The Journal of the South Carolina Native Plant Society



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Name That Plant!

This time you have some clues to work with. First it's a sunflower. Second, you have several photos of important characters to work with. Ready, set, GO!



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

The Sunflowers of South Carolina

Bill Stringer

The sunflowers are members of the genus *Helianthus* (from Latin *helios* = sun, and *anthus* = flower). Sunflowers were formerly rumored to move to face the sun in its daily path, but careful observation has shown that any attempts to follow the sun cease after the flower head opens. This "failure" does nothing to diminish the beautiful contribution that sunflowers make to our summerearly fall scenery. Blooming sunflowers are an important resource for helping to maintain populations of our native pollinator species. The maturing seeds of *Helianthus* species are widely used by songbirds and other wildlife.

Sunflowers are members of the family *Asteraceae*, species which have composite flowers. What appears to be a flower is actually a composite of many small flowers, or florets, in a disk-like arrangement. A composite flower is also referred to as a head, or inflorescence (meaning a cluster of flowers – see Fig. 1). A composite flower commonly contains two kinds of florets; 1) ray florets and; 2) disk florets. The *ray florets* occur around the margins of the disk, and usually have a strap-like petal attached. The *disk florets* are usually densely packed within the circle formed by the ray florets. The ray florets are commonly pistillate, or female only, while the disk florets are bisexual (containing both pistils and stamens (male). The disk is mounted atop an organ called a *receptacle*, which provides a connection for each of the many florets to the vascular system of the plant. The receptacle is contained within a cup under the flower, formed of green bracts, that attaches the flower to the flower stem, or *peduncle*. This

(See Sunflowers, page 4)



Figure 1. A portion of a sunflower composite flower.

NameThatPlant.net Native and Naturalized Plants of the Carolinas and Georgia

Janie Marlow-developer, NameThatPlant.net

Visitors to the <u>NameThatPlant.net</u> website are usually looking for plant pictures. Since that's what they expect, they often miss some of the site's other interesting features. For instance, clicking the button next to a scientific name allows you to hear the Latin pronunciation. Clicking "Plants National Database" takes you to the same plant on the USDA's <u>Plants</u> website. Clicking under the map takes you to a detailed county-by-county range map maintained by the UNC Herbarium.

In the hurry to look at photos of a species, you might fail to notice that they are displayed sequentially, allowing you to see plant development through the seasons (See Figure 1). Or, you might overlook the photo captions, which may describe some easily missed character that becomes obvious once it's been pointed out. Occasionally, under those photo captions , there may be a line that says COM-PARE. Clicking that will allow you to compare what you're looking at to other similar species (see Figure 2). If you like this kind of thing, you can see more on the Gotcha's page: http://www.namethatplant.net/gotchas.shtml .

The site allows you to search in several ways: by scientific name, common name, family, etc. It also has a "search by plant description." I wish I could tell you that this would take you straight to the plant you're looking for, but I won't. It does work better than it used to, and includes such things as "where did you see it?"; "does the plant have milky sap?" and flower descriptions.

After you've searched and the database has presented you with a list of plants, the tendency is to immediately click into the plant detail pages. Instead, I encourage you to use the dropdown box at the beginning of the list to toggle between (and compare) the flower/ sepals or bracts/ leaf/ fruit/ map & habitat of

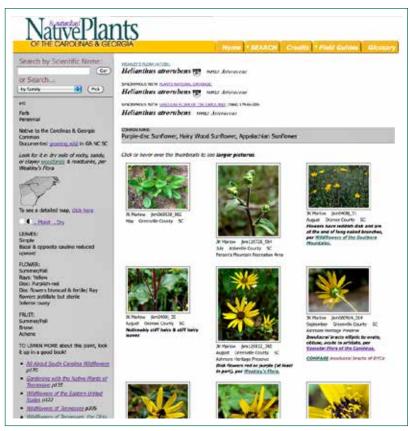


Figure 1. NameThatPlant's plant detail page provides photos of and information about a plant's range, origin, habitat, leaves, flowers, and fruit. Also a list of books and/or links to other sites.



