

August 2006 Newsletter

Hi All,

I enjoyed leading our fieldtrip on July 22 at the Pee Dee National Wildlife Refuge (NWR) (located in Anson & Richmond Counties, NC). Named after a Native American tribe, this refuge is close to my home and allows me to frequently escape and relax from the intense development and chaotic conditions of big-city Charlotte.

Our explorations began by examining a sliver of the NWR's bottomland hardwood ecosystem, which covers 3,000 acres. We drove on a small gravel road along Brown Creek. Deerflies and mosquitoes were ferocious. We tarried briefly, but found much – like a gorgeous green and silver colored frog.

We then drove to see a refuge landmark, a 200+ year-old southern red oak. Surrounded by agricultural fields, dove habitat, and forests, this oak's location is marked on the current NWR visitor map as 'Big Oak.' All that remain of this once huge oak are the burned-out base and lower trunk (lightening strikes?), and one massive branch. Insects were abundant, and we enjoyed the scurrying of a multihued-iridescent 'bigheaded' tiger beetle. We spotted bobwhites and a family of kingbirds, as well as iridescent indigo buntings who sang from the tops of small saplings.

After lunch, we drove to Arrowhead Lake. By the lake's edge, we immediately spotted large white flowers of swamp mallow. Next to these plants were hundreds of ground-nesting bees (hibiscus bees) who were flying about rather furiously, crawling on the ground, and utilizing their tunnels. These bees were black & yellow, and foraged on the swamp mallow (identifications, Tom J. & Mary D.).

Next, we visited an impoundment area for migratory waterfowl by the Pee Dee River from November to March. By the river, an exposed section of multilayered sedimentary rocks allowed entrance 'onto' the river. These rocks were mudstone of the Carolina Slate Belt. Some were finely grained and richly striated with beautiful blue & white hues (rock info, Ben G.). Five separate wood thrushes sang. On wild cucumber, we found squash lady beetles that were large-sized and very yellow with black spots. This particular lady beetle species is herbaceous. Most lady beetles are predators and eat small insects like aphids (beetle info, Jan C.). Our last stop was the Gaddy Bridge at Thoroughfare Creek.

Throughout our day, we enjoyed cool temperatures due to an overcast sky, instead of a typical hot & sultry summer day. As naturalists, we were exceedingly entertained and mesmerized by the rich biodiversity and heritage of this refuge. Tom J. and Mary D., our biodatabase managers, are compiling a bounty of species for this site (please see September '06 newsletter).

We give a special thanks to the Pee Dee NWR staff & volunteers. The seven-member staff runs this unique refuge with only \$606,000, FY '05 (35,000 annual visitors). Unfortunately, they are rarely praised for their excellent work, so please contact them: J. D. Bricken, Refuge Manager; 5770 US Hwy 52 North; Wadesboro, NC 28170; www.fws.gov/peedee, which also provides for email.

After leaving the refuge, we drove north to a local restaurant. We EAGERLY discussed a return-trip to the Pee Dee. We disbanded about 7 pm, and thus completed a wonderful day among friends. In our towns and cities, we have been increasingly forced to separate ourselves from nature. Therefore, places like the Pee Dee Refuge are critically important to preserve. (Jules Fraytet, SCAN President)

COON BRANCH NATURAL AREA

Oconee County, SC

August 26, 2006: 10:30 AM

Meet at Bad Creek Station parking area, where there are portable toilets but no other provisions (no drinking water). Make necessary stops/purchases before reaching Highway 130. Bring lunch (the river provides idyllic picnic rocks), water, insect repellent. Follow the sourwood, coreopsis, Hercules' club, and goldenrod trail to the northwest corner of South Carolina for a late summer day by the river. SCAN was here in the spring over ten years ago; this time we'll see the fruits of much that was in early bloom. Special guest: Al Wheeler, Ph.D., Entomologist at Clemson. Al gave an enthusiastically received presentation last year to the Upstate Chapter of SC Native Plants, and he volunteered then to accompany us on a SCAN trip. Al's expertise promises to add a new dimension to this trip.

