SHORTIA

NEWSLETTER OF THE

WESTERN CAROLINA BOTANICAL CLUB

WINTER 2007

Shortia galacifolia

Oconee Bells
From the President ................................................................. Jenny Lellinger

Finally! A reader-friendly book about the geology of the Carolinas! Accustomed to carrying with me a volume from the Roadside Geology series in my travels through the US, a field guide to the geology of North Carolina was near the top of my list of must-have books when Dave and I moved to the area.

Published in 2007 by the University of North Carolina press, Exploring the Geology of the Carolinas: A Field Guide to Favorite Places from Chimney Rock to Charleston is such a book. Authored by Kevin G. Stewart, associate professor of Geological Sciences at the University of North Carolina at Chapel Hill, and Mary-Russell Roberson, a freelance science writer living in Durham, NC, the book guides the reader through field trips to thirty-one different sites. Arranged by physiographical provinces, from the Blue Ridge to the Coastal Plain, the chapter for each field trip walks the reader along geologically significant formations. Each field trip chapter includes a locator map and a section with “Location and Access” notes.

To better understand the discussion for any given site, it is best to read the introductory chapters covering geologic time, current geologic concepts and thinking, geology of the Carolinas over time, and how to read rocks. Although the book is mostly illustrated in black and white with a few color plates, the diagrams illustrating geological processes are effective, and the definition of the black and white photographs depicting rock formation details is surprisingly good. The book is written in lay-language and technical terms are clearly defined when first introduced.

Judging by the field trips described for the Blue Ridge physiographical province (Chimney Rock, Whiteside Mountain, Grandfather Mountain, and Linville Falls, to name a few), the authors selected sites where geological formations are clearly evident and fairly easy for the uninitiated to interpret.

I find it helpful to understand the connections between the geological processes that led to the rock formations surrounding us, that in turn decomposed to form the mineral components of our soils, that subsequently resulted in the various natural communities that host the plants we observe during our field trips.

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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.
ANNUAL DUES. January 1, 2008 is the date for all membership renewals. Enclose the green renewal form with your check. Please fill in all the information requested so we can verify our membership records.

WINTER MEETINGS. Will automatically be cancelled if the Henderson County Schools are closed. Check weather reports or telephone the Henderson County Office at 697-4733.

LEARN AND SHARE. This popular indoor program will be held at the Bullington Center on Friday, March 7, 2008. We need 6-8 members to volunteer to give a short (10 minute) talk on something recently learned that can be shared with others. Perhaps a book, an interesting discovery, a plant, a travel experience or a special hobby. Come and be entertained while learning. Volunteers contact Anne Ulinski who will organize the program. Tel # 697-9527. E-mail address <anneul@bellsouth.net.>

WILDERNESS WILDLIFE WEEK IN PIGEON FORGE, TENNESSEE. Winter doldrums? Need a walk in the Smokies...a digital photography lesson...llama trek...hog calling lessons? The place to find these all-nature attractions, plus many, many more, is the Wilderness Wildlife Week from Saturday, January 12 through Sunday, January 19, 2008. All the programs are FREE. Motel rates are LOW. Stay a couple of days or the week. You are sure to meet other Botany Club members there who go every year because it is so great. Come join the fun. Google Pigeon Forge Wilderness Week for more information or call 1-800-WINTERFEST for a brochure. To talk with a member who has attended many of these Wilderness Wildlife Weeks in the past, get in touch with Wilma Durpo at <wdurpo@bellsouth.net.>

THE BLUE RIDGE NATURALIST PROGRAM. As a botanist and naturalist, you might be interested in this program which is a part of the North Carolina Center for Creative Retirement. It offers classes, field studies, and workshops designed to provide residents of western North Carolina with an opportunity to learn more about the natural world, cultural heritage, and environmental awareness of our mountains. The program features a variety of classes, field studies, walks and workshops. It is affiliated with UNC Asheville and is housed in the Reuter Center. There are a variety of classes, field studies, walks and workshops. The classes are taught by experts who are regional naturalists, environmentally active community members and teachers. Sometimes, Jenny Lelling is one of those teachers.

A naturalist certificate program is offered to those interested in completing the required course work. The total number of hours for class work required for the certificate is approximately 250 hours. For more information contact Mike McCreary, Program Coordinator at 828-252-6298. Club member, Wilma Durpo is presently enrolled in the certificate program and can provide more information. Her e-mail address is <wdurpo@bellsouth.net.>
The drought continued and we only cancelled one field trip during the last three months. That was due to a problem affecting the walk leader and co-leader.

