

Plant Inventory of Congaree National Park

by L.L. “Chick” Gaddy

Although much is known about the big trees of Congaree National Park (CNP), less is known of the rarer woody species (trees, shrubs, and lianas) and of the grasses, sedges, and herbaceous species present within the boundaries of the 20,000 plus-acre national park. With this in mind, in 2002 the National Park Service contracted *terra incognita*, a non-profit Columbia-based environmental consulting firm, to document the vascular plant diversity of Congaree National Park. For the last two years, Dr. John B. Nelson of the University of South Carolina and I, the co-principal botanists involved in the study, have been collecting plant specimens to “vouch” for the presence of all vascular plants species reported from CNP. We are charged with collecting specimens of all the trees, shrubs, vines, herbs, ferns, grasses, and sedges—mosses, algae, lichens, and fungi are not included in the contract—found in the Park.

Of the over 600 species of vascular plants that have been reported from CNP, around 80 species are trees—15 of these species were oak (*Quercus*) species. In general, trees are defined as woody plants with a single trunk over 7.5 cm (3 inches) in diameter at 1.4 m (4 feet 8 inches) above ground level. Of all the units of the National Park System in North America, *only* the Great Smoky Mountain National Park has more trees than Congaree National Park! CNP is also unusually rich in *lianas* or woody vines that reach into the canopy. Currently, there are 26 lianas



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President's Corner



Dr. John Grego

Park Dedication

Another newsletter, another tentative date for the Park dedication...not as timely as the first announcement (May), thankfully not as hot as the second (early September), it looks as though October 25, the Monday after our Annual Meeting, is the date. Mark it on your calendar at 10:30 AM—in pencil. Do plan on attending though—in addition to the Park dedication, the National Park Conservation Association will be recognizing one of our members.

Canoe/Kayak Landings

After completing the picnic shelter project, the Board has been studying improvements to the canoe put-ins at Bannister Bridge and South Cedar Creek Road for our next project—Bob Render will once again provide oversight. The Bannister Bridge put-in needs only modest changes, while South Cedar Creek's eroding landing will take more effort to fix. We have been casting a wide net for inspiration, but examples of put-ins that are unobtrusive and long-lasting are few and far between. Much more work needs to be done, but we appreciate the time and input we have so far received from the River Alliance and Prof. Richard Ray in USC's Civil and Environmental Engineering Department. Professor Ray has helped the Park earlier in designing culverts for the Entrance Road. He has made arrangements so that design and permitting for the landings will be a Senior Design project this Fall for USC Engineering students.

Trail Clean-Up

Though we formally adopted only two trails, Weston Lake and Oakridge, we have apparently adopted others by default: the Boardwalk loop and the Sims Trail. The Sims Trail was formerly the Service Road and was recently renamed for deceased long-time Park neighbor and friend, Booker T. Sims. With two work parties, it was natural to take separate routes going to and coming from our adopted trails, and to trim branches along the way. If the upcoming August trail-clearing sounds attractive in principle, but not in practice, trimming branches along the boardwalk offers a less strenuous opportunity to help.

There were a couple highlights on the clean-up hikes. John Cely's group on the Oakridge Trail found a small bat suspended from a branch, and my group startled a turkey hen off her nest no more than 10 feet from the Weston Lake Trail. I'll confess—I didn't so much "startle" her as accidentally throw a branch directly on top of her. It's hard to imagine a turkey nesting successfully so close to the most popular trail in the Park. Virginia Winn and I visited a week later (photo opportunity for the book project!), but the entire clutch of six eggs had hatched in the interim.

Important Dates:

Saturday, August 28

— **Adopt-a-Trail Workday**

Sunday, September 19

— **Western Boundary Hike**

Sunday, October 24

— **Friends Annual Membership & Business Meeting**

Monday, October 25

— **Park Dedication (tentative date)**

Upcoming Field Trips, Lectures, & Events

Adopt-a-Trail Workday Here Again!

Saturday, August 28, 2004

9:00 am — around 1:00 pm

It's time for us to clean-up our two adopted trails again – the Weston Lake Trail and Oak Ridge Trail. Labor Day weekend should be big at the Park and we want our trails ready for all those visitors. We plan to clear the trails of small debris – no chain saws, only loppers. It maybe a little warm this time of year so we plan on stashing some cold drinks on the trails.

We will meet at the Visitor's Center at 9 PM for a brief orientation and should finish shortly after lunchtime—I anticipate separate work groups for the two trails. Work gloves, long pants, light hiking boots, water, and a snack are recommended. Please contact John Grego at work (grego@stat.sc.edu; 803-777-5110) or home (jrgreg@mindspring.com; 803-783-9270) if interested.

