



Native Plant News

Newsletter of the N. C. Native Plant Society

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APRIL — MAY 2009

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Stoney Creek Trip May 1 ~ 3, 2009

Vein Mountain, Golden Valley, Atomic Rd. and Thermal City: all are exotic names of areas in Rutherford County, North Carolina, the site of NCNPS's spring outing slated for May 1-3.

Once the site of gold mining and the principal supplier of all gold in the U.S. Treasury at the beginning of the 1800's, Rutherford County's landscape also contains many wonderful pockets of native plants, "gold" to plant lovers, due to the thermal belts and climatic conditions called isothermals, resulting in land protected by moderate temperatures, in spite of elevations up to 3,965 feet.

The South Mountains are known for large areas of unbroken forest, wildlife, and numerous rare and unusual plants. (see plant list on following pages).

Save the date and plan on joining fellow native plant lovers as we travel Candy Rock Rd. to Stoney Creek on the northern edge of the county and the next day visit a private 1,580 acre site in the South Mountains.

There will be speakers and door prizes, as well as a plant auction, so come prepared to hike, learn, and buy! Details and registration information on following pages.



Epigaea repens, trailing arbutus. One of the many plants you might see on the Stoney Creek trip.

PLEASE BE AWARE

There is no cell phone service once out at the sites we will visit, so be on time at the appointed meeting places to find the hiking sites.

Before we leave for the hikes each day, you can reach:

Tom Harville: 919-607-5246

Lynda Waldrep 336-708-1196

George Waldrep 336-317-6566

Ulana Stuart

President's letter



I hope all of you have weathered the last few months with no ill effects and are as excited as I am about Spring! My spirits were lifted when I saw the first *Hepatica americana* bloom February 7th. Several Trilliums are pushing their leaves and blooms up, the trees are budding out. Our beautiful native ephemerals are just days away. Then it snowed—on the 2nd of March!?! Fortunately,

plants are smarter than we are and they simply tuck their heads and wait a couple of days for 70o to come back around. Strange as it may sound, yesterday I found myself looking forward to seeing a withering leaf in all of this emergence. I stood gazing at my puttyroot leaves, *Aplectrum hymale*, looking for dead spots to start because I know they die out before the blooms come up. It is a grand time for native plant lovers.

I also want to update you on some significant Society goings on. Ulana Stuart has taken over the vice-president's position and will be taking the lead in planning our outings. I know Ulana is looking for folks who will assist her in getting us out to the natural gardens around the state and you can contact her at ulana@ncwildflower.org. We are supporters in establishing the new UNCC course of study that will lead to a Certificate in Native Plant Studies. Board member, Dr. Larry Mellichamp and Education Chair, Jean Woods played major roles in developing this program. Your board made some significant additions to our membership structure. They added an Affiliate category which will allow other groups to add their name and voice to ours. They reduced the lifetime membership to \$500 which is payable in five yearly installments.

What is really exciting is that this year when you renew your membership, you will be able to give a one year individual membership to a friend or native plant nut (said affectionately, of course). The new member will enjoy our email newsletters and Journal. They can join a near by chapter and participate in our great outings. Look for

Tom Harville

the announcement in this newsletter.

Terry Britton keeps tweaking our website, www.ncwildflower.org and making it better and better. The plant gallery is growing and kudos have been coming in that the photos are enjoyable and helpful. I do have a request concerning one of the website's sections, NC's Regional Diversity, <http://ncwildflower.org/natives/region.htm>. The only information that is in this section deals with the mountains and it is very basic so I'm asking if someone will write about one or all of our mountain, piedmont, sandhills and coast regions?

Don't forget that the NC Botanical Garden at Chapel Hill is set to open the new visitor/education center in June, with a GRAND opening probably in the fall. This facility is definitely a quantum leap over what was and I hope the State will recognize its value and move the UNC Herbarium into the same area so it can become a first class research facility also.

Finally, the NC Plant Conservation Program has a new support group called Friends of Plant Conservation. As you may know the PCP is under the Department of Agriculture and has purchased thousand of acres that protect "imperiled plants in their natural habitat." The problem is that there are only 2 state employees and two grant employees to care for all that land. The new Friends group hopes to help this program maintain its assets through monetary and physical support. You can find out more at www.ncplantfriends.org.

See you in the woods!

Tom



Stoney Creek Trip Details: May 1—3

Schedule

Friday night, May 1st

Meeting place: St. John's Church – oldest standing Greek Revival church in North Carolina; 316 N. Main St., Rutherfordton, NC 28139 Courtesy of Rutherford County Historical Society. Location: on the town square.
Time: 7:30 p.m.

Welcome: Robin Lattimore, president, Rutherford County Historical Society

Speaker: Ed Schwartzman, Botanist, NCNHP

Topic: What is the North Carolina Natural Heritage Program and What it Can Mean to You?

Saturday Hike, May 2nd (Note: cell phones will not work at either site)

Schedule: Meet at St. John's church at 8:30 a.m.; carpool to Stoney Creek.

Hike 9:00 a.m. – 4:00 p.m., approximately. Those who ordered box lunches will receive those at the hike. Others will bring their own food. NCNPS will provide bottled water.

Tour leaders,

James Padgett Foothills Inventory Specialist, NCNHP

Ed Schwartzman, Mountains Inventory Spec. NCNHP

Larry Mellichamp, UNCC

Saturday night, May 2nd

Meeting place; Rutherford County Cooperative Extension Service Office, 193 Callahan-Koon Rd, Suite 164, Spindale, N.C. 28160

Time: Dinner, 6:00 p.m. with speaker to follow.

Speaker: TBA

Native Plant Auction: to follow speaker

Sunday Hike, May 3rd

Meet at Extension office 8:30 a.m. to drive out to South Mountains.

Hike 9:00 a.m. until approximately 1:00 p.m.

