SHORTIA

NEWSLETTER OF THE

WESTERN CAROLINA BOTANICAL CLUB

Autumn 2002

Shortia galacifolia

Oconee Bells
FROM THE PRESIDENT........................................................................Bonnie Arbuckle

Bullington Horticultural Learning Center

Robert Bullington wanted to share his love of plants and ways of propagating them with the community. He left his 13 acre property on Zeb Corn Road and records of his horticultural methods to the county for this purpose. This property, now known as the Bullington Horticultural Learning Center, has made the news recently as the Henderson County Education Foundation explores ways to finance and maintain the property.

When Robert Bullington moved to North Carolina from New York, he brought 2 truck loads of plants with him. Here he opened a nursery and continued his hobby of plant collection and propagation. The house is landscaped with his collection of unusual plants---Japanese and paperbark maples, dogwoods and pines. He experimented with ways to propagate native plants by cutting and seed. The property has a large collection of native azaleas grown from seed collected on Gregory Bald.

Currently, John Murphy is employed as a part time coordinator salaried by the school system and the agricultural extension service. His program with school children has been so successful that Bullington is now on the approved field trip list for county schools.

The property includes the landscaped grounds, a greenhouse complex, a nature trail and amphitheater. Much of the work has been accomplished with the help of volunteers. In 2001 a team from the botanical club visited monthly and made a list of the plants flowering along the nature trail. Now we have been asked to conduct a wildflower identification workshop. The idea was accepted at the recent board meeting.

Share a Plant: A neighbor recently asked if I would like some Cardinal Flower (Lobelia cardinalis) plants. She had a population explosion. While weeding I found a large bed of seedling Fringed Phacelia (Phacelia bipinnatifida). Perhaps you have found extras in your garden. If you have plants to share bring them to the Fall picnic (October 4). I am sure they will find a good home and you may find a treasure.

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.
Beth Brinson lives in Waynesville. She has a B.S. degree in horticulture from the University of Georgia. Botanizing the "incredible variety of plants in this area" is one of her greatest passions. She has botanized with the Field School and the Wildflower Pilgrimage.

Paul and Simone Shoemaker live in Horse Shoe. Paul has been a plant pathologist with the N.C. State University for 32 years. Simone is a nurse with the Hendersonville Board of Education. They have a Christmas tree and landscaping business. Both are looking forward to our walks and programs.

Member News

This summer our president, Bonnie Arbuckle, attended a planning and information meeting regarding the future of Bullington Center.

Anne Ulinski was asked to write an article for the National Park Service publication "Natural Resource Year in Review - 2001". The article is entitled "Carl Sandburg Home: Biodiversity in a small park" and is based on the inventory, monitoring and herbarium projects at the Carl Sandburg Home National Historic Site in Flat Rock, N.C.

Peyton Rock Outcrop

In July 120,000 pounds of granite rock were delivered to the Botanical Gardens at Asheville, the first step in a project to establish a new habitat exhibit at the Gardens - a granite outcrop. One of the rocks weighed 22,000 pounds with the next weighing in at 18,000 pounds.

These huge rocks have now been put in place. They are a neutral gray and well worn with natural pits and crevices perfect for establishing rock outcrop plants. Among those plants are many familiar to those of us who have explored the rock outcrops on Sky Valley Road, a field trip the Botanical Club schedules each year. They are: Talinum teretifolium, Fameflower; Hypericum gentianoides, Pineweed or Orange Grass; Lechea racemulosa, Pinweed and Corydalis sempervirens, Pale Corydalis. These plants require full sun exposure, good drainage and specialized soils.

Garden Manager, Randy Burroughs, reports that they hope to have forty to fifty species established on the outcrop, most new to the Garden. Those that are annuals will be seeded directly on the outcrop while others will grow in the greenhouse this winter.

This granitic outcrop habitat will be like no other botanical garden exhibit in our region. It is made possible with a generous donation from the Peyton family.
Our walk at Pacolet Falls in April may have been the club’s last there as the property has been put under a conservation easement and a building is being constructed at the trail entrance. This is one of our favorite sites for Trillium (Trillium catesbaei, T. erectum, T. grandiflorum) and Canada Violets (Viola canadensis) which are abundant there.

The threat of storms kept attendance low at the Jones Farm, but the rain held off and we completed the loop to the waterfalls and back. Highlights of the walk were Showy Orchis (Galearis spectabilis), Appalachian Twayblade (Listera smallii), abundant Indian Cucumber Root (Medeola virginiana) and Vasey’s Trillium (Trillium vaseyi). Fourteen ferns were identified.