Sparkleberry Swamp Kayak/Canoe Tour

Saturday, October 30, 2004

9am-1pm

(please be in the water by 9am)

Don't forget Friends is offering its membership a special trip to Sparkleberry this year. If you would like to attend please contact John Cely (jcely@sc.rr.com); 803-782-7450 for details and directions. For a full write-up of this trip see the April-June 2004 newsletter on the web at www.friendsofcongarree.org.

Much of Sparkleberry and surrounding area consist of picturesque stands of blackwater cypress and tupelo trees covered with Spanish moss. Sparkleberry is well-known for its aquatic life and we should see herons and egrets, water turkeys, wood ducks, and if we're lucky perhaps a gator or two. You will have to provide your own kayak/canoe for this trip.

Western Boundary Hike

Sunday, September 19, 2004

2:00 PM-6:00 PM

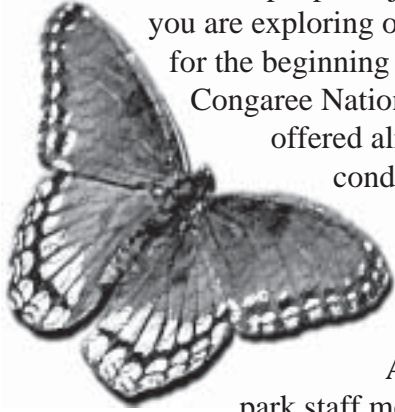
This will be a 5-mile hike along the Western Boundary of Congaree National Park. Starting at Bannister Bridge, we follow the Boat Landing Road to the Congaree River, where we will cool off before heading back along roughly the same route. Along the way, we will walk along a levee constructed in the 1840's by James Adams, and then visit a national champion overcup oak located in an attractive stand of old-growth forest.

We will also visit Cook's Lake, and old oxbow lake, and a cattle mound. Expect to leave the trail for some of these excursions. Participants should be in moderate physical shape. Bring water and insect repellent; long pants are recommended. Jogging shoes or light hiking boots are appropriate. This hike is limited to the first 30 people to sign up. Call John Grego in Columbia at (803) 777-5110 (work) or (803) 783-9270 (home); Email: jrgreg@mindspring.com or grego@stat.sc.edu.



Events in Review

Congaree National Park Staff Resurrect Congaree Butterfly Count



Most people enjoy looking for butterflies because it means you are exploring outdoors during nice sunny weather. Not so for the beginning of the June 26th butterfly count held at Congaree National Park. The morning weather that day offered almost solid cloud cover, meaning poor conditions for finding butterflies that depend on the sun's warmth to energize their flight. It definitely presented a challenge to the volunteers and staff who participated in the count that day.

At 9:00 am seventeen volunteers met up with park staff members Theresa Yednock, Bill and Christina Hulslander, and student intern Chad Wegner. We split into four groups to attempt to cover as much of the park area we could. The group was diverse, ranging in age from 4 years old to 75 and coming from as nearby as Hopkins and as far as North Carolina. We were delighted that some long time supporters of the park were involved; LaBruce Alexander, Carol Jaworski, Heather and Jessica Stewart-Grant, Linda LaRosa and State reporter Joey Holleman. Their skills were combined with newer park friends, Mike Turner, Doug and Cyndy Coffeen, Donna and Dennis Forsythe, Bob and Nancy Baldwin, Stacie, Tucker, and Hunter Evrin, Mike Turner, Charles Cameron and the president of the Carolina Butterfly Society, Jim Nottke. The enthusiasm of the volunteers was wonderful despite the challenging weather conditions. By the afternoon the sun emerged and dominated the sky for the rest of the day. so that we were able to find many more species flitting about searching for nectar and warmth.

This annual count is designed as a one day census of butterfly species observed and identified within a 15 mile circle, which includes the habitats of Congaree National Park. The data collected has been entered into a long-term natural resource database at the park, which will serve as a tool to document butterfly diversity and population trends over time at Congaree. The count information is also shared with the North American Butterfly Association who compiles count information from throughout the continent. Congaree was a count location in the mid 1990s but the excessive summer heat and humidity deterred participants from keeping it up. As an outreach effort of the new Research Learning Center, the Congaree count was resumed this year by park education coordinator, Christina Hulslander. Training sessions on butterfly identification were offered prior to the count date.

Thirty-nine different species of butterflies were spotted during the count on June 26th, including new records for Meadow Fritillary, Checkered White, Northern Pearly Eye, and Silver-spotted Skippers! Butterfly sightings were as follows: (see page 5)

Friends Members Participate

'Twas a pleasant morning in the Congaree bottomlands, so pleasant and overcast that the recalcitrant butterflies decided it was a good Saturday morning to sleep in.