No lunches provided, but NCNPS will have bottled water, loaf bread, peanut butter and jelly, apples, for a quick snack before participants leave for home. There is no restaurant nearby.

Bring plants for the auction !!!

Bring a snack to share on Friday evening!!!

Overnight accommodations:

Jameson Inn of Forest City

164 Jameson Drive

Forest City, N.C. 28043

(828) 287-8788 Toll Free Number (800) 526-3766

Our group rate \$63.75 (tax included)

Includes Microwave and Refrigerator

Ramada Inn

2600 Hwy.74-A Springdale Drive

Forest City, N.C. 28043

(828) 248-1711

Super 8

210 Reservation Drive

74A & Oak St, Junction

Spindale, N.C. 28160

(828) 286-3681

Quality Inn

205 Commercial Drive

Forest City, N.C. 28043

(828) 248-3400

Holiday Inn Express

200 Holiday Inn Drive

Forest City, N.C. 28043

(800) 633-8404 (ask for Forest City)

South Mountains State Park campground

3001 South Mountains State Park Ave.

Connelly Springs, N.C. 28612

(828) 433-4772

www.ncsparks.net/somo.html

Note: This campground is some distance from where we will be hiking and the evening events

Some area restaurants:

Lots of chain places right near the Jameson Inn including: Chili's, Ryan's, Sonic etc.

There are also independent restaurants in Rutherfordton and Spindale:

The Water Oak Restaurant

Msquared (restaurant that is catering our purchased meals)

125 W. Main St.

Spindale, NC 28160

Plant List for Stoney Creek

Mark Rose

Ferns and Fern Allies:

Botanic name	Common name	Notes
<i>Adiantum pedatum</i>	maidenhair fern	
<i>Asplenium platyneuron</i>	ebony spleenwort	
<i>Athyrium asplenoides</i>	southern lady fern	
<i>Botrychium dissectum</i>	common grape fern	
<i>Botrychium virginianum</i>	rattlesnake fern	
<i>Dennstaedtia punctilobula</i>	hayscented fern	
<i>Lycopodium clavatum</i>	running cedar	
<i>Lycopodium obscurum</i>	ground pine	
<i>Osmunda cinnamomea</i>	cinnamon fern	
<i>Osmunda claytoniana</i>	interrupted fern	
<i>Osmunda regalis var. spectabilis</i>	royal fern	
<i>Polypodium virginianum</i>	rock fern	
<i>Polystichum acrostichoides</i>	Christmas fern	
<i>Pteridium aquilinum</i>	bracken fern	
<i>Thelypteris hexagonoptera</i>	broad beech fern	
<i>Thelypteris noveboracensis</i>	New York fern	

Other Flora:

Botanic name	Common name	Notes
<i>Actea pachypoda</i>	doll's eyes	
<i>Aesculus flava</i>	yellow buckeye	
<i>Amsonia tabernaemontana</i>	blue star	
<i>Anemone quinquefolia</i>	wood anemone	
<i>Antennaria solitaria</i>	pussytoes	
<i>Aplectrum hyemale</i>	putty root	
<i>Aquilegia canadensis</i>	wild columbine	
<i>Aralia nudicaulis</i>	wild sarsaparilla	
<i>Aralia racemosa</i>	spikenard	
<i>Arisaema triphyllum</i>	jack in the pulpit	
<i>Asarum canadense</i>	wild ginger	
<i>Baptisia alba</i>	white wild indigo	
<i>Bignonia capreolata</i>	cross vine	
<i>Calycanthus floridus</i>	Carolina allspice	
<i>Campsis radicans</i>	trumpet creeper	
<i>Chamaelirium luteum</i>	fairy wand	
<i>Chimaphila maculata</i>	spotted wintergreen	
<i>Chrysogonum virginianum</i>	green and gold	
<i>Cimicifuga racemosa</i>	black cohosh	
<i>Clintonia umbellata</i>	speckled wood lily	
<i>Collinsonia canadensis</i>	horse balm	
<i>Conopholis americana</i>	squaw root	
<i>Coreopsis sp.</i>	orange flower	
<i>Cynoglossum virginianum</i>	wild comfrey	
<i>Cypripedium acaule</i>	pink ladyslipper	
<i>Cypripedium pubescens</i>	yellow ladyslipper	

Plant list continued. . .

<i>Dentaria lacinata</i>	toothwort	
<i>Epifagus virginiana</i>	beech drops	
<i>Epigaea repens</i>	trailing arbutus	
<i>Erigeron annuus</i>	daisy fleabane	
<i>Erigeron pulchellus</i>	robin's plantain	
<i>Euonymus americanus</i>	Hearts-a-bustin'	
<i>Eupatorium fistulosum</i>	Joe pye weed	
<i>Eupatorium perfoliatum</i>	boneset	
<i>Galax ureolate</i>	galax	
<i>Galium aparine</i>	bedstraw	
<i>Gaultheria procumbens</i>	winterberry	
<i>Geranium maculatum</i>	wild geranium	
<i>Goodyera pubescens</i>	rattlesnake plantain	
<i>Heiracium venosum</i>	rattlesnake weed	
<i>Hepatica acutiloba</i>	sharpleaf hepatica	
<i>Hepatica americana</i>	roundleaf hepatica	
<i>Hexastylis shuttleworthii</i>	heartleaf ginger	
<i>Hieracium pratense</i>	hawkweed	
<i>Houstonia caerulea</i>	bluets	
<i>Houstonia purpurea</i>	houstonia	
<i>Hydrangea arborescens</i>	wild hydrangea	
<i>Hydrophyllum virginianum</i>	water leaf	
<i>Hypoxis hirsuta</i>	yellow stargrass	
<i>Iris cristata</i>	dwarf crested iris	
<i>Iris verna</i>	dwarf iris	
<i>Kalmia latifolia</i>	mountain laurel	
<i>Leucothe axillaris</i>	dog hobble	
<i>Lilium michauxii</i>	Carolina lily	
<i>Liparis liliifolia</i>	lily leaf twayblade	
<i>Lobelia cardinalis</i>	cardinal flower	
<i>Lonicera sempervirens</i>	coral honeysuckle	
<i>Lysimachia quadrifolia</i>	whorled loosestrife	
<i>Maianthemum racemosa</i>	false Solomon's seal	
<i>Medeola virginiana</i>	Indian cucumber root	
<i>Mitchella repens</i>	partridge berry	
<i>Monarda didyma</i>	bee balm	
<i>Orchis spectabilis</i>	showy orchis	
<i>Oxalis violacia</i>	pink wood sorrel	

Plant list continued...