We returned to Holmes State Forest to see what summer flowers might be found. We saw Cranefly Orchid (Tipularia discolor) and Downy Lobelia (Lobelia puberula) in bloom.

The visit to Wintergreen Falls in DuPont State Forest was in late summer. We observed Beaked Hazelnut (Corylus comuta) and Green Adder's Mouth (Malaxis unifolia) blooms. However, the Three Birds Orchid (Triphora trianthophora) was past blooming on the day of the walk after being in full bloom on the day of the scout.

The trip to Bonclarken was a first for the club. We found a number of interesting species including Red Morning Glory (Ipomoea coccinea), Sneezeweed (Helenium autumnale) and Monkey Flower (Mimulus ringens). Additionally, Ruth Ann Gibson led a short tour of the Heidelberg House.

We had a field trip to Flat Laurel Creek to Sam's Knob, a first time visit for the club. It was an ideal day with thin cloud cover and a light breeze. Species of note included Fireweed (Chamerion angustifolium ssp. angustifolium) and Clubmoss (Lycopodiella inundata).

The final outing at Buck Springs Nature Trail started out in a drizzly mist but improved as we moved along. As might be expected, blooming plants were in a minority but the examples species in fruit and seed were plentiful, including Carrion Flower (Smilax herbacea), Winterberry (Ilex verticillata) and Indian Cucumber Root (Medeola virginiana).

The overnight to the Latta Plantation area near Charlotte was a huge success. We were treated to a walk through a Prairie Restoration in progress. Also, we saw two endangered species in bloom - Schweinitz's Sunflower (Helianthus schweinitzii) and Georgia Aster (Symphyotrichum georgianum).

It was raining in Brevard and Hendersonville, but not in Pickens, so we decided not to cancel and forged ahead with the Goforth Walk at Crow Dog. We were lucky and experienced only some sprinkles. Species of note included White Turtlehead (Chelone glabra) and Pale Meadow Beauty (Rhhexia mariana).

It was a perfect day for the walk to the Upper Falls at Graveyard Fields. Lots of species in fruit and seed as might be expected for early November.

The walk along the Oklawaha Greenway in Hendersonville was a first for the club. The only blooms were a few hardy little souls who didn’t know any better. Mostly fruits and seeds as you might expect.

The last trip of the 2007 season was conducted at the NC Arboretum. The attractions on this outing were the Greenhouse, the Bonsai Garden, the new Baker Exhibit Center and a warm lunch together in the cafe.
No Child Left Inside

A back to nature movement to reconnect children with the outdoors is spreading throughout the country. A 2005 book by Richard Louv, Last Child in the Woods: Saving our Children From Nature-Deficit Disorder indicates that enjoying nature reduces kids' loneliness, depression and attention problems. Other studies show some children suffer health problems, including obesity, from too much sedentary time indoors with TV and computers.

In January of this year the U.S. Forest Service launched a pilot program, “More Kids in the Woods”, that will fund efforts to get children outdoors. It is the Service’s first full-scale program targeting children.

Nearly 300 national parks have Junior Ranger programs in which children five and older earn badges by completing outdoor activities.

The National Wildlife Federation launched a TV program this spring, “The Green Hour”, giving parents suggestions for outdoor activities with their children.

The National Audubon Society, which has opened 30 nature centers in the past decade, has plans for a dozen more. Most serve elementary schools children.

Wonderful Outdoor World, a group that gets public and private funds for programs for disadvantaged urban children, plans to expand its outdoor camping trips beyond its current six metropolitan areas.

Connecticut has already launched a “No Child Left Inside” program with a scavenger hunt in eight state parks that attracted hundreds of families. Texas has begun a public awareness effort entitled “Life's Better Outside”.

In 1999, John Murphy, Coordinator of the Bultington Center, began his nature programs for school children, kindergarten through 5th grade. Each year an average of 2000 children have enjoyed such programs as, “What Makes a Tree Grow”, and “Plant Insect Interactions”. Others have planted and harvested pumpkins, grown plants from seeds for Mother's Day presents and planted gardens at school sites. In 2005, the Botany Club recognized John for his work introducing local school children to the world of nature.

"Nature touches something very primal in people", says Louv. “Adults are quick to reminisce about their childhood tree houses or forts.” Many of us can still remember the smell of pine woods, the early morning call of crows, chasing fire flies and the sound of cicadas on summer nights. Gina McCartney, commissioner of the Connecticut Department of Environmental Protection, adds that time in the woods helps children develop bonds with nature. "...We're trying to grow environmental stewards", she said, "not just healthy kids."