Now I had great plans to hone my identification skills on this trip. Jim Nottke, President and Treasurer of the Carolina Butterfly Society was in our group. He would be the Expert's Expert, for sure, and one would believe that even the butterflies would want to turn a proboscis to check him out. Also along for the walk was Charlie Cameron, editor of the Society newsletter. With these 2 guys--who drove all the way down from North Carolina--plus Bill Hulslander, one would expect the biggest butterfly list yet, eh?

Well, after two hours walking the western boundary, we had seen only one butterfly, an American Lady. (No sun. A definite sleep-in morning for the gossamer-winged sort.) As I was the appointed notetaker, it was a non-stressful recordkeeping experience. Note that I am not being critical, for I too have had those sleep-in mornings.

We did see some immature white ibis feeding in Cooks Lake, and did have a pleasant chat with Mr. and Mrs. Otis Medlin and their chihuahua who thought it was a Doberman pinscher. The 3 of them own land near the National Park and were going into town for supplies for the weekend.

Having some afternoon plans and remembering the math that it takes as long to walk in somewhere as it does to walk out, I decided to turn around, a decision affirmed by rain showers about 10 minutes into the re-tracing. On the way back to the Bannister's Bridge parking area, I saw about 8 butterflies when the sun came out. And I hear the group that forged ahead had great luck and species counts, compliments to the sun.

So I missed the good part. But as USC football fans perennially say, maybe next year.

This was a great program, and thanks to Christina Hulslander for organizing it.

Research & Education at the Park

Congaree National Park Seeks Citizen Scientists/Volunteers to Assist Park Researchers

The Old-Growth Hardwood Bottomland Forest Research and Education Center, part of Congaree National Park, is seeking volunteer assistance with Spring and Summer research activities. If you are interested in being involved with: assisting researchers in data collection, serving as a hiking partner, recording research data, photo-documenting activities, spotting wildlife, et cetera.

Forest Structure and Dynamics Research

Dr. Rebecca Sharitz from the University of Georgia's Savannah River Ecology Laboratory and Dr. Peter Minchin of Southern Illinois University will continue with a forest dynamics research project which was initiated just after Hurricane Hugo in 1989. Throughout the summer months (May-August) research teams will measure the trees and shrubs in designated research plots throughout the park. If you are interested in hiking off trail and would like to learn more about the vegetation communities, this is an ideal project to be involved with, even with the heat and humidity!

Acoustic Monitoring

Researchers from the Cornell Lab of Ornithology, Dr. Kirk Frstrup and Robert MacCurdy, have installed sophisticated tape recorders, known as autonomous recording units (ARUs) at 5 locations in Congaree National Park. These devices are recording sounds during the early morning hours and early evening to detect bird species calls, amphibian calls, and to monitor overflight noise from aircraft. They will be retrieved in the month of May with the help of volunteer citizen scientists. The recordings will then be analyzed with a computer program at the Cornell Lab to identify species residing in the park. Additional ARUs, will be utilized next Spring as the second phase of this project, including mobile recording units suspended from helium balloons which will fly over the tree canopy of the park while collecting data.

If you are interested in being involved in any of these projects please contact Education Coordinator Christina Hulslander at (803) 695-0214 or via email at Christina_Hulslander@nps.gov

Butterfly Count continued from page 4

Zebra Swallowtail	Meadow Fritillary	Horace's Duskywing
Black Swallowtail	Pearl Crescent	Common Checkered Skipper
Eastern Tiger Swallowtail	Eastern Comma	Common Sootywing
Spicebush Swallowtail	American Lady	Clouded Skipper
Palamedes Swallowtail	Red Admiral	Least Skipper
Checkered White	Common Buckeye	Fiery Skipper
Cabbage White	Red-spotted Purple	Whirlabout
Cloudless Sulphur	Hackberry Emperor	Zabulon Skipper
Sleepy Orange	Tawny Emperor	Dun Skipper
Red-banded Hairstreak	Northern Pearly-Eye	Lace-Wing Roadside Skipper
Spring Azure	Creole Pearly-Eye	Little Glassywing
Eastern Tailed Blue	Carolina Satyr	
American Snout	Gemmed Satyr	
Variegated Fritillary	Silver-spotted Skipper	

We hope to continue this important monitoring effort next year, with the help of our skilled volunteers, so keep practicing those identification skills and please plan on participating in 2005!

HELP ACQUIRE LAND FOR CONGAREE NATIONAL PARK

An appropriation of \$12.5 million from the Land and Water Conservation Fund is needed in the Fiscal Year 2005 Interior Appropriations bill to purchase land for Congaree National Park.

