The Journal of the

South Carolina Native Plant Society

Spring 2007

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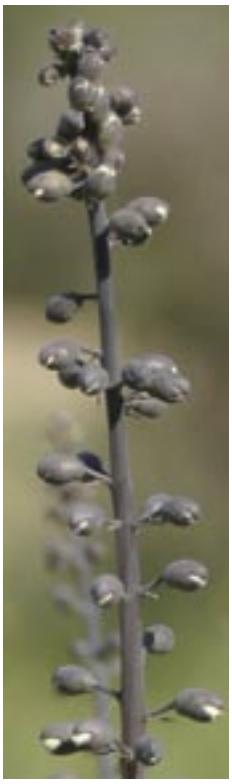
Name That Native Plant!



This perennial forb is found on roadsides and forest edges throughout SC. It can be very showy in mid-spring to mid-summer. It has trifoliate leaves. It might help if we showed more of the plant, but where's the fun in making it easy? To see more of the plant go to www.scnps.org.

The answer is embedded in the text somewhere in this newsletter. Photo by Bill Stringer.

Orchids of the Francis Marion National Forest, Berkeley County, SC

By Jim Fowler

Reprinted with permission from: North American Native Orchid Journal & the Author. All orchid photos by Jim Fowler

Calopogon barbatus, bearded grass-pink

Ponthieva racemosa, shadow-witch orchid

The Francis Marion National Forest (known by locals as the Francis Marion) is a popular destination for botanists, especially for those interested in orchids and carnivorous plants. It comprises about 250,000 acres of mixed hardwoods, bottomland swamps, and longleaf pine savannahs. It contains some unique geological features known as Carolina Bays. These bays are shallow oval depressions (their origin is still hotly debated) that make excellent habitat for many rare and unusual plant species, including about two dozen of South Carolina's fifty-five native orchid species and hybrids.

The largest portion of the Francis Marion is located in Berkeley County, the rest being in adjacent Charleston County, in the southern portion of coastal South Carolina. It is criss-crossed by hundreds of sandy, one-lane USFS roads that wind through areas with names like Hellhole Swamp, Dog Swamp, Florida Bay, Tiger Corner, and Yellow-jacket Island, and offering views of dense pocosins and vast longleaf pine savannahs. These local names bring to mind the many seemingly impenetrable areas of boot-sucking mud, chiggers, ticks, mosquitoes, leeches, snakes, and alligators. But, we never let those minor inconveniences hold us back, do we?

*(See **Orchids**, page 4)*

State of the SC Native Plant Society - Spring, 2007

Bill Stringer

The Society continues to actively pursue our mission of "preserving and restoring native plant communities in South Carolina". This has happened via an impressive expense of time and energy by a growing number of members. A partial list of activities this spring includes 7 chapter meetings with speakers, 10 field trips to see native plant communities, 6 fundraiser plant sales, and participation in 6 public information events, like Earth Day or Home Shows. We have had at least 6 organized plant rescues, to save native plants from the bulldozer. Many of these plants have been re-planted in public park or garden sites. We have had 2 informational workshops, with an expert showing and telling about a topic, to make our members more knowledgeable and effective in the future.

I think I can safely report that we are gaining visibility and support for our goals and activities. We are collaborating with other naturalist/environmental groups, such as SCAN and TNC. As often as not, these groups are seeking us out. We have been very successful in getting our message into the media, which is not an easy job. We have re-established regular publication of our quarterly newsletter, and it has been getting good reviews among the membership. Two Chapters have local newsletters, as well. And our website... Wow! We have a terrific website, full of information on activities, articles on native plant issues, and a large number of beautiful photos to interact with your senses as you cruise the site.

Another indication of the Society "gaining traction" is in the impressive list of awards coming to our group and its members. In the past year, members have received the SC Wildlife Federation's Conservationist of the Year (Land), and Conservationist of the Year (Water). The Society was awarded Greenville Soil and Water Conservation District's Conservation Award. Most recently, Rick Huffman was awarded the Governor's Environmental Awareness Award, in a ceremony at the Statehouse.