Coleman Boundary continues to thrill us with its variety and abundance of blooming plants. It is here that we see some less common plants: Golden Saxifrage (Chrysosplenium americanum) – not yet in bloom at walk time, Wild Comfrey (Cynoglossum virginianum), Dwarf Larkspur (Delphinium tricorne) and the leaves of Live-forever (Sedum telephioides).

Unfortunately, our walk at Travis Tracks had to be cancelled because of rain, but the 18 participants enjoyed, instead, a tour and demonstration at the Glass Feather studio.

Pinkshell Azaleas (Rhododendron vaseyi) were past their prime in mid-May on Pilot Mountain, but trail-side bloomers were abundant, namely: Wild Sarsaparilla (Aralia nudicaulis), Canada Mayflower (Maianthemum canadense), Umbrella Leaf (Diphylleia cymosa) and Rose Twisted Stalk (Streptopus roseus). At the summit was a beautiful patch of Painted Trillium (Trillium undulatum) and, of course, the wonderful 360-degree mountain view.

Our timing was perfect for seeing the Hairy Mock Orange (Philadelphus hirsutus) on the Tanbark Tunnel to Bull Gap trail. The Mock Orange and Flame Azalea (Rhododendron calendulaceum) were spectacular on some hillsides. Several rare plants were identified: Large-leaf Waterleaf (Hydrophyllum macrophyllum), Ginseng (Panax quinquefolius), Broadleaf Tickseed (Coreopsis latifolia) and Mountain Catchfly (Silene ovata).

A late-May frost did a considerable amount of damage to several plant species along the Greybeard trail. Especially affected were Clintonia borealis, Rose Twisted Stalk (Streptopus roseus) and ferns of all kinds. Vast expanses of Solomon’s Plume (Smilacina racemosa) in full bloom made up for the lack of other flowers.

The group made four stops along the Blue Ridge Parkway South. Plants of note were the Flowering Raspberry (Rubus odoratus) at Wagon Road Gap, Bristly Locust (Robinia hispida) at Cherry Cove and Looking Glass Overlooks, and Mountain Fetterbush (Pieris floribunda) at John’s Rock Overlook.

Twenty-one participants, with fern guides in hand, met at the Lambert’s Fernhaven for a morning of learning and fun. The group was charged with matching 37 tagged and numbered ferns to their names on a checklist of 50 – a real challenge for many of us.

Participants in the Wayah Bald walk were treated to an abundance of Fawn’s Breath (Porteranthus trifolius), Goatsbeard (Aruncus dioicus) and Flame Azalea (Rhododendron calendulaceum). Near the summit were Sweet White Azaleas (Rhododendron arborescens).
Impressions and Poetry

Ann Houghton of Roanoke Falls, N.C. joined us on our field trip to Bee Tree Gap on July 19. She was visiting in Gerton with Club members Glenna and Tom Florence who suggested she might enjoy a day with the Botanical Club. During the field trip she heard members talking about the Turk's Cap Lilies near Mills River Valley Overlook. Later that day she found the lily site and wrote her impressions:

"I went down the path on the left [from the parking lot at Mills River Valley Overlook] and walked through a dense forest. Many times I started to walk back but did not want to give up. Then I saw them - an acre at least of Turk's Cap Lilies and Carolina Lilies. I felt like I had shrunk as everything was so tall. The flowers were over my head. There were giant sunflowers higher than I could reach. I also saw Blue Ridge Phacelia, Indian Cucumber Root (huge), Leather Flowers in all stages, Heal All, Indian Pipe, Tall Flowering Joe Pye Weed, Spotted Wintergreen, Spiderwort and ferns that came up to my shoulders. It looked like a fairy land. There were other flowers that I couldn't identify. I just couldn't believe it, it was so beautiful. It went on for a long way. I did not go to the end of the trail as it was getting late and I felt I should get back....I thought, what a day for wildflowers."

Lilium michauxii
Carolina Lily

Listen.