In November 2003, through congressional legislation, Congaree Swamp National Monument became Congaree National Park – the only National Park in South Carolina. Congaree National Park – on the Congaree River floodplain – is also recognized as an International Biosphere Reserve, a National Natural Landmark, a Wilderness Area, and a Globally Important Bird Area. Congaree hosts the nation's largest tract of old-growth bottomland hardwood forest, with some of the tallest trees in the eastern U.S.

While designating Congaree as a National Park, Congress also authorized four riverfront parcels totaling approximately 4,600 acres to be added to Congaree National Park. The two largest parcels are currently available for acquisition. These two tracts – the 2,420-acre Bates Fork tract and the 1,886-acre Kingville tract – are adjacent to one another. Both tracts are important to Congaree National Park for natural resource protection and would create a conservation corridor connecting Congaree National Park with other protected lands downstream.

PLEASE ACT NOW!

Please contact Sen. Hollings and Sen. Graham. Ask them to earmark \$12.5 million for Congaree National Park land acquisition, funded through the Land and Water Conservation Fund in the FY 2005 Interior Appropriations bill. This funding will enable prompt, efficient acquisition of the Bates Fork tract and the Kingville tract for Congaree National Park. Please call (or e-mail or fax) now – before the upcoming Appropriations markup in September.

PLEASE CONTACT:

(NOTE: There is a significant delay in delivery of letters to Members of Congress due to security concerns. Therefore, we encourage you to fax, call, or electronically contact Sen. Hollings and Sen. Graham to ensure prompt receipt. For online contact, visit the websites listed below and follow instructions for constituent contact.)

The Honorable Ernest Hollings
Phone: 202 224-6121
Fax: 202 224-4293
Website: <http://hollings.senate.gov>

The Honorable Lindsey Graham
Phone: 202 224-5972
Fax: 202 224-1189
Website: <http://lgraham.senate.gov>

reported from CNP, making the park the *richest* North American liana site in the National Park Service. Further, liana size and density in Congaree National Park is comparable to that in rich, lowland tropical rain forests (Gaddy, Allen, and Sharitz, in manuscript). Table 1 summarizes woody plant richness in CNP compared to other regional, national, and global locations (Gaddy, in press).

Understory and ground layer species richness is not as great in CNP as in rich mountain coves and in other upland forests; however, we have found that some state-listed rare floodplain-loving plant species are more common in CNP than the rest of the state. Dr. Nelson has discovered a hedge nettle (*Stachys* sp.) new to South Carolina in CNP, the rare bog mint (*Macbridea caroliniana*) is locally common in the Park, and I have documented the presence of around 50 species of *Carex*, a widespread North American genus of the sedge (Cyperaceae) family, in CNP.

Studying the natural history of CNP is a life-long task and a rewarding one. This year is my 30th year botanizing in CNP and Dr. Nelson has been at it almost as long. The publication we hope to produce at the end of study will undoubtedly include a very long list of species, but it, like most other attempts to describe the richness of nature, will only be a work in progress.



Table 1. Global woody plant richness: Congaree National Park and other sites.¹

SITE (Listed in order of total area)	TREES	SHRUBS	LIANAS	TOTAL WOODY SPECIES
LILY CORNETT WOODS (KY)	65	32	14	111
CHAUGA RIVER GORGE (SC)	67	52	13	133
CONGAREE SWAMP (SC)	80	50	26	156
GREAT SMOKY MTS (NC-TN)	123	104	21	248
BIG THICKET (TX)	55	32	18	105
OCALA NATIONAL FOREST (FL)	66	70	13	149
BLUE RIDGE PROVINCE (VA, TN, GA, NC, SC)	132	174	36	342
THE CAROLINAS	179	219	45	443
CAPE FLORA (SOUTH AFRICA)	NA	ca. 1000	NA	NA
PACIFIC NORTHWEST	91	124	5	220
BORNEO	ca. 400	NA	NA	NA
WESTERN AMAZONIA	ca. 350	100-150	90-200	ca. 700

(Footnotes)

¹ Source: Gaddy (in manuscript).



**Friends of
Congaree
Swamp**

Post Office Box 7746
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www.friendsofcongarree.org

July — September 2004

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and its unique environment.**

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 _____ \$ 35.00 Family _____ \$ 100.00 Partner _____ \$ 1000.00 Patron _____ \$ 1000.00 Corporate

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I would like to order the following items (proceeds benefit FCS projects): \$ _____ inclosed.
 _____ copies of **"Reflections of Congaree Swamp"** CD screensaver for Windows 95 or higher @ **\$14.95 Sale!** \$7.50 s/h included
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Thank You For Supporting Friends of Congaree Swamp!
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