We are not able to rest on our laurels, however. We have gained 86 new members since the start of 2006. Unfortunately, that number has been balanced out by the failure of 86 members to renew their membership. We need to work on member retention. We have been working on that in the Chapters. We have also devoted some effort at the state level to helping our two smaller chapters in raising their numbers and visibility, and we will continue to do so.

I have saved for last an important issue: LEADERSHIP. Not that we don't have good leaders, he said modestly. The thing is, we need more, newer, younger members to step up to the plate, to help share the load, and to prepare for future leadership roles. The Chapters need this, and the Statewide organization does, too. For instance, as of now, we do not have a statewide vice-president, which is of concern to yours truly. So, if you are interested in taking on a role at any level, and we haven't asked you, please take the initiative and button-hole one of your officers. We will be most attentive to you.

Thanks! Bill Stringer, President

Plant origin terms

Native plant – A plant species that is found in a region because it developed and evolved in that region over thousands of years. Plants that existed in a region prior to settlement.

Exotic (introduced) plant – A plant species that exists in a region because it was brought to that region by man, during and since settlement of the region. We are still introducing exotic plants, by intention or by accident.

Naturalized plant – An exotic plant that was introduced into an area, escaped from cultivation and reproduces on its own (includes exotic invasive plants). Many plants commonly thought to be natives were actually introduced by early settlers.

Exotic invasive plant – An exotic plant species that is able to invade and overrun native ecosystems. Some native plants can become invasive under certain conditions, but most invasive species are introduced (exotic).

Ornamental plant – A plant species or cultivar that is grown for its beauty (in its end use), rather than commercial or production reasons.

Variety – Within a species, a naturally occurring sub-group of plants that have one or more minor characteristics that set it apart from the rest of the species. Ex.: *Solidago odora* var. *chapmanii*.

Cultivar – Short for "cultivated variety". A plant "variety" developed by man via plant selection and/or genetic manipulation to exhibit a set of plant characteristics. Cultivars are maintained via controlled pollination or vegetative means, so that cultivar characteristics are passed to ensuing generations.

Ecovar – Short for "ecological variety". A plant "variety" developed by man from a collection of plants of a

*(See **Plant terms**, page 3)*

Two New Georgia Aster Finds

Sudie Daves, - USDA-NRCS & Midlands Chapter

A Richland County plant rescue organized by Ron Chicone for the Midlands Chapter yielded a very nice surprise. Having forgotten to re-set my clock for daylight savings time, I arrived at the rescue site an hour early, so I passed the time investigating a right-of-way I had passed on the way. I found woodland sunflower, eastern silvery aster, whorled coreopsis, Maryland golden aster, rosinweed, narrow-leaf mountain-mint, Indiangrass, plumegrass, little bluestem, split-beard bluestem, bushy bluestem, Virginia wild rye and a mystery aster, later identified by Ron as New York aster.

Then there was another aster that looked familiar, one that I had not seen in a while. It had composite flowers about 2 inches wide with deep purple ray flowers, pale white disk flowers, and rough clasping alternate leaves. The habitat was a disturbed right-of-way/roadside with clay soils and the associate species listed above. I tentatively identified it as Georgia Aster (*Symphyotrichum georgianum*), a species I knew from previous Piedmont Prairie restoration work. Georgia Aster is a Federal Candidate species for endangered status.

Ron and I had John Nelson, USC botanist, confirm the identification. The population contained about 500 stems, and is a previously undocumented population for Richland County, according to SCDNR records. Now that's an exciting way to "pass some time"!