<i>Panax quinquefolius</i>	ginseng	
<i>Parthenocissus quinquefolia</i>	Virginia creeper	
<i>Pedicularis canadensis</i>	wood betony	
<i>Penstemon canescens</i> or <i>smal- lii</i>	beards tongue	
<i>Phlox carolina</i>	Carolina phlox	
<i>Podophyllum peltatum</i>	may apple	
<i>Polygonatum biflorum</i>	Solomon's seal	
<i>Prunella vulgaris</i>	heal all	
<i>Pseudognaphalium obtusi- folium</i>	rabbit tobacco	
<i>Rhododendrum calendulaceum</i>	flame azalea	
<i>Sambucus canadensis</i>	elderberry	
<i>Sanguinaria canadensis</i>	bloodroot	
<i>Scutellaria elliptica</i>	scullcap	
<i>Sedum ternatum</i>	stonecrop	
<i>Silene virginica</i>	fire pink	
<i>Sisyrinchium angustifolium</i>	blue eyed grass	
<i>Styrax grandifolia</i>	snowbell	
<i>Tephrosia virginiana</i>	goat's rue	
<i>Thalictrum thalictroides</i>	rue anemone	
<i>Tiarella cordifolia</i>	foam flower	
<i>Tipularia discolor</i>	crane fly orchid	
<i>Tradescantia subaspera</i>	spiderwort	
<i>Trautvetteria carolinensis</i>	Carolina tassel rue	
<i>Trillium catesbaei</i>	Catesby's trillium	
<i>Trillium cuneatum</i>	sweet Betsy	
<i>Trillium rugelii</i>	nodding trillium	
<i>Triodanis perfoliata</i>	Venus looking glass	
<i>Urtica dioica</i>	stinging nettle	
<i>Verbascum thapsus</i>	common mullein	
<i>Veronia noveboracensis</i>	ironweed	
<i>Viola canadensis</i>	Canada violet	
<i>Viola hastata</i>	halberd leaf violet	
<i>Viola papilionacea</i>	purple violet	
<i>Viola rotundifolia</i>	yellow roundleaf violet	
<i>Xanthorhiza simplicissima</i>	yellow root	
<i>Zizia aurea</i>	golden Alexander	

NCNPS Annual Picnic... and Photography

Saturday, June 13th

Hagan Stone Park, south of Greensboro

David Blevins earned a PhD in forest ecology from the University of British Columbia. While studying, he spent his spare time taking photographs of the Boundary Bay area, continuing his lifelong interest in observing the natural world. Those photos illustrate two books by Anne Murray: *A Nature Guide to Boundary Bay* and *Tracing Our Past: A Heritage Guide to Boundary Bay*.

Now back home in North Carolina, he is a full time photographer and web/graphic designer. He is also serving on the board of directors for the Friends of Plant Conservation.

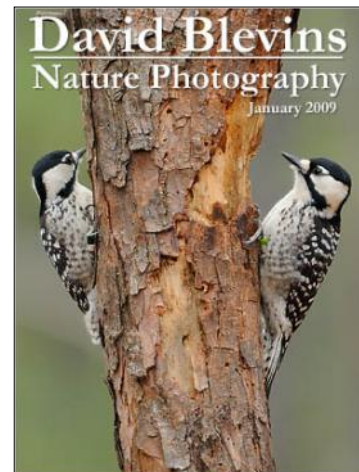
David will join us at our annual picnic and, at 10:00, will present a mini-workshop on using your camera to capture the plants that you see when out in the field and forest.

Put the date on your calendar now so you won't miss this special event. When you are packing up your favorite picnic foods to share with NCNPS friends, and plants for the auction, **be sure to tuck in your camera** and arrive at Hagan Stone Park at 10:00 a.m. for inspiration and lessons from David Blevins.

The picnic will begin at 12:00.

Bring:

- *Camera*
- *Picnic foods to share*
- *Lawn chair if desired*
- *Plants for the auction*



Parnassia grandifolia, Bigleaf Grass-of-Parnassus, Clay County, NC.
c. David Blevins

DIRECTIONS:

From east of Greensboro, follow I-40. When I-40 and I-85 split, follow I-85 south. Take exit 126B to merge onto US-421 N. Make a U-turn at Edgemont Rd to go south on 421. Turn right at Hagan-Stone Park Rd/NC-3411. Follow the sign into the park.

From south of Greensboro, follow I-85 North. Take Exit 118. (I-85 and I-73 will split—stay on 85). Take exit 126 and merge onto US-421 S toward Sanford. Turn right at Hagan-Stone Park Rd/NC-3411.

Call for assistance: 336-708-3852.

Chapter news. . . .

Triad Chapter

Upcoming events:

April 8: *Biodiversity on a Tank of Gas*, Mark Rose

April 4: *Earth Day Celebration at Price Park*, David McAdoo

June—August:

Search for Rare Plants— *Botrychium simplex*.