This living land
is all there is, forever

We are it
It sings through us --

Gary Snyder
Poaching Lady's Slippers

Shortia received the following letter from member Charlotte Lackey: "In June my husband, Don, and I discovered poaching of Yellow Lady's Slipper orchids off the Mountains-to-Sea-Trail near Grassy Mine Ridge Overlook on the Blue Ridge Parkway. We notified the U.S. Forest Service botanist for the Nantahala National Forest and suggested they discontinue collecting of any species on Forest Service Land." Here is part of the reply they received from the Forest Service Botanist, Gary Kauffman:

"It is indeed a travesty that this species is being collected both for horticultural and medicinal usage.... Yellow lady's slippers, both the small and large variety, have been traditionally used as a nerve tonic and sedative both by the Cherokee and European settlers. Due to the scarcity of lady's slippers species and many orchids across their range, most modern herbalists have discontinued any use of all orchids. However recent evidence indicates there is still a market for lady's slippers within Europe, particularly Germany. A shipment of 50,000 processed yellow lady's slipper roots were recently denied export by the US Fish & Wildlife Service since [there was no proof] ... the material was sustainably harvested. Unfortunately it is suspected that many of the plants, valued at $30,000, were illegally harvested off portions of the Pisgah & Nantahala National Forests and the Blue Ridge Parkway. Your observation at the Grassy Ridge Mine site further substantiates the illegal harvest of this species.

...Yellow lady's slippers are currently on the North Carolina Natural Heritage Program watch list (W5B category which denotes exploited plants)... Regarding our policy on the collecting of lady's slippers on National Forest lands in North Carolina, we do not allow collection of any lady slippers or orchids."

A Few of Appalachia's Most Wanted Plants

Black Cohosh (Cimicifuga racemosa) is used to treat menopausal symptoms and collection has skyrocketed. In 1998 one Blue Ridge Parkway ranger seized 1517 pounds of cohoosh roots from a single pickup truck. The approximate value was $15 per dried pound.

Galax (Galax aphylla) is collected for the floral industry. More than 100,000 stems of illegally collected galax were seized along the Blue Ridge Parkway in the first six months of 2000 alone. Value can be $1 per stem.

American Ginseng (Panax quinquefolius) is probably the most sought-after species in the exploding international market for native plants. Great Smoky Mt. National Park officials estimate that $5.3 million worth of ginseng roots were pilfered from the park in the last nine years alone. A fine orange powder is now being used to permanently mark the roots as U.S. government property. Reputable ginseng dealers won't accept dyed roots because they have been illegally harvested. And, the silicon granules enable authorities to identify the plants in court.

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Ethical Wildcrafting

Herbal remedies have been used for centuries for health and healing. Their increased use in health products has focused attention on just where the herbs are found.

Many products combine herbs with other ingredients so it is well to understand how herbs are distinguished from other “neutraceuticals”1. An herb is a loose term for any medicinal product made from any part of a plant. This can include those made from bark (slippery elm), berries (saw palmetto), leaves (gingko), roots and rhizomes (ginseng). Actually “botanicals” is the more accurate term for these products because in the official world of botany an “herb” refers only to a non-woody plant.

Wildcrafting is the process of collecting plants in the wild versus cultivating them. Many popular herbs do not take well to cultivation or are not cultivated in large enough quantities to meet the growing demand. Some herbs such as ginseng can still be found in the wild. They have a high value and some people will search out the last remaining patch in their area and dig it up. These people are, in effect, plant poaching.

American ginseng and goldenseal are powerful native plants which have been wildharvested to the point where they are now extremely rare in the wild. If you are buying certain plants such as American ginseng and goldenseal, purchase only those that have been cultivated, not wildharvested. The labels of many botanical products carry the statement “ethically wildcrafted” which distinguishes them from others that have been gathered through potentially unethical wildcrafting.

Ethical wildcrafting is an art practiced by people who understand the balance of an ecosystem and are familiar with how a plant propagates. They know how abundant a plant is in a particular area and only gather plants without damaging their future in the wild. For example, ethical wildcrafters do not gather goldenseal in the wild. Many may actually spread seeds of certain plants to insure there will be large numbers in the years to come. Many wildcrafters consider themselves plant stewards.

For more information about the status of medicinal plants in the wild, consult United Plant Savers at their web site www.plantsavers.org. United Plant Savers is an organization dedicated to preserving threatened medicinal plants and to keeping the public and the industry informed.

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1 Neutraceuticals is a term used to describe foods which assist in the management and prevention of disease.
I have two stories to tell about the rare and beautiful, *Shortia galacifolia*: its discovery and its inundation.