Janie Marlow, Karen Burnett, Ted Thern, - Upstate Chapter

Roadsides and utility right-of-ways are among the few places where South Carolina's native prairie plants can still be found, but who takes time to investigate these "scruffy-looking" sites? Volunteers on a SCNPS Native Plant Seed Collection field trip — that's who! On Oct. 28, 2006, we were collecting seeds of big bluestem, little bluestem and purpletop, on property wedged between road and railroad in southern Pickens County. (Any site in the Upstate with big bluestem warrants piling out of the van). An intensely vivid color caught the eye of Ted Thern — an aster, but such a deep, rich purple...

Investigation showed it to be Georgia aster (*Symphyotrichum georgianum*), with several plants strung out for 30 yards under scrubby loblolly and Virginia pines and immature deciduous trees, surrounded by Japanese honeysuckle, multiflora rose, cedar, broomsedge and goldenrod. Kudzu is encroaching from the railroad embankment.

The population grows on a slight ridge beside the railroad cut, by tracks that were laid in the early 1900s and are still in use. The site appears to have retained more of the sandy clay topsoil than areas around it – maybe cotton fields were not planted that close to the railroad?

Distribution of Georgia aster (some recent discoveries not shown) Map from SC Plant Atlas (http://cricket.biol.sc.edu/herb/)

***Plant terms**, from page 2*

native species that were selected from several to many natural populations in a specific region. The purpose is to have high genetic diversity in the parent collection, that reflects the natural diversity within that species in the defined region. To maintain genetic diversity in ensuing generations, little to no selection is done during the ecovar development process. An ecovar is an intermediate step between a true native plant and a cultivar.

Source-identified seed – Offspring of plants collected from a single defined natural population of a native species for production of seed. No selection is done during the collection and subsequent seed increase steps, so as to conserve genetic diversity. The genetic diversity is less than for an ecovar.

NOTE: Cultivars, ecovars, and source-identified seed are usually named, and that name is used to denote any plant material subsequently marketed from these seed parent sources.

***Orchids**, from page 1*

Steed Creek Road is a paved two-lane road that runs North/South through the center of the Forest. But, to those of us who know it well, it is called Orchid Alley. All along this road, in the ditches and roadside banks, one can find many of the common species of orchids that bloom in the Francis Marion. That is quite a sight, especially in the spring and early summer when the pinks of *Cleistes divaricata* (spreading pogonia) and *Pogonia ophioglossoides* (rose pogonia) and the magentas of the *Calopogon* species are at their best. In the fall, the orange, white, and yellow torches of the fringed orchids hold court along those same roadside banks, sometimes in the hundreds.

Calopogon barbatus, bearded grass-pink

Before Hurricane Hugo, the Francis Marion was one of the pre-eminent longleaf pine holdings in the southeastern United States. In 1989, that hurricane came inland in the central portion of the Francis Marion and destroyed many thousands of mature longleaf pines and live oaks. This turned out to be a two-edged sword, since it also opened up many areas that had previously become choked with deciduous trees and shrubs. In looking at practical ways to bring back the longleaf pine forest, the U. S. Forest Service undertook a serious program of prescribed burning as a way to control the growth of undesirable species. Many of the orchid species we all love not only do well under prescribed burn regimes, but several species actually require regular burning in order to come back year after year.

Two of the orchid species in the Francis Marion that require burning of competitive vegetation are *Pteroglossaspis ecristata* (crestless plume orchid) and *Gymnadeniopsis integra* (yellow fringeless orchid). Both species seem to completely disappear within two or three years after a burn if the burns are not repeated. It is thought that the plants resort to dormancy or produce minor vegetative growth during the inter-burn period, apparently waiting for the vegetative competition to be removed. Both of these species are quite rare in the Francis Marion, and it is quite a pleasant surprise to come across these beauties in bloom.

The first orchids to bloom in the Francis Marion are *Listera australis* (southern twayblade) and *Corallorhiza wisteriana* (Wister's coralroot). Both can usually be found blooming during late February thru early March. The flowers of *Listera australis* are usually some shade of greenish or brownish red, but also can be found in shades of tan or yellow. Regardless of the flower color, the plants are quite difficult to see in the leaf and pine needle litter on the forest floor. Depending upon the timing of annual burns, you might be lucky enough to find

Cleistes divaricata, spreading pogonia

Platanthera cristata, crested fringed orchid

Calopogon multiflorus (many-flowered grass-pink) blooming several weeks after March or April burns, although this particular species has not been seen there for several years.

