a good site for next year's focus location.
Hypericum

Late summer is a good time to see the flowers of Hypericum, commonly called Saint John's-wort. The name originated during the dark ages when June 24, the longest day of the year, celebrated the birth of St. John the Baptist. The long summer days brought the flowers into bloom and priests used them in ceremonies to show the power of light over darkness. Different Hypericum species were observed and identified on field trips to Graybeard Mountain and Sky Valley Road. I have five growing in my yard. How many do you know and recognize?

Hypericums have opposite leaves and bright yellow flowers. They can be divided into two groups. Those with four petals and either two sepals or four unequal sepals and those with five petals and five sepals.

A common name for a four petaled Hypericum is St. Andrew's Cross. The four narrow petals form a flattened X, the shape of the cross of St. Andrew. This hypericum, Hypericum hypericoides, forms a low mat on the ground and makes a lovely cover that grows in both sun and shade. I have encouraged it in my yard where it carpets large areas of poor soil.

Most of the Hypericums have five petals, five sepals and a large number of stamens. The meadow at the top of Graybeard Mountain had large stands of H. graveolens (Mountain St. John’s-wort) and H. prolificum (Shrubby St. John’s-wort). These perennials are medium sized shrubs with showy blossoms that usually grow at high elevations. The stamens of H. graveolens form a puffy ball in the center of the flower. It was surprising to see a miniature H. prolificum in one of the bonsai displays at the N.C. Arboretum.

Hypericum punctatum, H. mutilum and H. gentianoides were found along Sky Valley Road. This is a generally dry area with rock outcrops. H. gentianoides (Pineweed or Orange Grass) is an annual plant that prefers this habitat. It doesn’t look like the rest of the genus. It has tiny sessile flowers at the nodes of branched stems and scalelike leaves.

H. mutilum (Dwarf St. John’s-wort) is a much branched plant with small leaves and flowers. H. punctatum (Spotted St. John’s-wort) gets its name from the dark glands found on the leaves, flower petals and sepals. It is a rather stiff looking plant with few branches.

Be watching for Hypericum buckleyi on the rock seeps along the Blue Ridge Parkway. H. densiflorum was identified around the pond at Highlands Botanical Station.

Hypericum mutilum
Dwarf St. John’s-wort

Earlier manuals listed the Hypericums in the family Hypericaceae, but recently they have been changed to the Clusiaceae family. Weakley’s latest draft (2006) has returned to Hypericaceae, saying, “It appears from molecular analysis that recognition of the Hypericaceae may (after all) be warranted.” Since it is the WCBC policy to rely on the Integrated Taxonomic Information System (ITIS) we will, for now, list Clusiaceae as the Hypericum family.

-Bonnie Arbuckle
Gary Kauffman

Gary, our guide for the Serpentine Barren field trip, has worked in the past as an erosion control specialist for the Department of Transportation, a botanist for The Nature Conservancy and a part-time teacher at Warren Wilson College, N.C.

His job now as a botanist with the U.S. Forest Service (USFS) includes ecosystem restoration, public education, locating rare plants, and timber assessment. Ecosystem restoration projects within the USFS generally have the goal of maintaining a certain plant community type. Some of these are rare communities that are fire dependent. One such community is known as a serpentine barren. Gary defines this as "a prairie-like community, dominated by grasses. A narrow band of serpentine rock extends from Georgia north into Maryland, and it comes to the surface only in rare locations to create the serpentine barrens. There is not much topsoil in a serpentine barren and the soil has a higher magnesium to calcium ratio than other forest soils. This selects certain plant species that are not common in the Nantahala forest."

Fire has been excluded from the Nantahala forest for over 50 years and shrub species are overtaking the grasses of the serpentine barrens. The USFS is now supporting restoration of serpentine barrens in the Nantahala forest by prescribed burns. These fires will kill the invading shrubs and open up space for the remnant serpentine plants, rhizomes and seeds to propagate.

Gary has also assisted ecologist Cecil Frost and botanist Dave Danley in restoring populations of the rare *Hudsonia montana* which grows on rock outcrops in Pisgah Forest. This shrub is only six inches tall so is vulnerable to trampling by hikers and from competition from taller shrubs. Seeds are collected from the remnant populations, then grown in the North Carolina Arboretum, and transplanted back into the natural populations. Signs describing the plants' life histories are placed near the *Hudsonia* populations to make hikers aware of the significance of this plant.