I played around our yard some and talked to the fence posts, sung songs and made the weeds sing....Woody Guthrie
MUDDY SNEAKERS

Muddy Sneakers is a new 501-C-3 organization which has a vision to bring thousands of children from elementary and middle schools in western Carolina into a woods-and-waterfall environment where they can touch, hear, smell, feel the “foundation of energy flowing through a circuit of soils, plants and animals” (Aldo Leopold). The initial outside learning space will be Dupont State Forest, a 10,000+ acre preserve with streams and falls, mountain bogs and rock domes, sweeping canopies of trees, rivers, lakes and ridges. Using adventure-based and discovery-based strategies in the hands of passionate instructors, we aim for kids to experience the joy of living through roaming, soloing, listening, watching, recording, drawing, reflecting, writing and imagining. "

Relying on knowledgable instructors, Muddy Sneakers will work in full partnership with schools in the surrounding counties. Experiences in the field will be tied directly to classroom learning and the North Carolina standard course of study. Pilot programs will begin in the spring of 2008.

The name Muddy Sneakers was chosen over all others because it is playful and fun, and we want outdoor learning to be that way even while doing serious learning. We are very excited about this initiative.

Simply put our vision is to create in children a deep and lasting bond with and reverence for the natural world which sustains us in life.

Thanks to Aleen Steinberg, Vice President of the Board of Muddy Sneakers, and also a Botany Club member, for sending us one of the first public announcements of this initiative.

A Native Plant Restoration

The Chattooga Conservancy of northwest Georgia and the U.S. Forest's Service Andrew Pickens Ranger District will work together on a plant restoration effort on 16 acres of land within the Chattooga Wild & Scenic River Corridor where infestations of invasive non-native plant species are particularly severe. These include Chinese privet, English Ivy, autumn olive, Kudzu, paulownia and Japanese honeysuckle.

Volunteers are being recruited to help with the removal of the invasives and the replanting of native species such as Fraser magnolia, persimmon, joe-pye-weed, snowy hydrangea, smooth sumac, black-eyed Susan and witch hazel.
A Native Plant to Know

Sassafras
Sassafras albidum

Described as a small tree or large shrub, Sassafras albidum is the only species of the genus sassafras native to North America. It belongs to the Lauraceae family which is mainly tropical or subtropical. Sassafras is described as spicy-aromatic much like another in the Lauraceae family, Spicebush (Lindera benzoin).

Sassafras was the popular name used by the early French settlers in Florida and was adopted as the botanical name. The Choctaw Indians of Louisiana called it Kombo and used it in their culinary creation known as gumbo. The oil from the tree is used for perfume, primarily in scenting soap. The oil also has antiseptic properties and the wood of the tree is durable and was once used for dugout canoes.

Most of us first recognize the sassafras tree by the unusual shape of the leaves. They can be unlobed or with two or three lobes and the tree is often referred to as the Mitten Tree. It has vigorous lateral branching its first year which results in a graceful structure and intriguing winter silhouette. It is native throughout most of the East, South and Midwest of North America and to the deciduous forests of Ontario but not found north of Toronto. Sassafras is a perennial and deciduous. It can reproduce vegetatively so a colony of clones can represent an individual predecessor.

The trees require full sun for best growth and under favorable conditions can reach 50 ft. in height and 3 ft. in diameter. More frequently, however, they are found as small trees. They are fire-adapted, resilient to disturbance, can maintain a presence in a climax forest and discourage the growth of certain other plants within their root zone.

Sassafras flowers are small and greenish yellow. They appear in early spring before the leaves and have been described as "clouds of gold" when viewed against a dark background. Most individual trees are either male or female (dioecious). The female tree bears lustrous dark blue fruit on bright scarlet stalks in late summer. The ripe fruit is sought by squirrels and birds such as bluebirds, catbirds, vireos and quail. It also serves as a host plant for one of our most spectacular butterflies, the colorful spicebush swallowtail.
The National Phenology Network

Following Thoreau

May 10, 1853 was a warm day outside in Concord, Massachusetts, an early spring day when a New Englander outdoors would “begin to think of thin coats,” noted Henry David Thoreau. Walking from Concord towards Saw Mill Brook, Thoreau jotted down what he saw. “The deciduous woods were in their hoary youth,” he wrote, “every expanding bud swaddled with downy webs. Nodding trillium had flower buds, and hornbeam was about to bloom. Pear trees had blossomed, and the butternut buds were the most pronounced of all the woods’ hickories. It is very remarkable that I saw this morning for the first time the bobolink, golden robin [most likely a northern oriole] and kingbird.”