Working with the NC Natural Heritage Program, the Chapter will begin looking for and counting occurrences of a selected list of North Carolina's rare plants. We will start with *B. simplex*, then move on to other plants selected by NCNHP and Chapter members. There will be a mandatory introductory training session in May for those interested in participating in these adventures.

Contact: David McAdoo at

dmcadoo@triad.rr.com

Give a free NCNPS membership in 2009

Share your passion for North Carolina's native plants!

When you renew your membership or join the Society this year, you may sign up one friend or deserving individual for a yearlong individual membership at no additional cost. (our fiscal year ends May 31st)

Current members will receive a renewal form in April or May. There is a place to list the name, address, and email address of the person you would like to sign up. The recipient will receive a letter announcing your gift, which will be for one full year, including email delivery of the newsletter and journal, and invitations to NCNPS events.

Just send your friends name, address, phone and email (required).

If you are a Life Member, you may send the name and contact information for a gift recipient to Gordon Knowles, Membership chair at

gmk830@embarqmail.com

or mail to

5077 Woodrun on Tillery
Mt. Gilead NC 27306

A new member of the NCNPS family...



Hi Everyone,
Franklin Carter Buchanan was born February 13th at 9:01 am, weighing in at 8 lbs 4 oz and 21.25 inches long. He's a beautiful baby, with lots of brown hair and big hands & feet, just like his daddy. We will send more photos when we have time. He has been very easy going and patient with us as we learn how to care for him. He's sleeping on my lap as I type from the hospital. We plan to go home tomorrow. Thanks to everyone for all the warm notes of love and good cheer. It feels wonderful to bring a baby into a world with so many loving friends and family members waiting to greet him.

Love,
Misty and Andrew

...The reason I am writing is in regard to the Cullowhee conference. I had received an email about the dates for this year's conference. It got me to thinking about last year. I have the picture at my desk of you [Tom] and I at the waterfall on our field trip last year. I was also thinking about how I got a scholarship last year and it was through the native plant society's generosity. I wanted to make sure you and everyone else involved knew how much I appreciated it, as well as the others who received this honor. I know we put a brief summary and thank you letter together from the recipients last year for your newsletter. I wanted to make sure that it is known that the heart in giving of these scholarships is very much appreciated and does not go unnoticed. That can be said about all that is accomplished or strived for by this organization. Thank you Tom and all who strive to protect our environment, and inspire others with your generosity. I hope our paths cross soon.

...2008 Scholarship recipient

Additional places of interest to visit in the South Mountains area

Meadowbrook Nursery/ We-Du Natives

2055 Polly Spout Road

Marion, N.C. 28752

(828) 738-8300

Extensive selection of native plants (especially cultivars) and nonnatives

Plants-A-Plenty Nursery

890 Crowe Dairy Road

Forest City, N.C. 28043

(828) 286-2493

This is located approximately 15 miles from Forest City. A very nice garden to visit that is open to the public. Not strictly native. The nursery has an extensive selection of native ferns and native azaleas

South Mountains State Park

Pyxidantha brevifolia, A B. W. Wells treasure



Specimen and letter sent to NYBG in 1928

January 18, 1928, Bertram Whittier Wells (1884-1978) typed up a quick letter, packaged a plant specimen, and sent it off to Dr. J. K. Small at the New York Botanical Garden, asking for assistance with identification. In his letter, the N.C. botanist and educator explained that the spring before he had dug a bit of the plant, “brought some of it back with the soil and after keeping it in a warm place for a time, succeeded in getting a few new shoots developed.”¹ What he observed in the new growth was that the leaves of this plant that he knew to be a *Pyxidantha*, were no larger than what he had seen on the plant in situ, leading him to believe this was at the least a variety of the species *Pyxidantha barbulate*, and possibly a new species.

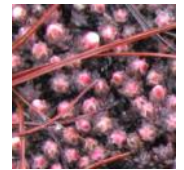
This diminutive, creeping evergreen was thus described for many years as *Pyxidantha barbulate* var. *brevifolia* Wells. Both of these plants are small, so small in fact that many of us would walk over them without notice if not looking specifically for them. Wells, in his 1932 book *The Natural Gardens of North Carolina*, describes them:

It was named “*brevifolia*” because of the very minute size of the smaller leaves, these being commonly less than 1/16 of an inch long. Closely overlapped on the slender, creeping stems, they give the plant a distinct moss aspect which is much empha-

sized by the close and compact branching system, resulting in the formation of mats.²



Such mats can reach up to a meter across, and in early spring (late February) are covered with tiny pink “pearls” that are the flower buds held tightly by pink sepals, which will open to reveal pure white flowers.



Beyond size, Wells noted, after much searching, that this plant exists outside the typical habitat for *Pyxidantha barbulate*, which grows in pine savannas, pocosin margins, and along the edges of sandhill seepage bogs, primarily in mesic to hydric sites, in wet and peaty sands. This ‘new’ species was found in a small area, no more than 6 miles square, on “xeric sandhills, generally over deep sand or sand-clay mixtures near the summits or on the upper slopes of sandhills, restricted to the Sandhills region.”³ That area is in southern Harnett County, just a mile south of Spout Springs and on private property. It was locally abundant within that small area.



P. barbulate leaves



P. brevifolia leaves

P. brevifolia continued...

Information on the differences between *P. barbulata* and this new plant continued to mount. Originally identified as *P. barbulata* var. *brevifolia* Wells, and later confirmed as *P. barbulata* var. *brevifolia* (Wells) Ahles, the plant is now accepted by ITIS (Integrated Taxonomic Information System), IPNI (International Plant Names Index), and the USDA Plants Database as *Pyxidanthera brevifolia* Wells.