There are two seasons when orchid flowering is most plentiful in the Francis Marion. The first is May-June. The species normally found then are *Calopogon barbatus* (bearded grass-pink), *Calopogon tuberosus* (common grass-pink), *Calopogon pallidus* (pale grass-pink), *Cleistes divaricata* (spreading pogonia), *Spiranthes praecox* (giant ladies-tresses), *Spiranthes vernalis* (spring ladies-tresses), and *Pogonia ophioglossoides* (rose pogonia). My favorites of these are the *Calopogon* species, because of the wide variety of colors that the flowers exhibit, from pinks and magentas to the rare white form. Many of these colorful species are easily spotted from the road. Another summer species that has been recorded in the past is the very fragrant *Gymnadeniopsis nivea* (snowy orchid), but like *Calopogon multiflorus*, it has not

been seen in several years.

The second orchid flowering season is August-September. This is when the *Platanthera* species are usually at their best. Included are *Platanthera cristata* (crested fringed orchid), *Platanthera flava* var. *flava* (southern tubercled orchid), *Platanthera conspicua* (southern white fringed orchid), and *Platanthera ciliaris* (yellow fringed orchid). Since the latter two have overlapping bloom periods, it is not unusual to find their hybrid offspring, *Platanthera* x *lueri* (Luer's hybrid fringed orchid).

Habenaria repens, water spider orchid

Other species found blooming during this time are *Epidendrum magnoliae* (green-fly orchid), *Habenaria repens* (water-spider orchid), *Tipularia discolor* (crane-fly orchid), *Triphora trianthophora* (three birds orchid), and *Malaxis spicata* (Florida adder's-mouth). *Epidendrum magnoliae* is the only epiphytic orchid found in South Carolina, the remainder are terrestrial orchids. Epiphytic orchids grow on tree trunks or limbs. White false indigo, *Baptisia albescens*. In the Francis Marion, *Epidendrum magnoliae* prefers to grow on live oak, swamp tupelo, or bald cypress.

Epidendrum magnoliae, green-fly orchid

In October and November, several other orchid species bloom and bring an end to the year's orchid show. These species include *Spiranthes cernua* (nodding ladies'-tresses), the fragrant *Spiranthes odorata* (fragrant ladies' tresses), and the unusual *Ponthieva racemosa* (shadow-witch orchid). The latter species prefers the highly basic soils that have resulted from paving the forest service roads with crushed oyster shells. The slightly acidic rainwater leaches out calcium from the shells and deposits it in the adjacent ditches, where *Ponthieva racemosa* thrives.

I find myself wanting to tell everyone I meet about the awesome native plants found in the Francis Marion National Forest, but am constantly reminded by the holes left by poachers that not everyone shares my ethic toward the environment. Fortunately, these illegal diggings are few and far between, but it does cause concern among those of us who love the Francis Marion and hope that it will remain the wild and natural treasure that it is.

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Jim is the author of Wild Orchids of South Carolina: A Natural History, and is currently working on a new book about orchids and carnivores of the Green Swamp in southeastern North Carolina.

Calopogon pallidus, pale grass-pink

Editor's note: Steed Creek Road, so aptly described by Jim as Orchid Alley, is under consideration for "improvement", which includes adding lanes and deepening ditches. This will drastically alter the habitat in the vicinity of the road, and interfere with the currently active controlled burning program by USFS, which is so important to native habitats and wildlife. SCNPS is on record as opposing this plan.

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Fig. 2 This composite image illustrates the overall appearance of a cogongrass infestation, and the nature and location of key features for identification of cogongrass. Note the typical upright shoots of cogongrass.