Figure 2. NameThatPlant makes it easy to compare a species to similar species.

the various species (see Figure 3) or manipulate the "sortable table of key characters" by clicking column headers. Brand new to the site are beta versions of "teaching keys" (see Figure 4) which provide the immediate feedback of simple illustrations and species lists that change with each selection. See http://www.namethatplant.net/keys.shtml.

The site includes the entire text of <u>South Carolina's Natural Wildflower Com-</u><u>munities</u> from Drs. Porcher and Rayner's A Guide to the Wildflowers of SC, as well as the botanical glossary from Ron Lance's Woody Plants of the Blue Ridge, and numerous articles of botanical interest.

Now and again I hear from folks who've used <u>NameThatPlant.net</u>. It was one of the tools used by a PTA mom who discovered two federally listed plants on the nature trail behind her son's elementary school. And just this spring, the curiosity of a birder who used the site to check out plants he'd see led to the state's first documentation of the seriously invasive Fig Buttercup, *Ficaria verna*. Known to be a noxious weed in the Northeast, but apparently not even on the radar yet in SC, Fig Buttercup (also known as Lesser Celandine) is often sold as a look-alike alternative to the rare Marsh Marigold, *Caltha palustris*.

The NameThatPlant.net website was built to fill a need that, in 2002, few people seemed to see. I longed for a plant identification site with a local focus that would be easy to use — dare I say fun? — but technically accurate and content-rich. I'm not a botanist: my role is the visual presentation of other people's knowledge, closer to a scribe than an author. I'm grateful to the many people who have taken time to contribute talent, skills or knowledge to <u>NameThatPlant.net</u>, making it a tool that can help equip each of us to better appreciate the wonders that surround us.



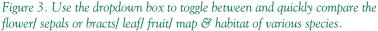




Figure 4. Genus teaching keys provide the immediate feedback of simple illustrations and species lists that change with each option selected.

Sunflowers, from page 1)

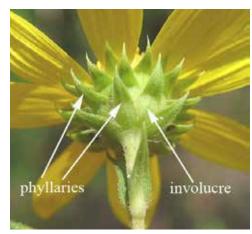






Figure 4. Phyllary shapes (rounded vs. linear or lanceolate).

Figure 2. Receptacle of a composite flower

cup structure is called an *involucre*. The bracts are referred to as *involucral bracts*, or *phyllaries* (see Fig. 2).

Identifying characters of sunflower species

Distinguishing among species can sometimes be challenging, but fortunately there are several aspects of sunflower plant structure where diversity is found, so with a little attention to detail we can separate them pretty dependably. If the plant you are looking at is <u>vegetative</u> (no flower buds or flowers yet), the characters of interest are the stems and leaves. The stems can be green, blue-green, or red-purple (see Fig. 3). The stems may be *glabrous* (smooth), *scabrous* (rough-textured) or hairy. Smooth stems may also be *glaucous*, which means the surfaces have a waxy bloom.

The leaves may be mostly *basal*, or they may be *cauline* (distributed over the length of the stem). They may occur across from each other at each node (*opposite*), or neighboring leaves may attach at separate nodes (*alternate*). The leaf blade may be attached directly to the stem (*sessile*), or it may be attached by a petiole. The petiole may be bare, or it may have leaf blade tissue growing along its length (*decurrent*). The leaf blades come in a variety of shapes (see http://0.tqn.com/d/forestry/1/0/y/t/leaf_shape. JPG), and may be glabrous, hairy or scabrous (for more



Figure 3. Stem texture

detailed definitions, see http://www.karensgardentips.com/
botany-for-gardeners/ .)

If flower buds or heads are present, you have more means of differentiating among species. The *phyllaries* that surround the involucre may be long and linear, or they may be more rounded (see Fig. 4). They may be tight to the involucre, or they may be spreading. There will be from one to several rings of phyllaries. After the flower head has emerged from the bud, more species differences emerge. The petals attached to the *ray florets* come in a range of lengths, and they may be sparse or numerous. The disk that is made up of the *disk florets* may be yellow, red or purple.