Another project is the experiment Gary is carrying out with the Blue Ridge Park Service. He is developing a mix of native grass seeds that can be planted along the Blue Ridge Parkway. One of the goals is to create a more diverse, self-sustaining roadside community which will require fewer fertilizers, pesticides and other maintenance practices than the present roadside plantings.

Because of lack of money and time restrictions Gary can spend only about 10% of his time on restorations. One year the barrens could not be burned because the necessary staff could not be hired. Monitoring is often limited to just ensuring that the plants are still there. Outside grants can be difficult to obtain and few staff members have the time to apply for them.

Ecosystem restoration work is new to the USFS and more research is needed. The problem of invasive species, for example, is receiving more attention from the government and restoration may begin to enjoy a larger role in forest service management.
Rhiannon’s Aster

Late in the 1970s and early 1980s, Laura Mansberg was a graduate student at North Carolina State University. For her thesis she was trying to collect and identify all the plants at the Buck Creek Serpentine Barren in western North Carolina. The rocks in a serpentine barren are laced with the mineral serpentine, and as they weather they produce a thin soil with lots of magnesium and little calcium. Most plants require just the opposite. Quoting Jason Smith who wrote an article about this aster in a recent edition of “Endeavors”:

“This wild and spiteful soil discourages almost everything except scrubby trees, grasses, wildflowers, and botanists.”

Mansberg found she could not identify one particular plant growing at Buck Creek. She knew it was a perennial herb, an aster with showy, star-shaped flowers. It was not in any of her guidebooks or manuals. She took some specimens and sent them to several aster experts. After some time, all of them finally decided it could be a new species or a hybrid between two existing species. It was more than 20 years later before an identification was sought again for this plant.

In 2003, Alan Weakley, curator of the University of North Carolina Herbarium, his wife, Allison, their one and a half year old daughter, Rhiannon, and the botanist, Tom Govus, and his wife were at the Buck Creek Serpentine Barren. About midday they stopped to give Rhiannon a rest and a snack. By chance growing all around them was Mansberg’s mystery plant.

The two botanists decided it was time the aster was identified. Specimens were collected and sent out to botanists such as Guy Nesom of the Botanical Research Institute of Texas and Gary Kauffman of the USDA Forest Service.

It was finally decided by everyone, Nesom, Kauffman, Govus, Weakley and Mansberg, now Laura Cotterman, the publications coordinator at the N.C. Botanical Garden, that this aster was a new species. The plant name was announced in December 2004 - *Symphyotrichum rhiannon*.

*Symphyotrichum rhiannon* appears to have daisy-sized flowers with purple petals and bright yellow centers. However, Cotterman explains that what looks like one flower is actually a cluster or head of tiny flowers of two kinds: bluish-purple ray flowers and yellow disc flowers. It is possible but not yet proved that Rhiannon’s aster grows only in the Buck Creek Serpentine Barren. It is certain, however, that it is not common and no other like it has been collected and sent to the Herbarium. It is also certain that lots of little girls are named after flowers but few flowers are named after little girls.

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Excerpts and quotations from an article by Jason Smith published in the UNC “Endeavors” magazine, Fall 2005
Gentle Conquest, The Botanical Discovery of America
with illustrations from the Library of Congress
by James L. Reveal

When Anne Ulinski first showed me Gentle Conquest, I was immediately entranced, if only by the binding and illustrations. It is beautifully presented with marbled end pieces and ribbon bookmark coming from the spine. The historical color illustrations are from the Library of Congress archives and well-chosen, although somewhat out of sync with the text. I found a copy and purchased it for my collection of botanics.

The "gentle conquest" spoken to in the book's title was the conquest of the New World by naturalists of the past 500 or so years seeking to understand its unique flora and fauna. It is the story of discovery and the adventures of men and women explorers as the history of our country unfolded. It also illustrates well the maturation of our scientific knowledge and methods and the growth of the artistic talents of those who documented the discoveries.

Sixteenth century naturalists who first visited the New World looked through eyes developed in "an intellectually stagnate world where for too long knowledge was confined to the classical writings of the ancient Greek and Romans". Scientific method was not only restrained by its antiquity, but by Christian teachings as well. Astonishment reigned at the heretofore unknown species of plant and animal life and natural curiosity overcame awe and disbelief as new species appeared. Thus began the voyages of study and collection.