All photos courtesy of The Bugwood Network www.forestryimages.org

To identify cogongrass in other seasons, look for the dense, upright leafy shoots (figure 2 & inset 6). Look closely at the leaves for the 1/2 inch-wide leaf blades, with a slightly off-center white mid-vein (inset 3). In older leaves the mid-vein may be light yellow. The edges of the leaf blades are harsh and serrated, so be careful. Follow the leaf blade (B) down to where it joins to the leaf sheath (S in inset 4). At the base of the blade is a prominent ligule (L) that clasps the younger leaf (YL) inside it. The sheath (S) and bottom side of the blade (B) will have long hairs (inset 5). This combination of leaf characteristics is a good diagnostic tool for any season of the year.

Beware: Cogongrass is coming!

Bill Stringer, Cogongrass Task Force
Entomology, Soils & Plant Sciences Dept., Clemson University & SC Native Plant Society

We are in one of those moments in time in which a potential disaster is poised at the point where prompt, effective action may avert the problem. That potential disaster is cogongrass, *Imperata cylindrica*, a highly invasive exotic grass that is causing huge problems in ecosystems in the Deep South.

Cogongrass invades forests and grasslands, farmland, and public rights-of-way. It has the potential to dominate these kinds of sites, replacing natural vegetation, as well as forestry and agricultural plants. It has very limited value to any animal wildlife species. It spreads via wind-blown seeds and transported rhizome pieces, with the greatest danger of spread is from seeds. Should this species thwart our efforts to limit its spread, it will have huge impact on our natural areas, hunting lands, and crop-production areas.

The reason for the anxious tone of this article is that we are probably just before the point at which this invasive species may explode across the landscape. The experience with cogongrass development in Georgia (see figure 1) is typical of the development of an invasive pest. The current state of cogongrass development in South Carolina probably corresponds with the situation in Georgia in 2002-2003.

So what must we do to avoid the explosion witnessed in Georgia and the Gulf states? We must be able to detect new infestations of cogongrass early in their development, before they have time to produce seeds and spread. To do this, we need vigilant observers in the countryside, people aware of the scope of the potential problem, and willing to promptly report suspicious-looking plants. We are counting on people whose work or travel takes them down roads, rights-of-way, and into fields and forests across South Carolina, to help detect new infestations. Early discovery and prompt, effective control measures can reduce the chances for spread.

Here is what to look for: You will find cogongrass in open sites to moderate-canopy forest sites, and on dry to moist soils, even soils that are periodically wet, but not in wetlands. It is a warm-season grass that grows in dense, upright stands 2 to 4 feet tall (figure 2). It flowers in mid-spring (inset 1), but can bloom any time in summer. Its seeds mature in fluffy white spikes within 3 to 4 weeks of blooming (inset 2). The seeds are small, with long fluffy hairs that enable them to travel long distances in the wind. The easiest time to identify cogongrass is in this seed-maturing stage. But, if we can't catch it until seeds are present, the chances of seed escape and spread are high.

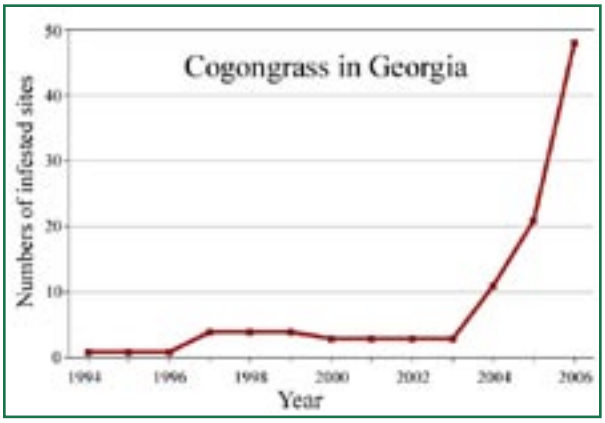

Fig. 1 Cogongrass stands in Georgia, 1994 – 2006. Today, South Carolina is probably similar to Georgia in 2003. Adapted from a Georgia Invasive Species Task Force figure (www.cogongrass.org).