DIRECTIONS: From intersection of I-26 and SC 11 (exit 5?), take SC 11 South (towards Campobello) for 57 miles. At SC 130 (labeled Bruce Rochester Road) go right (NE) for 10 miles (sign points to Whitewater River). (Do NOT branch off to Highlands.) Watch on the right for the gate to Duke Power's Bad Creek Hydroelectric Station; drive up close to it and it will open (hours 6:00 a.m. - 6:00 p.m.) Drive two miles to left fork, which indicates Foot Hills Trail and Whitewater River, and take that fork to parking lot (close but not visible from road). (Our cell phone until 10:30: 864-590-2075) We will hike for 0.5 mile on the Bad Creek Spur Trail; after that, for just under a mile the trail passes monumental white pines, tulip trees, and Fraser magnolias, skirting the Whitewater River until we arrive at a record ancient hemlock, a prime setting for our lunch, and the edge of the twenty acres of virgin forest which comprise Coon Branch Natural Area. (Sam and Eva Pratt)

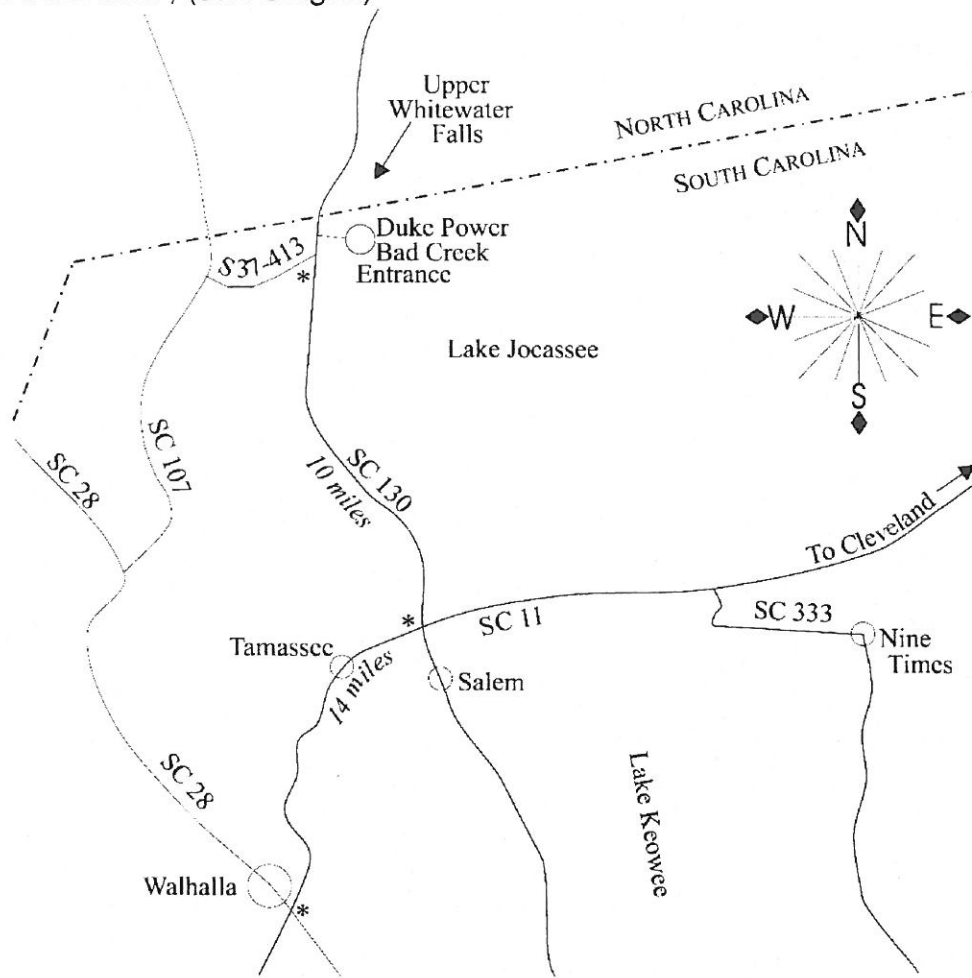
JOCASSEE GORGES REGION & OCONEE COUNTY, Ben Gregory