Separation into a species occurred in spite of the fact that in 1994, Mary Jo W. Godt and J. L. Hamrick of the University of Georgia conducted tests, concluding that the two *Pyxidanthera* morphs should not be separated at the species level.⁴

Weakley, however, suggests that:

Recent surveys of *Pyxidanthera* in the Sandhills of NC have shown that it is ecologically distributed in a strongly bimodal manner. While ecologically intermediate situations predominate in the Sandhills, this habitat is rarely occupied by *Pyxidanthera*. Instead, *Pyxidanthera* is usually found either in very dry (hill-top) or moist (pocosin ecotones) situations. A few morphologically intermediate populations are occasionally found, in ecologically intermediate situations, but the vast majority of populations are readily assigned to one taxon or the other. Godt & Hamrick (1995) showed low levels of allozyme differentiation between the two taxa and supported varietal status. [= FNA, K, S; = *P. barbulata* Michaux var. *brevifolia* (B.W. Wells) Ahles – RAB; < *P. barbulata* – X, Z]⁵

Wells would be happy to know that his original suspicion, that this is a separate species, remains confirmed.

Wells noted that *P. brevifolia* grew in “natural gardens” characterized by the presence of “*Gaylussacia dumosa*, rather sparse growth of *Aristida stricta*, *Quercus Catesbaei*, *Stillingia sylvatica*, *Carduus repandus*, and *Dicranium spurium* under the oaks. In the succession on the coarse sand areas, this community immediately follows the pioneer stage.”⁶ [dwarf huckleberry, pineland threeawn, turkey oak, Queen’s delight, sandhill thistle, dicranum moss]. *Pinus palustris* is the dominant tree, providing sparse canopy cover.



Pinus palustris
(longleaf pine)
in ‘flower.’

Janet Bracey Gray (a current NCNPS member) completed a thesis toward her Master of Science degree at NC State University on the relationship between fire and rare plant population size in the long leaf pine area. Her study area, on Fort Bragg, is directly adjacent to and within sight of the Wells Spout Spring spot. Gray’s study included 255 *Pyxidanthera brevifolia* populations identified in 1991-1993, with 249 remaining at the end of the study in 1998-1999. Explaining the stability of *P. brevifolia* populations, in areas not subject to regular fires, Gray stated,

Contained within xeric sandhill communities that were not burned during the time frame of this study are small widely scattered clumps of *Pyxidanthera brevifolia*. These communities are characterized by a sparse canopy and shrub layer, minimal ground litter and large areas of open sand. In contrast to sites that contain *Stylisma pickeringii* var. *pickeringii*, these areas are not subject to frequent mechanical disturbance. Persistence under these conditions is similar to that seen in some rare Florida scrub endemics adapted to fire cycles of ten to forty years. The persistence of these endemics is highly correlated with open sand conditions and independence of fire...⁷

Pyxidanthera brevifolia is reported in Cumberland, Harnett, Hoke, and Moore counties as well as in Chesterfield and Darlington counties in South Carolina. The largest concentration of plants happens to be on Ft. Bragg property.

Wells wondered what made this plant different (besides the obvious physical characteristics and habitat). He noted that “the seeds have been collected, but they were found impossible to germinate. Such a plant, apparently no longer reproducing by seed, has under fire and the competition of other plants, been reduced to a last stand in the region already mentioned.”⁸

Matthew Hohmann, Moni Bates and Janet Gray (2008) considered the reproductive ecology of pyxie moss. Their study investigated pollination, breeding system, and seed germination. They concluded that winter honey ants, active above-ground at the time of early spring flowering, were primary pollinators. The plants exhibit 7 of 10 ant pollination syndrome traits:

- 1) occurs in hot and dry habitats with high levels of ant activity, 2) nectaries are readily accessible to small, short-tongued insects, 3)

P. brevifolia continued. . .

plants are short or prostrate, 4) populations are dense and/or have low plant species diversity, 5) synchronously blooming flowers should be few per plant, however, high densities, reduced height and self-incompatibility or dioecy may allow more flowers per plant, 6) on matted plants, the flowers occur on the mat surface, and 7) flowers must be small.⁹

Since the early 2000s, there has been a small group keeping an eye on Harnett county populations of pyxie moss, one on private property that has recently been logged and used as a partying site, judging from trash left behind. Walking around this small lot with hot, dry sand, we spotted some of the other plants noted by Wells, including trailing arbutus, *Epigaea repens*. We expect to see this plant in the western part of the state, in cool, damp spots. What a surprise to find it here! Also on this site are false indigo, *Amorpha herbacea*, and gentian, *Gentiana autumnalis*, with its bright blue blossoms in the fall. At first glance, this site is barren – a wasteland between Ft. Bragg and a 4 lane highway, waiting for commercial development. In fact, it is full of treasures.

B. W. Wells, one of the first members of the NC Native Plant Society, walked this ground and drew our attention to *Pyxidantha brevifolia*.

Katherine K. Schlosser



P. brevifolia in flower



Mark Rose, David McAadoo and Janet Gray, part of the group keeping an eye on *P. brevifolia*, survey the Harnett County site.

¹Wells, B. W. letter to Dr. J. K. Small, NYBG, January 18, 1928. Image available at <http://sweetgum.nybg.org/vh/taxon.php?irn=109675>

²Wells, B.W. *The Natural Gardens of North Carolina*. Chapel Hill, NC: The University of North Carolina Press, 1932, page 126.

³Weakley, Alan, *Flora of the Carolinas, Virginia, Georgia, northern Florida and surrounding areas*, Univ. of N. C., working draft dated April 8, 2008. Page 291-292

⁴Godt, Mary Jo W. and J. L. Hamrick. Low levels of allozyme differentiation between *Pyxidantha* (pyxie-moss) taxa (*Diapensiaceae*). *Plant Systematics and Evolution*, Vol. 195, Numbers 3-4, September 1995. Pages 159-168.

⁵Weakly, pg. 291-292.