Cogongrass growth may not be so upright in winter and early spring (see figures 3 & 4). However, the very dense growth is still obvious, and any area with a dense cover of grass with wide leaves should be examined.

What should you do if you find cogongrass, or what you suspect may be cogongrass?

- *If you have a camera, get pictures.*
- *If you have a GPS, record the coordinates for the site.*
- *Make note of road or right-of-way info, travel direction and location of plants relative to travel direction.*
- *Get odometer readings back to a defined landmark.*
- *As soon as feasible (don't let the sun go down on your find), report it to the local* ***CU Extension office*** *in your area (http://www.clemson.edu/extension/contact.htm for phone and e-mail listings for local Extension offices.). You can also report your find directly to the* ***CU Department of Plant Industry (DPI)*** *at 864 646 2130 or e-mail scompto@clemson.edu. E-mail any notes, pictures, location info, etc. you might have, and this info will receive prompt attention.*

Fig. 3 Dense winter-killed top-growth of cogongrass.

Fig. 4 Green floppy growth of cogongrass.

If you work or travel in the South Carolina countryside regularly, we will be happy to provide you with easily portable plant descriptions, as well as contact information for reporting any suspicious plants. This is a rare opportunity we have, to possibly stave off a serious environmental problem. Let's work together to make the most of this opportunity.

The USDA Plants Database:
A Review By Bill Stringer

High on the list of bookmarks on my internet browser is http://plants.usda.gov/ , for the US Department of Agriculture's Plant Database website. This site is devoted to an extensive listing of plant species, both native and introduced, found in the USA. It contains photos and line drawings, as well as taxonomic and morphological information on over 40,000 plants, and indicates the "political" status of plants (wetland plants, endangered plants, noxious weeds, and invasive plants). The database can be searched in a number of different ways.

When you enter the site, you can enter a common name or a scientific name (the default is scientific), and upon clicking Go to start the search, you will be taken to a Plant Profile page. If you enter a common name, be sure to highlight common, otherwise you will get no output. Be careful of typos in entering the plant name, as the site is not very adept in correcting your spelling. Use scientific names whenever you can, as common names can be regional in usage, and the Database may not recognize broomstraw, your favorite pet name for broomsedge bluestem *(Andropogon virginicus)*. Also, watch for slightly different endings for scientific names such as *scoparius* vs. *scoparium* (the winner). If you only know the genus name, enter it to get a listing of species under that genus.

If all goes well, you will be taken to a Name Search page where you may see a listing that includes related species in the same genus, or you may see a listing that includes taxonomic synonyms for the species. When you click on a name in the list, you will be taken to a Plant Profile page, from which you can access a variety of information about the species. Commonly there is a picture or a line drawing of the species on the Profile page, and some species may have several images, indicated by thumbnail images. Most of the images can be accessed as a larger version. These images are free for use, as long as you credit the Database as the source.

On the Profile page you can see a map showing distribution of the species around the US, and for many species, you can access distribution data by county within South Carolina. You can also access information on threatened status, wetland status, or invasive status of the plant.

In the gray column where you indicated name type, you can create a list of plants found in a selected State, or you can tailor your search by choosing Advanced search. For example, you can create a list of all plant species found in Greenville County, SC, or you can restrict your list to a certain genus or family. You can refine your list to include only tree species, or you can list by annual vs. perennial (duration). You can create lists of noxious weed species, threatened/endangered species, or wetland species. You can list species with cultural significance (medicinal, historical, etc.), from which you can get a description of the significance for individual species. By selecting the right search criteria, you can meet almost any feasible need for a list of plant species.

The USDA Plants Database contains a large number of plant species and a wide variety of information about them, stored in a searchable format. I recommend you take some time to get familiar with this website. This can be a valuable tool in becoming more "plant-smart".

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