The Jocassee Gorges region (JG) is a temperate rainforest (actually remnant) with mild temperatures and with the highest annual rainfall average in the eastern US (67" or 75" [sic]; SCDNR) (Temperate rainforests are exceedingly rare worldwide.) JG comprises land in both South & North Carolina, and Georgia, and contains an extremely high flora and fauna diversity. Some species in this region are rare, threatened, or endangered, and found nowhere else. Many remain to be discovered. Unfortunately, some have gone extinct, like the Carolina parakeet in 1904. The region's human history is captivating; e.g., Native Americans, Spanish explorer Hernando deSoto in 1539, James Moore's 1690 British gold expedition, British botanist William Bartram (mid 1700's; flame azalea), French botanist Andre Michaux (1780's; Oconee bells), pioneers, moon shiners, Civil War, timber barons, dam builders and conservationists. Geological history extends back 1.1 billion years. Marine and volcanic rocks have been folded, twisted, and squeezed together during three separate continent-to-continent collisions. Consequent erosion has created an opulent geological topography; e.g., cliffs with waterfalls. Oconee County (OC), within this region, has ≈ 145 species that are rare, threatened, or endangered. The word 'Oconee' (Cherokee language) means 'watery eyes of the hills,' which aptly describes the watery mists created by rainfall, springs, streams, rivers, and waterfalls. Websites: www.dnr.state.sc.us (rare, threatened, endangered species inventory), www.sctrails.net, (trail descriptions of Bad Creek Spur Trail; Coon Branch Natural Area (Coon Branch Trail).

EDITOR'S NOTE: Please contact me if you have anything of interest you would like to publish in our newsletter about the natural history of SC; e.g., websites, articles, notes, pen & ink drawings, flora or fauna descriptions, etc. Contact: scan_editor_brg@bellsouth.net, Ben Gregory, 2120 N. Davidson St., #217, Charlotte, NC 28205, (704) 372-8532.

CHARLESTON, SC. At the City Market in Charleston, archaeologists recently identified a man-made basin for live fish, which is over 100 years old. The basin used pipes that carried water back and forth from Charleston Harbor. A 1902 insurance map details a fish basin in the same location. (USA Today and AP) (Ben Gregory)

MAP, AUGUST FIELDTRIP, (Jan Ceigler)



HIBISCUS BEES, Mary G. Douglass

When we think of bees most of us automatically picture honeybees or bumblebees with their large colonies and complicated social lives. Most of our native bee species however are solitary. The word "solitary" can seem a little confusing – many of these bees nest in dense aggregations, but each female makes and provisions her own nest, with no assistance from her kin.

On our July SCAN trip to the Pee Dee National Wildlife Refuge, we encountered a very interesting species of solitary bee, *Ptilothrix bombiformis*. These ground-nesting bees are specialists, collecting pollen and nectar almost exclusively from various species of *Hibiscus* such as the Swamp Mallow that was so abundant at the wildlife refuge pond. Each female bee digs a tunnel in the soil and constructs brood cells which she provisions with balls of pollen and nectar from the Mallow plants. A single egg is laid on each pollen ball. The larvae hatch and begin to feed within a few days, but the new generation of bees will not emerge from the ground until next year – just in time for the blooming of the mallow plants they feed on. Male bees typically emerge a couple of weeks earlier, and can be seen flying frantically over the ground searching for newly emerged females to mate with. The male bees do not collect pollen, but they do visit the mallow flowers to refuel with nectar and pollen meals.

Bees which specialize on one or a few closely related plants are referred to as oligolectic; some other oligolectic bees found in South Carolina are the Squash Bee, *Peponapis pruinosa*, the Southeastern Blueberry Bee, *Habropoda laboriosa*; and the Morning Glory Bee, *Cemolobus ipomoeae*. Many other bees are polylectic, feeding on many different kinds of flowers, and a few are monolectic, completely dependent on just one species of plant.