On almost every spring morning between 1851 and 1858, Thoreau explored the ponds and shady woods around Concord, observing nature. Day after day, year after year, he searched for the first blooms of more than 300 plant species, and watched for the first arrivals of migrating birds. He recorded his seasonal observations on large sheets of surveyor’s paper. He intended to publish a book about the unfolding of spring in the woods around Concord, but died in 1862 and his notes were scattered among library collections across the country.

Luckily, an independent New Hampshire scholar named Brad Dean spent ten years tracking down Thoreau’s original sheets, making copies and reassembling the data. Still it took Richard Primack, a biology professor at Boston University, and graduate student Abraham Miller Rushing, nearly nine months to decipher the archaic species names and Thoreau’s famously poor handwriting, and plug them into a usable spreadsheet.

Now, 160 years later, Thoreau’s detailed observations form the basis of a long-term study of how climate change is altering the timing of seasonal biological events. These shifts may impact wildlife and wild places of an entire region. Researchers from Boston University have been able to assemble a vast array of biological data from arboretum specimens, old photographs and the observations of local citizens to produce a baseline of springtime events for the Concord area. At Harvard University’s Arnold Arboretum, one of the oldest public botanical gardens in the United States, they were able to compare the flowering times of 229 plants in 2003 with the flowering times of the same plants going back as far as 1885. From other records they obtained flowering data on 17 species of wild plants including the pink lady’s slipper which flowered six weeks earlier in 2005 than in 1917.

Others, through the years, on their own, recorded flowering data and bird sightings. Between 1963 and 1993, Pennie Logemann of Middleborough, Mass. recorded plant flowerings, timing of bird arrivals and choruses of frogs and toads. She noted weather conditions, temperatures and rainfall on her 100 acre farm. Every year she would ask herself, “Were the Canada mayflowers blooming? Were the juncoes around?”
All of the Thoreau and other information on the timing of plant and animal events such as plants leafing and blooming, birds migrating and animals hibernating, are defined as phenology, derived from the Greek *phaino* meaning to show or appear. A National Phenology Network (NPN) has been organized to fully utilize the value of this information in such areas as agriculture, drought monitoring, wildfire assessment, management of invasive species, pests and infectious diseases.

To engage the public in gathering such data, the NPN has organized a “national citizen science field campaign” called Project BudBurst. It is a nationwide program that encourages students and the general public (called by NPN “citizen scientists”) to record when plants first leaf out and bloom. Much like the Cornell University Feeder Watch, the data is then submitted by the individual recorders to a central website. Here the information becomes part of a national phenology study to better understand and adapt to changes in the environment, such as global warming.

When signing up as a BudBurst volunteer, the steps to be taken are roughly as follows: The volunteer recorder:
Selects a plant*
Describes the site where the plant is located (includes GIS coordinates)
Determines the phenophases of his plant such as first leaf, full leaf, first flower
Reports observations on line to a BudBurst website

**Budburst Pilot Test, 2007.** As a first step in the 2007 test, the BudBurst web site provided descriptions and photos of 60 widespread and easily identifiable wild and cultivated species across the continent. The common dandelion and forsythia were the most chosen, followed by black locust, red maple, lilac, flowering dogwood and aspen. Five hundred of the participants chose from a list of "other plants".

Thousands of citizen scientists across the country participated in this test of Project BudBurst. A total of 913 phenological events were reported from 26 states. Ohio and Illinois had the highest rate of participation followed by Utah, Colorado and Michigan. The starting date of April 1 was too late to allow full participation from individuals in the southern states. Most of the participation was from individuals in the northern and western states where, typically, spring floral events lag behind the south.

For those interested in learning more about Project BudBurst and perhaps participating in the 2008 field campaign and/or becoming a citizen scientist, go on line to <usanpn.org>.

*A list of suggested plants for observation in each state is available but volunteers are free to select a plant of choice.

Information for this article came from the October 2007 *Smithsonian*, the October/November 2007 issue of the National Wildlife Federation's, *National Wildlife*, and websites.

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FIRST CLASS

SHORTIA

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Member News: Ruth Anne Gibson

Please submit contributions for the next issue by February 15.

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