The Spanish naturalists were the first to visit and the first work of natural history of the New World was published by Gonzalo Fernandez de Oviedo y Valdez in 1526. His Natural History of the West Indies was published in 1555 and it was this translation that attracted Sir Walter Raleigh to the Americas. Oviedo y Valdez was the first to note, only 30-some years after Columbus' arrival, the many introduced plants that were becoming naturalized and the destruction they were causing.


The French became active in describing the natural products of the New World with gardens both in North America and in Paris. In 1629, the Englishman John Tradescant and his son established a garden and museum in England at Lambeth called "Tradescant's Ark" and the younger Tradescant traveled to the James River in Virginia in 1637 and gathered many plants and animals for the museum. Many cultivated trees in Europe today owe their origins to the Virginia voyages in 1637, 1642 and 1654.

Chapter three of the book (the titles are all printed in an appropriate script) is titled "The Prince and His Disciples". It introduces Carl Linnaeus "Swedish-born naturalist, teacher, physician to the Queen and self-promoter who proved to be the one person capable of rendering sense from nonsense of the natural world. In recognition of his accomplishments he crowned himself the 'Prince of Botany'". He simplified the taxonomy of the 1700's and began the separation of Botany into a modern discipline.

The source of most of the new American species studied by Linnaeus and others was Mark Catesby. Collecting and sharing with Linnaeus also were John Clayton and John Mitchell in the 1716 Spotwood expedition to the Blue Ridge. The book also makes note of plagiarism among early explorers' work.
Much is written of the contributions of John Bartram and his sons. John Bartram was born in Darby, Pennsylvania and established along the Schuylkill River a five-acre botanical garden which dominated his and his sons' lives for nearly a century. Bartram also worked with Linnaeus. Following the deaths of some of the European collectors, the elder Bartram and John Clayton were eventually left by themselves for a time to explore the botanical wonders of temperate North America. They were joined by other younger, interested men and Linnaeus' influence continued.

Thomas Jefferson, even before becoming Secretary of State of our new country, proposed several expeditions to explore the western part of the American continent. A "realistic and promising proposal" by the French botanist André Michaux and others, and an imminent treaty providing for the Louisiana Purchase in 1803, gave Jefferson, now President of the United States, a valid excuse for the expedition to the Pacific Ocean.

Jefferson selected his private secretary, Meriwether Lewis, to head the expedition and Lewis invited William Clark to be his co-leader. Jefferson instructed Lewis to spend several weeks studying natural history with Benjamin Smith Barton. Lewis was a keen observer and learned quickly. In July of 1803, the expedition set out for the West and in May, 1804 they watched the formal transfer of the Louisiana Territory from the Spanish to the French and from the French to the Americans. As they moved up the Missouri, Lewis collected specimens and sent them back down the Missouri to the President's home. Jefferson sent them on to Barton who accessioned them into the books of the American Philosophical Society. On November 7, 1805 Lewis saw the Pacific Ocean at the mouth of the Columbia River.

The opening of the West by the Lewis and Clark expedition provided a route for explorers with many goals, and further treks were made up of diverse groups. Artists were in great demand and the illustrations were made with varying skills. The best-known botanical artist of the first half of the nineteenth century was Pierre Joseph Redoute.

The Pacific territories began to yield its wonders to botanists such as Asa Gray who was an avid proponent in America of Charles Darwin's thesis. In 1859, "Gray showed an unequivocal floristic relationship between the plants of Japan and southeastern North America that could be explained only by geological and evolutionary processes".

As the frontier began to disappear and gold became the passion, the scope of botanical exploration became more tightly focused. Today the search for uses for botanicals continues in medical and other fields. The work done by the many men and women written of in this book stand as the scaffold for today's accomplishments.

Gentle Conquest is a book that I am pleased to own. I wish that it had an index to the illustrations and plants discovered but leafing through its pages is a pleasure. It is a fine book for the interested generalist.

-Betty Carlson

Gentle Conquest, was published by Stanwood Publishing, Inc. in 1992

This book was presented to the club a few years ago by member Charlotte Lackey. If you would like to borrow it, call Juanita Lambert, at 828-685-0180
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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