Craig Pond Heritage Preserve -- Barnwell Co., SC -- June 24, 2006

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FLORA	Fimbry * <i>Fimbristylis puberula puberula</i>	Blue-jack Oak <i>Quercus incana</i>	Carolina Ipecac <i>Euphorbia ipecacuanhae</i>
Peat Moss <i>Sphagnum sp.</i>	Tracy's Beaksedge * <i>Rhynchospora tracyi</i>	Dog-tongue <i>Eriogonum tomentosum</i>	Flowering Spurge <i>Euphorbia corollata</i>
Cinnamon Fern <i>Osmunda cinnamomea</i>	Wright's Beaksedge * <i>Rhynchospora wrightiana</i>	Wire-plant <i>Stipulicida setacea</i>	Inkberry; Bitter Gallberry <i>Ilex glabra</i>
Bracken <i>Pteridium aquilinum</i>	Woolgrass Bulrush <i>Scirpus cyperinus</i>	Water-lily; Alligator-bonnet <i>Nymphaea odorata</i>	Myrtle Holly <i>Ilex myrtifolia</i>
Virginia Chain Fern <i>Woodwardia virginica</i>	Common Cat-tail <i>Typha latifolia</i>	Water-shield <i>Brasenia schreberi</i>	Winged Sumac <i>Rhus copallinum</i>
Longleaf Pine <i>Pinus palustris</i>	Cut grass <i>Leersia hexandra</i>	Sweetbay <i>Magnolia virginiana</i>	Poison Oak <i>Toxicodendron pubescens</i>
Loblolly Pine <i>Pinus taeda</i>	Maidencane * <i>Panicum hemitomon</i>	Swamp Bay <i>Persea palustris</i>	Red Maple <i>Acer rubrum</i>
Arrowhead <i>Sagittaria isoetiformis</i>	Beard Grass; Plume Grass <i>Erianthus giganteus</i>	Sassafras <i>Sassafras albidum</i>	Muscadine; Bullace <i>Vitis rotundifolia</i>
American Frog's-bit <i>Limnobiium spongia</i>	Spanish-moss <i>Tillandsia usneoides</i>	Hooded Pitcher-plant <i>Sarracenia minor</i>	St.-Peter's-wort <i>Hypericum stans</i>
Elliott's Yellow-eyed Grass <i>Xyris elliotii</i>	Greenbrier; Bullbrier <i>Smilax rotundifolia</i>	Sundew <i>Drosera capillaris</i>	St.-John's-wort <i>Hypericum virginicum</i>
Common Ten-angled Pipewort <i>Eriocaulon decangulare decangulare</i>	Bamboo Smilax <i>Smilax laurifolia</i>	Sweet-gum <i>Liquidambar styraciflua</i>	Passionflower; Maypops <i>Passiflora incarnata</i>
Common Bogbutton <i>Lachnocaulon anceps</i>	Greenbrier <i>Smilax glauca</i>	Chickasaw Plum <i>Prunus angustifolia</i>	Awned Meadow-beauty * <i>Rhexia aristosa</i>
Rush <i>Juncus biflorus</i>	Redroot <i>Lachnanthes caroliniana</i>	Black Cherry; Wild Cherry <i>Prunus serotina</i>	Pale Meadow-beauty <i>Rhexia mariana</i>
Rush <i>Juncus dichotomus</i>	Black Willow <i>Salix nigra</i>	Partridge-pea <i>Cassia fasciculata</i>	Mermaid-weed <i>Proserpinaca pectinata</i>
Sedge * <i>Carex tenax</i>	Common Wax-myrtle <i>Morella cerifera</i>	Leadplant <i>Amorpha herbacea</i>	Intelligence-plant <i>Centella asiatica</i>
Horsetail Spikerush <i>Eleocharis equisetoides</i>	Scrubby Post Oak <i>Quercus margarettiae</i>	Goat's-rue <i>Tephrosia virginiana</i>	Blackgum <i>Nyssa sylvatica</i>
Robbins Spikerush * <i>Eleocharis robbinsii</i>	Turkey Oak <i>Quercus laevis</i>	Climbing Butterfly-pea <i>Centrosema virginianum</i>	Swamp Tupelo; Swamp Blackgum <i>Nyssa sylvatica biflora</i>
Three-angle Spikerush * <i>Eleocharis tricostata</i>	Water Oak <i>Quercus nigra</i>	Tread-softly; Nettle Spurge <i>Cnidocolus stimulosus</i>	