⁶Wells, B.W. A New Pyxie From North Carolina. *Journal of the Elisha Mitchell Scientific Society*, Vol 44, Pt 1, page 238-239. Available online: <http://www.lib.unc.edu/dc/jncas/>

⁷Gray, Janet Bracey. *Rare Vascular Flora of the Longleaf Pine-Wiregrass Ecosystem: Temporal Responses to Fire Frequency and Population Size*. Thesis, NC State University, 2001. P.19.

⁸Wells, B.W. *The Natural Gardens of North Carolina*. Chapel Hill, NC: The University of North Carolina Press, 1932, page 126.

⁹Hohmann, Matthew G., Moni Bates, and Janet B. Gray. *Reproductive ecology of Sandhills pyxie-moss Pyxidantha barbulata (Michaux) var. brevifolia (B./W.Wells)Ahles*. Ecological Society of America, 93rd Annual Meeting; 8-8-2008. Available online: <http://eco.confex.com/eco/2008/techprogram/P13602.HTM>

From the archives...

The following letter was re-printed in the October 1966 issue of the NCNPS newsletter:

Hearing Officer
c/o Park Superintendent
Gatlinburg, Tenn.

Dear Sir:

At the instance of Dr. E. C. Brooks, former President of State College, the undersigned wrote a brochure on the flora of the Smoky Mountains. This was a contribution to help influence the N.C. Legislature to vote the purchase money the state gave.

In 1932 my book "The Natural Gardens of North Carolina" was published in which I dealt with the mountain area in two chapters entitled "The Great Forest" and "Christmas Tree Land: The Boreal Forest of our High Mountains."

As one who in 1922 hiked up the old trail to Indian Gap (New Found Gap had not yet been found) and the Crest Trail to Clingman's Dome, I am in a position to know much about the scien-

tific and scenic value of the high Smokies.

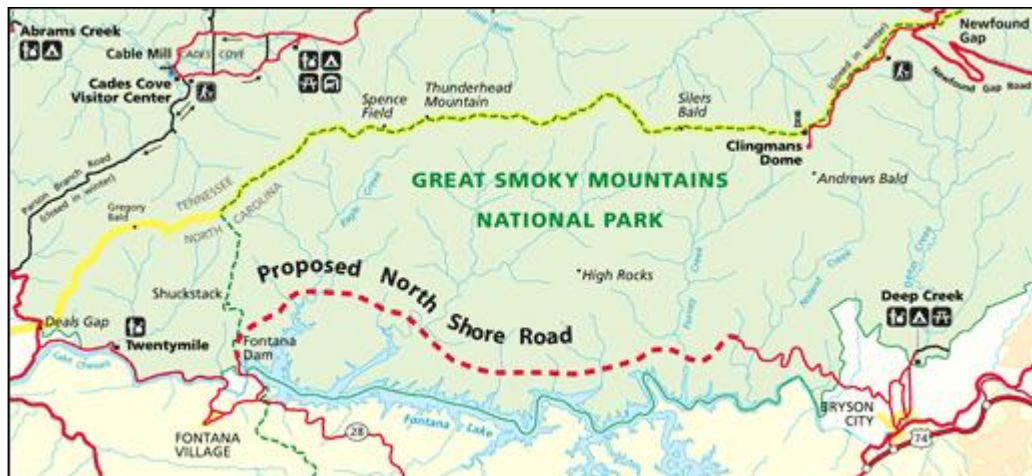
I am going to be blunt. To put any more roads across this surviving wilderness will be a social crime! It will cheat the coming generations of sensitive lovers of the natural world from experiencing the undisturbed grandeur of our longest and highest eastern ountain range.

The people who are really interested in and appreciative of our mountain preserves are always willing and glad to hike many miles to enjoy them. To open up this proposed road will be a start on the way of developing another Maggie Valley.

Le me repeat, it will be a social crime to initiate any further inroads on this remarkable wilderness area.

Sincerely yours,

B. W. Wells
Professor Emeritus



A Conversation with People who made a difference in Endangered Plant Protection

Sunday, January 4, 2009, 2 PM, NC State Museum of Natural Science, Room A

The invitation read:

Al Elder, Neil Lapp, and Howard Singletary, working at the Plant Protection Division in the NC Department of Agriculture, guided the creation of the NC Plant Protection Act of 1979, which laid the foundation for the protection of native plants in North Carolina. The NC Native Plant Society welcomes you to take part in this historical conversation.

The room in the Museum was busy with friends greeting one another and Alice creating an informal arrangement of chairs. At one end of the room sat three gentlemen with weathered faces and broad, warm smiles. These were our guests and featured speakers, Al Elder, Neil Lapp, and Howard Singletary. With little ado, Alice introduced them to the gathered group, and the conversation began.

The following is a record of their reminiscence of the days leading to the passage of the N.C. Plant Protection and Conservation Act of 1979.



Al Elder (AE): Ginseng regulation requirements of the Federal Endangered Species Act of 1973 provided the real impetus for the N. C. Plant Protection and Conservation Act of 1979. As we worked in the areas of plant protection and quarantines, which primarily dealt with pests and diseases, the problems associated with ginseng harvesting and sale became apparent.

Howard Singletary (HS): Parts of our duties included nursery inspection, especially regarding plant pests.

Neil Lapp (NL): Around 1900, U.S. laws were created for plant protection after cherry trees sent to the U.S. were found to be diseased. The Federal Plant Pest Act was designed to help states prevent the movement of uncertified plants which may harbor injurious pests and diseases.

AE: The chestnut blight, around 1922, was another pest example that highlighted the need for regulations governing the movement of plants.

There was a lot of exploitation of native plant species in northwestern North Carolina, especially from the area of Grandfather Mountain to Roan Mountain. We had concerns that species would be harvested to extirpation.

Other states were concerned because the plants moving through were not certified as pest-free.