All sunflower species are herbaceous, which means that the above-ground parts die back to the soil in our winters. <u>Annual</u> species have no over-wintering parts, which means that they must regenerate from seeds every year. A <u>perennial</u> species has to have a vegetative means of generating new shoots next spring. New shoots can develop from buds that develop on the *crown* of the plant. These buds survive the winter, and produce new shoots from the ground level in the spring. *Rhizomes* are thickened root-like structures that develop underground from the crown of the plant. They grow horizontally and bear buds that can produce new shoots during the current season or next growing season (see Fig. 5). These new

> shoots can emerge some distance from the parent shoot, so some sunflowers can spread vegetatively. A few sunflowers will produce tubers, which are thickenings on the roots or rhizomes which store energy, and have buds which can also produce new shoots.

Some 25 species of sunflowers are found naturally occurring within the borders of our state. They occur in every county in the state, mostly in dry to mesic soil, with a few species extending into wetter sites. Most species are perennial, with only four species existing as annuals. We will examine each one in alphabetic order by



Figure 5. Woodland sunflower rhizomes, courtesy of Bill Stringer

Latin species name. The photos are chosen to display some of the distinguishing characters of the species, with a nod to space limitations.

Swamp sunflower (*H. angustifolius*) is found mainly in the coastal plains counties, but is also found in the northern piedmont in wet to mesic sites.

<u>Perennial</u>; <u>Stems</u> 3 - 6 ft, scabrous; <u>Leaves</u> sessile, linear, scabrous; <u>Phyllaries</u> linear, acute; disk red – purple, rays 2 - 4 cm; <u>Roots</u> fibrous, very short rhizomes.

Common sunflower (*H. annuus*) is the common sunflower planted in gardens and as a field crop. It is the source of edible sunflower seed, and is ubiquitous in the State. <u>Annual; Stems 3 – 8 ft.</u>, scabrous; <u>Leaves</u> with petioles, triangular, scabrous; <u>Phyllaries</u> ovate, disk reddish, rays 3 – 6 cm; <u>Roots</u> fibrous.

Purple-faced sunflower (*H. atrorubens*) is probably found in every county in the State, in mesic to dry sites. <u>Perennial</u>; <u>Stems</u> 2 – 4 ft., pubescent; <u>Leaves</u> mostly basal, with decurrent petioles, scabrous; <u>Phyllaries</u> ovate, disk red – purple, rays 3 – 5 cm; <u>Roots</u> fibrous, very short rhizomes.

Cucmberleaf sunflower (*H. debilis*) is found in the Sandhills and Coastal Plain counties, in wet to mesic sites. <u>Annual; Stems</u> 1.5 – 6 ft, scabrous; <u>Leaves</u> lanceolate, scabrous, 3 – 6 cm petioles; <u>Phyllaries</u> lanceolate, disk reddish, rays 3 – 5 cm; <u>Roots</u> fibrous.

Thin-leaf sunflower (*H. decapetalus*) is found mainly in the upper Piedmont and Sandhills counties on mesic sites. <u>Perennial</u>; <u>Stems</u> 4 – 8 ft, glabrous; <u>Leaves</u> wide lanceolate, scabrous, serrate, 1.5 cm decurrent petioles. <u>Phyllaries</u> very long, lanceolate, disk yellow, rays 3 – 4 cm; <u>Roots</u> fibrous, rhizomes. **Woodland sunflower** (*H. divaricatus*) mainly in the Piedmont with a scattering in the Sandhills and Coastal plains, on mesic to dry sites. Perennial; Stems 2.5 – 4 ft, glabrous; Leaves lanceolate,

scabrous, sessile; <u>Phyllaries</u> lanceolate, disk yellow, rays 3 – 4 cm; <u>Roots</u> long rhizomatous.