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Spotted Wintergreen <i>Chimaphila maculata</i>	Florida Bladderwort * <i>Utricularia floridana</i>	Splendid Green Metallic Bee * <i>Agapostemon splendens</i>	Lilypad Forktail (damselfly) <i>Ischnura kellicotti</i>
Fetterbush <i>Lyonia lucida</i>	Lobelia * <i>Lobelia canbyi</i>	Leaf-cutting Bee <i>Megachile sp.</i>	Fragile Forktail (damselfly) <i>Ischnura posita</i>
Staggerbush <i>Lyonia mariana</i>	Lobelia <i>Lobelia boykinii</i>	Large Carpenter Bee <i>Xylocopa virginica virginica</i>	Citrine Forktail (damselfly) <i>Ischnura hastata</i>
Hairy Dangleberry * <i>Gaylussacia tomentosa</i>	Fireweed <i>Erechtites hieracifolia</i>	Bumblebee <i>Bombus impatiens</i>	Southern Sprite (damselfly) <i>Nehalennia integricollis</i>
Sparkleberry <i>Vaccinium arboreum</i>	Ironweed <i>Vernonia angustifolia</i>	Honey Bee <i>Apis mellifera</i>	Burrowing Water Beetle <i>Hydrocanthus oblongus</i>
Deerberry; Squaw-huckleberry <i>Vaccinium stamineum</i>	Elephant's-foot <i>Elephantopus nudatus</i>	Thick-headed Fly * <i>Physocephala sp.</i>	Predacious Water Beetle * <i>Anodocheilus exiguus</i>
Low-bush Blueberry <i>Vaccinium tenellum</i>	Dog-fennel <i>Eupatorium capillifolium</i>	Common Green Darner <i>Anax junius</i>	Predacious Water Beetle * <i>Cybister fimbriolatus</i>
Blueberry <i>Vaccinium formosum</i>	Climbing Hempweed <i>Mikania scandens</i>	Halloween Pennant (dragonfly) <i>Celithemis eponina</i>	Water Scavenger Beetle * <i>Hydrochus simplex</i>
Persimmon <i>Diospyros virginiana</i>	Marsh-fleabane <i>Pluchea rosea</i>	Eastern Pondhawk <i>Erythemis simplicicollis</i>	Water Scavenger Beetle * <i>Berosus exiguus</i>
Yellow Jessamine <i>Gelsemium sempervirens</i>	Sea-myrtle; Groundsel-tree <i>Baccharis halimifolia</i>	Little Blue Dragonlet <i>Erythrodiplax minuscula</i>	Water Scavenger Beetle * <i>Paracymus nanus</i>
Polypremum <i>Polypremum procumbens</i>	Green-eyes <i>Berlandiera pumila</i>	Golden-winged Skimmer <i>Libellula auripennis</i>	Water Scavenger Beetle * <i>Anacaena suturalis</i>
Sabatia <i>Sabatia campanulata</i>	Coreopsis <i>Coreopsis major</i>	Bar-winged Skimmer <i>Libellula axilena</i>	Water Scavenger Beetle <i>Enochrus ochraceus</i>
Sandhill Milkweed <i>Asclepias humistrata</i>	FAUNA	Painted Skimmer <i>Libellula semifasciata</i>	Water Scavenger Beetle <i>Enochrus sublongus</i>
Blue Water-hyssop <i>Bacopa caroliniana</i>	Green Lynx Spider <i>Peucetia viridans</i>	Blue Dasher <i>Pachydiplax longipennis</i>	Water Scavenger Beetle <i>Enochrus sublongus</i>
Hairy Gratiola; Hedge-hyssop <i>Gratiola pilosa</i>	Crested Pygmy Grasshopper <i>Nomotettix cristatus compressus</i>	Violet-masked Glider <i>Tramea carolina</i>	Branch and Leaf Buprestid <i>Paragrilus sp.</i>
False Foxglove <i>Aureolaria pectinata</i>	Toad Bug <i>Gelastocoris sp.</i>	Cherry Bluet * <i>Enallagma concisum</i>	Leaf Buprestid Beetle <i>Brachys aerosus</i>
Purple Bladderwort <i>Utricularia purpurea</i>	Scarab-hunter Wasp <i>Campsomeris sp.</i>	Attenuated Bluet (damselfly) <i>Enallagma daeckii</i>	
	Scoliid Wasp * <i>Scolia sp.</i>		