With the implementation of the Federal Act, we needed regulations in North Carolina that would address these issues and facilitate the ginseng trade. This was a livelihood for many people, and the trade was going to continue. We needed a way to try to regulate those activities.

NL: After the Endangered Species Act, a gentleman in Arizona was pushing for ginseng to be listed to prevent its native collection. For wildcrafters, this was a looming problem, since at that time one pound of dry weight ginseng roots brought \$100.00. We were required to set up a program to monitor collecting—good luck!

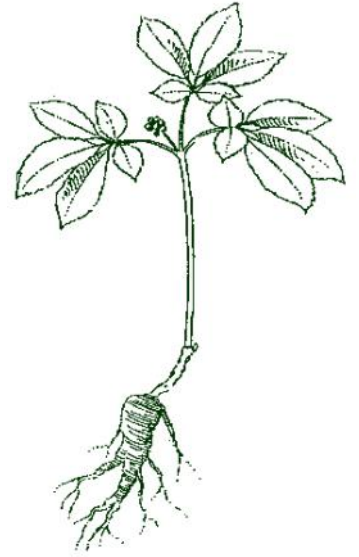
In the mid-1970s, before we even had a botanist, we set up monitoring plots around western NC, and had great fun doing so. We found ginseng as far east as Wake County. We visited buyers and checked sizes and weights of roots. We generally found 49-50 roots per pound, and found one root with 40 bud scars!

HS: Plant collecting in North Carolina was the root of our nursery industry. Gardens of the Blue Ridge was the first nursery registered in North Carolina. Buying and selling was a secretive business, so special efforts were required for us to determine the extent of the business.

NL: Everyone had to sell collected ginseng roots through dealers. We don't know where they collected, but knew that much harvesting was done on National Forest property.

HS: Plant collectors stole from cultivated crops, too.

AE: It was the quantity of ginseng collection that spurred federal regulations. To keep commerce open in North Carolina, we needed a scientific basis for regulations. To get information on the status of plant species, a symposium was convened in 1974 by a group including the N. C. Museum of Natural History and the Natural Heritage Program. As a result of that meeting 400 species of concern—plant and animal—were identified.



Conversation continued...

That symposium may have been the genesis of the cooperation that ultimately resulted in the Plant Protection and Conservation Act.

NL: In 1981, the 3rd National Ginseng Conference [copy of proceedings attached] was held in Asheville.

AE: Using the NC Pesticide Act (of 1979-80) as a model for its use of a board and a scientific committee, we drafted the plant protection act. We started talking with legislators, then found that Ritchie Bell was working on something similar, as was the Natural Heritage Program. Ritchie's document was voluminous, and we managed to pare it down and work all the pieces together to come up with a concise document that would work to protect plants and address issues of commercial trade in plants.

HS: Sarah Ferst (Legislative Drafting Attorney) helped weave the Act together, including the category for Species of Special Concern. The draft was an amalgamation of the efforts of all the players at the time, which was important for moving the Act through the legislative process. Lists of specific plants were removed from the final draft, which created a flexible law that would function well as plants moved on and off the lists.

The Plant Protection and Conservation Act was passed in 1979. The program "maintains the list of Endangered, Threatened, and Special Concern plant species; enforces regulations and issues permits concerning state-listed plant species; carries out field projects in biology, monitoring and managing populations of listed species; provides educational materials to the public; and monitors trade in American ginseng. The Act also established the Plant Conservation Board, a regulatory board representing botanical, horticultural, conservation, forestry, and agricultural interests, and the Plant Conservation Scientific Committee, an advisory group to the Board and the Program." (Plant Conservation Program, www.ncplant.com)

Ritchie testified before the legislative committee, and we found that there was very little controversy over the proposed legislation.

The Act prevented the sale of endangered and threatened plants, but including the Special Concern category allowed flexibility. Because of the unique nature of North Carolina's plant diversity, and resulting commercial trade, there was a need for permits for propagation, sale of cultivated plants, and re-introduction of plants into the wild.

AE: We needed a regulatory agency, which the Department of Agriculture could provide, with its experience in adminis-



Panax quinquefolius. Courtesy: NCDA&CS.

tering regulations over pests and pesticides.

NL: Neither the Natural Heritage Program nor other agencies fully understood the regulatory process and did not want that authority.

HS: Ritchie Bell bought in after he went through the educational process of working with laws.

Alvin Braswell: The Scientific Committee created by the Act was designed to work with issues of biology, and the PCP Board with policies and to balance the two.

AE: I was on the first Board, with Dan Pitillo from Western Carolina University serving as the first chair.

NL: Jim Massey, Ritchie Bell, and Jim Harden served on the first Scientific Committee.

HS: Ginseng growing was a catalyst for getting plant protection regulations in place. State authority cannot supersede federal, so some plants that may be common here appear on our lists, and some that are rare here do not appear on federal lists.

The first director of the Plant Conservation Program was hired, from South Carolina, but he never showed up. Rob Sutter was then hired, just before the Governor issued a hiring freeze, with an original budget of under \$50,000. This was 1979-1980.

Money for Natural Heritage Trust Funds became available in the 1990s.

Gene Cross: The authority for purchase of land for protection was included in the Act. When Cecil Frost came in as director of the Plant Conservation Program, the

Conversation continued...

focus shifted to land acquisition. In 1996, the first five acres were bought in western North Carolina.

HS: It is truly gratifying to see the support that has evolved for issues of plant conservation.

Gene Cross: We now have 15,000 to 20,000 acres under protection. The Natural Heritage Trust Fund (some from license tag sales and a deed tax) and the Clean Water Trust Fund have added \$15 to \$20 million for land acquisition.

The Museum played a prominent role in the evolution of the Plant Conservation Program. It has a strong Friends organization, and when I began to work on the issue of lack of public awareness about the PCP, I looked to its Friends organization as a model, creating the Friends of Plant Conservation. Our Friends group had its first meeting in December, and the Board is now working to achieve its mission to raise public awareness of, and to support, the program.