Andre Michaux, a French botanist, spent many 18th century years in this country collecting new plant species and sending samples to France. In 1839 Dr. Asa Gray, Professor of Botany at Harvard, discovered in Michaux's Paris herbarium an unfamiliar plant from the Carolinas with no indication of the exact site or date collected. Gray named the plant *Shortia galacifolia* after his botanist friend Charles Short of Kentucky, and the similarity of its leaves to Galax.

After his return from Paris, Dr. Gray and other prominent botanists searched for *Shortia* without success. In 1877 G. M. Hyman, aged 17, found *Shortia* on the banks of the Catawba River in McDowell County, NC. Then in 1886 *Shortia* was rediscovered in Jocassee Valley near the spot where Michaux may have collected his specimen on June 13, 1787. This area lies several miles below the confluence of the Whitewater and Toxaway rivers which form the Keowee River in Oconee County, South Carolina. It is near the present Duke hydro dam.

After *Shortia*'s rediscovery in Jocassee Valley, a botanist named Boynton found every brooklet lined with it. He wrote: "..."What is comforting to the botanist is that it can hardly be exterminated...[it is] in such abundance that no amount of collecting can ever affect it strenuously....Our party took away bushels of it, and no one could tell that a plant had been disturbed, so thickly it is growing."

Lake Jocassee was formed in the early 1970s when Duke Energy dammed the Keowee for hydropower. This was the heart of *Shortia*'s habitat where the colonies of plants were continuous. After inundation these plants were drowned.

During 1994-95 I inventoried *Shortia* from a canoe, along the shoreline of the lake. I discovered that much of the shoreline where some *Shortia* plants are now growing is being lost to erosion, undercut by wave action.

In 1998 I went with representatives of Duke Energy and the S.C. Department of Natural Resources to rescue *Shortia* at locations where large patches were in danger. We relocated at least two hundred plants uphill from the shoreline. This year I revisited these relocated colonies and found most to be thriving.

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*This May, Charlotte Lackey, a new member of the Club, presented a paper on Shortia at the International Michaux Symposium which was held in Gaston County, N.C. Charlotte has written a short version for our newsletter. We have omitted her footnotes for our article. Charlotte and her husband live in Asheville. She is a retired government worker with a degree in field biology. She will be giving a slide presentation on Shortia this winter at one of our indoor meetings.*
Phragmipedium kovachii was discovered this May in Peru. The orchid has a magenta and purple blossom that measures half a foot across and a stem that measures a full foot in height.

This spectacular orchid was found by Michael Kovach, a nursery owner from Virginia. He was in Peru and stopped at a roadside stand which was selling some other beautiful orchids. The owners showed him the phragmipedium which he bought for $6.50. He took the orchid to the Marie Selby Botanical Gardens in Sarasota, Fla. Dr. Wesley Higgins, director of systematics at the Gardens, and his colleagues began immediately to preserve and document the plant for publication and named it after Michael Kovach.

Three days after Kovach purchased the orchid he had returned to buy additional plants and found that what had been a mossy slope of 500 of the new orchids had been stripped clean, even of inch-tall seedlings. All this may remind you of a book which Jeanne Smith reviewed in a recent Shortia, The Orchid Thief: A True Story of Beauty & Obsession, and another book, Orchid Fever: A Horticultural Tale of Love, Lust and Lunacy, brought to our attention by Betty Carlson.

Two species of frogs in New Guinea have been observed moving with up to two dozen babies on their backs. The frogs are a species of microhylids - frogs that lay eggs in the ground, not in water, and produce froglets not tadpoles. The males take care of the offspring, including guarding and moving the eggs.

Dr. David Brickford of the University of Miami has discovered another job the Papua New Guinea male frogs perform. The frogs travel with their offspring for three to nine nights covering up to 50 feet a night. During these rides froglets jump off their father's back one at a time distributing themselves more or less evenly throughout the forest. Dr. Bickford suggests this may be an evolutionary adaptation designed to decrease competition for food, reduce the risk of attraction by predators and lessen the chances of inbreeding.

A new genus of centipede has been found in leaf litter in New York's Central Park. It is only four-tenths of an inch long making it one of the smallest in the world. It has been named Nannarrup hoffmani, after the man who discovered it. The centipede has found its niche in the park, making a living by devouring and breaking down leaf litter.
SHORTHIA

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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 $12. New members joining from the period July 1-
December 31, pay $6. All memberships are renewable on January first of each year.
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