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Tumbling Flower Beetle <i>Mordella sp.</i>	Variegated Fritillary <i>Euptoieta claudia</i>	Common Nighthawk (call) <i>Chordeiles minor</i>	Eastern Bluebird <i>Sialia sialis</i>
Darkling Beetle * <i>Epitragodes tomentosus</i>	Common Buckeye <i>Junonia coenia</i>	Red-bellied Woodpecker <i>Melanerpes carolinus</i>	Northern Mockingbird <i>Mimus polyglottos</i>
Comb-clawed Beetle * <i>Hymenorus densus</i>	Red-spotted Purple (butterfly) <i>Limenitis arthemis astyanax</i>	Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	Brown Thrasher <i>Toxostoma rufum</i>
Cylindrical Leaf Beetle <i>Pachybrachis atomarius</i>	Horace's Duskywing <i>Erynnis horatius</i>	Downy Woodpecker <i>Picoides pubescens</i>	White-eyed Vireo <i>Vireo griseus</i>
Oval Leaf Beetle <i>Colaspis favosa</i>	Least Skipper <i>Ancyloxypha numitor</i>	Hairy Woodpecker <i>Picoides villosus</i>	Yellow-throated Vireo <i>Vireo flavifrons</i>
Oval Leaf Beetle * <i>Colaspis floridana</i>	Bullfrog (call) <i>Rana catesbiana</i>	Eastern Kingbird <i>Tyrannus tyrannus</i>	Red-Eyed Vireo <i>Vireo olivaceus</i>
Oval Leaf Beetle * <i>Metachroma quercatum</i>	Pig Frog <i>Rana grylio</i>	Great Crested Flycatcher <i>Myiarchus crinitus</i>	Common Yellowthroat <i>Geothlypis trichas</i>
Oval Leaf Beetle <i>Paria sellata</i>	Cricket Frog <i>Acris sp.</i>	Eastern Wood-pewee <i>Contopus virens</i>	Yellow-breasted Chat <i>Icteria virens</i>
Oval Leaf Beetle <i>Paria thoracica</i>	Yellow-bellied Slider (shell) <i>Chrysemys scripta</i>	Purple Martin <i>Progne subis</i>	Northern Cardinal <i>Cardinalis cardinalis</i>
Oval Leaf Beetle <i>Graphops curtippennis</i>	Green-backed Heron <i>Butorides striatus</i>	Blue Jay <i>Cyanocitta cristata</i>	Blue Grosbeak <i>Guiraca caerulea</i>
Flea Beetle <i>Disonycha caroliniana</i>	Great Egret; Common Egret <i>Casmerodius albus</i>	American Crow; Common Crow <i>Corvus brachyrhynchos</i>	Indigo Bunting <i>Passerina cyanea</i>
Fungus Weevil * <i>Piesocorynus sp.</i>	Great Blue Heron <i>Ardea herodias</i>	Fish Crow <i>Corvus ossifragus</i>	Painted Bunting <i>Passerina ciris</i>
Marsh Weevil * <i>Lissorhoptrus sp.</i>	Wood Duck <i>Aix sponsa</i>	Tufted Titmouse <i>Parus bicolor</i>	Eastern Towhee <i>Pipilo erythrophthalmus</i>
Marsh Weevil * <i>Brachybamus electus</i>	Turkey Vulture <i>Cathartes aura</i>	Carolina Chickadee <i>Parus carolinensis</i>	Red-winged Blackbird <i>Agelaius phoeniceus</i>
Flower Weevil * <i>Dirabius atromicans</i>	Northern Bobwhite <i>Colinus virginianus</i>	Brown-headed Nuthatch <i>Sitta pusilla</i>	Common Grackle <i>Quiscalus quiscula</i>
Eastern Tiger Swallowtail <i>Papilio glaucus</i>	Mourning Dove <i>Zenaida macroura</i>	Carolina Wren <i>Thryothorus ludovicianus</i>	Orchard Oriole <i>Icterus spurius</i>
Spicebush Swallowtail <i>Papilio troilus</i>	Yellow-billed Cuckoo <i>Coccyzus americanus</i>	Blue-gray Gnatcatcher <i>Poliophtila caerulea</i>	White-tailed Deer (tracks) <i>Odocoileus virginianus</i>
Gray Hairstreak <i>Strymon melinus</i>			