Florida sunflower (*H. floridanus*) is found only on the Coastal Plain, on mesic sites. <u>Perennial</u>; <u>Stems</u> 3 – 6 ft, scabrous; <u>Leaves</u> linear, pubes-

cent, sessile; <u>Phyllaries</u> linear lanceolate, disk red-purple, rays 2 – 4 cm; <u>Roots</u> fibrous, rhizomes.

Giant sunflower (*H. giganteus*) is found scattered around the Piedmont, on mesic to wet sites. <u>Perennial; Stems</u> to 10 ft, scabrous; <u>Leaves</u> long-lanceolate, scabrous, short petioles; <u>Phyllaries</u> lanceolate, spreading, disk yellow, rays 2 – 4 cm; <u>Roots</u> fibrous, long rhizomes.

White-leaf sunflower (*H. glaucophyllus*) is found in the northernmost counties of the Piedmont, and in the Savan-nah River valley, in mesic shady sites.

<u>Perennial;</u> <u>Stems</u> 2 – 6 ft, glabrous; <u>Leaves</u> long-lanceolate, scabrous above / white undersides, petioles to 5 cm; <u>Phyllaries</u> lanceolate-spreading, disk yellow, rays 2 – 4 cm; <u>Roots</u> fibrous, long rhizomes.

Variable-leaf sunflower (*H. heterophyllus*) is found mainly in the Coastal Plains counties, on wet sites. <u>Perennial</u>; <u>Stems</u> 2 – 4 ft, long pubescent; <u>Leaves</u> elliptic (basal) and linear-lanceolate (stem), scabrous, decurrent petioles; <u>Phyllaries</u> ovate, disk red-purple, rays 3 – 5 cm; <u>Roots</u> fibrous, short rhizomes.

Hairy sunflower (*H. hirsutus*) is found in the western Piedmont, Sandhills, and Coastal Plain counties, on mesic to wet sites.

<u>Perennial;</u> <u>Stems</u> 3 - 6 ft, scabrous; <u>Leaves</u> long lanceolate, thick, serrate, scabrous, petioles to 1.5 cm; <u>Phyllaries</u> long lanceolate, disk yellow, rays 3 - 4 cm; <u>Roots</u> fibrous, long rhizomes.

Cheerful sunflower (*H. laetiflorus*) is found in the upper Piedmont and upper Coastal Plains counties, on mesic to dry sites.

<u>Perennial;</u> <u>Stems</u> to 8 ft, scabrous – pubescent; <u>Leaves</u> long lanceolate, serrate, scabrous, upper leaves sessile; <u>Phyllaries</u> lanceolate, disk yellow, rays 3 – 5 cm; <u>Roots</u> fibrous, long rhizomes. **Smooth sunflower** (*H. laevigatus*) is found mainly in the eastern Piedmont counties, on mesic to dry sites. <u>Perennial; Stems</u> 2.5 – 10 ft., glabrous; <u>Leaves</u> lanceolate, glabrous, petioles 3 – 10 cm; <u>Phyllaries</u> lanceolate, disk yellow, rays 1- 3 cm; <u>Roots</u> fibrous, long rhizomes.

Maximilian's sunflower (H. maximiliani) is found scattered around the Piedmont, on mesic sites. <u>Perennial</u>; <u>Stems</u> 3 – 8 ft, scabrous; <u>Leaves</u> long lanceolate, scabrous, sessile; <u>Phyllaries</u> lanceolate-spreading, disk yellow, 3 – 5 cm; <u>Roots</u> fibrous, long rhizomes.

Small-headed sunflower (*H. microcephalus*) is found throughout the Piedmont and Sandhills, on mesic to dry sites.

<u>Perennial;</u> <u>Stems</u> 2.5 – 8 ft, glabrous; <u>Leaves</u> lanceolate, pubescent, long petioles; <u>Phyllaries</u> long lanceolate, spreading, disk yellow, rays 1 - 3 cm; <u>Roots</u> fibrous, long rhizomes.