HS: Since PCP is a program mandated by statute, it may be safer from budget cuts than one not mandated by law.

AE: The Plant Conservation Program is not a top priority at the Department of Agriculture, so a Friends organization is very important to lend support.

NL: This was an exciting and fun period in our lives.



As easily as it began, the 'conversation' was over, the audience impressed not only with the congenial and generous natures of the speakers, but with the enormity of what, with little fanfare, they accomplished for North Carolina.

Special thanks, too, go to Alice Zawadzki, past president of the N. C. Native Plant Society, for coordinating this event.

Attending:

Honored Guests:

Al Elder
Neil Lapp
Howard Singletary

Margaret Reid Chapter, NCNPS

Ginny Baker
Robert, Amy and Julia McIntosh

Marilyn Miller
Joan Scheier
Tom Harville (Friends of Plant Conservation)
Alice Zawadzki

Triad Chapter, NCNPS

Dennis Burnette
Robert & Ruth Jones
David McAdoo
Shirley McCabe
Emily Nekl
Mark Rose (Friends of Plant Conservation)
Kathy Schlosser (Friends of Plant Conservation)
Lynda Waldrep
Judy West

Gene Cross, Director, Plant Industry Division
N.C. Dept. of Agriculture and Consumer Services
Alvin Braswell, Deputy Director, NC Museum Natural History
David and Leander Blevins (Friends of Plant Conservation)



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[editors note: translation—collected from the wild]

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The Cullowhee Conference

Native Plants in the Landscape

The Cullowhee Conference, Native Plants in the Landscape is a multi-forum conference dedicated to the advancement of research, knowledge, and sustainable practice in native ecology, landscaping and allied fields of horticulture, nursery management, public lands management, landscape architecture, public and private garden management and design, and environmental politics. The conference attracts a wide diversity of professionals, native plant gardeners, academics, and students.

Conference Scholarship Announcement

The Scholarship program has been an important part of the Cullowhee Conference since the Conference began in 1984. Contributions to the Scholarship Program come from the proceeds of the Conference, and from a variety of organizations and individuals that are involved in the conference. The Cullowhee Conference is committed to the ongoing expansion of the Scholarship Program and active student and young professional involvement.

Twenty scholarships will be awarded to students, interns at botanical gardens, nature centers and/or parks, and to beginning professionals. Any student, intern or beginning professional who can demonstrate an interest in native plants and their use in the landscape, through horticulture, botany, ecology, landscape architecture or a related field, is encouraged to apply.

Two types of scholarships are available:

Field Trip Scholarship – Recipients will participate in the conference from July 21-25 and attend a field trip on July 22nd.

Non-Field Trip Scholarship – Recipients will participate in the conference from July 23-25 and not attend a field trip. The conference officially begins on Thursday, July 23.

Applicants may apply for either a field trip or a non-field trip scholarship. Both types of scholarships cover all conference expenses: registration fee, a semi-private room and all meals during the conference. Field trip scholarships cover the additional fee for the field trip and lodging and an evening meal on July 21.

To apply for a scholarship, go to the Cullowhee Conference website and click on Scholarships on the home page. The scholarship page includes a complete prospectus and application information. **Application Deadline: April 10, 2009**

A Call for Student Presentation Abstracts

The Cullowhee Conference will host up to eight presentation sessions for undergraduate and graduate students and young professionals. The sessions will be thirty minutes in length during concurrent session blocks on Friday, July 24 in the morning and afternoon. Presenters will be chosen by a conference committee through applications that include a presentation abstract. Presenters will receive a \$100 stipend.

The Cullowhee Conference web site page, **Student Presentations**, contains application details and suggested presentation topic areas. **Application Deadline: April 30, 2009**

Western Carolina University

July 21-25, 2009

<http://nativeplantconference.wcu.edu>

*Is your garden registered as a
North Carolina Native Plant
Habitat?*

If not, and you are interested in having this designation for your garden, you can complete the simple application form available on our website:

www.ncwildflower.org

Upon completion and approval of your application, a member of the Native Plant Habitat Certification Committee will visit your site as part of the certification process. At that time you will receive a personalized certificate suitable for framing.

This visit will be coordinated with you prior to the visitation date (visitations may be made when/where certifiers are available; otherwise certificate will be mailed).

If possible, please submit a photo of your garden at visitation/certification time that reflects the native plant habitat. Photos will be placed in NCNPS Native Plant Habitat Certification Album and will be available for viewing at various NCNPS events.

Gardens certified as Native Plant Habitats will be announced at the NCNPS Annual Meetings.

For more information, or a printed copy of the application, contact

Tom Harville
Native Plant Habitat Certification Coordinator
104 Birklands Drive
Cary NC 27518

You may email Tom at tom@ncwildflower.org or telephone at 919-851-5369.

North Carolina Native Plant Society

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Send your order (make checks to NCNPS):

Katherine Schlosser
1402 Bearhollow Road
Greensboro, NC 27410

Newsletter Contributions

Would you like to share your experiences and knowledge with members of the NCNPS? Do you know of an interesting natural site in NC to visit? Are you willing to share this?

Do you know someone doing good work in the fields of native plants or plant conservation? Will you send us a few words about that person?

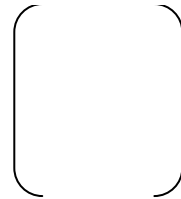
Know of an event or educational opportunity?

Your input into this newsletter is welcome and encouraged. Just send your information to:

Kathy Schlosser
1402 Bearhollow Road
Greensboro, NC 27410

Or email to: kathyschlosser@triad.rr.com

*NC Native Plant Society
1402 Bearhollow Road
Greensboro, NC 27410*



❧ North Carolina's Native Plant Society since 1951 ❧



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