Ashy sunflower (*H. mollis*) is found in a few counties in the Piedmont and upper Coastal Plains, on mesic to dry sites.

<u>Perennial</u>; <u>Stems</u> 2 - 4 ft, densely pubescent; <u>Leaves</u> lance-ovate, chordate bases, densely pubescent, sessile; <u>Phyllaries</u> lanceolate with tips reflexed, disk yellow, rays 3 - 5 cm. <u>Roots</u> fibrous, long rhizomes.

Few-leaf sunflower (*H. occidentalis*) has been documented in SC, but no location map was found. It occurs in mountain counties of NC and GA, however.

<u>Perennial;</u> <u>Stems</u> 2.5 – 4 ft, long pubescent; <u>Leaves</u> widely ovate, thick, pubescent, sessile; <u>Phyllaries</u> ovate, disk yellow, rays 3 – 5 cm; <u>Roots</u> fibrous, slender rhizomes.

Prairie sunflower (*H. petiolaris*) is found in widely scattered locations around the State, on mesic to dry sites. <u>Annual; Stems to 3 ft, scabrous; Leaves lanceolate, ser-</u> rate, scabrous, long petioles; <u>Phyllaries lanceolate and</u> spreading, disk red-purple, rays 3 – 5 cm; <u>Roots</u> fibrous.

Porter's sunflower- aka **Confederate daisy** (*H. porteri*) is found in the upper Piedmont on shallow soils over granite outcrops.

<u>Annual; Stems</u> 1 - 2.5 ft, pubescent; <u>Leaves</u> linear, scabrous, sessile; <u>Phyllaries</u> one ring only, lanceolate, spreading, disk yellow, rays 2 - 4 cm; <u>Roots</u> fibrous.

Rayless sunflower (*H. radula*) is found on the lower Coastal Plain, on mesic to dry sites. <u>Perennial</u>; <u>Stems</u> 1.5 to 3 ft, pubescent; <u>Leaves</u> basal half of stem, elliptic, pilose, decurrent petioles; <u>Phyllaries</u> purple, ovate, disk purplish-red, no ray florets. <u>Roots</u> fibrous, very short rhizomes.

Resin-dot sunflower (*H. resinosus*) is found scattered widely across the State, on mesic to wet woods edges. <u>Perennial</u>; <u>Stems</u> 2 – 6 ft, pubescent; <u>Leaves</u> lanceolate, pubescent, decurrent petioles; <u>Phyllaries</u> long-lanceolate,, pubescent, recurved, disk yellow, rays 2 – 6 cm; <u>Roots</u> fibrous, rhizomes.

Schweinitz's sunflower (H. schweinitzii) is found in a few locations in the lower Piedmont and Sandhills. <u>Perennial</u>; Stems 2 – 5 ft, pubescent upper, glabrous lower; <u>Leaves</u> lanceolate, scabrous above, pubescent below, sessile; <u>Phyllaries</u> lanceolate, disk yellow, rays 2 – 3 cm; <u>Roots</u> with tubers.

Pale-leaf sunflower (*H. strumosus*) is found in the western half of the Piedmont, Sandhills and Coastal Plain, on mesic to dry sites.

<u>Perennial;</u> <u>Stems</u> 2.5 to 6 ft, glabrous; <u>Leaves</u> lanceolate, serrate, thick, scabrous, 1 – 3 cm petioles; <u>Phyllaries</u> lanceolate, spreading, disk yellow, rays 3 – 5 cm; <u>Roots</u> fibrous, long rhizomes.

Jerusalem artichoke (*H. tuberosa*) is found in the Piedmont and upper Coastal Plain, on mesic sunny sites. <u>Perennial</u>; <u>Stems</u> 3 – 6 ft, pubescent; <u>Leaves</u> lance-ovate, serrate, scabrous, 3 – 5 cm petioles; <u>Phyllaries</u> lanceolate spreading, disk yellow, rays 3 – 5 cm; <u>Roots</u> many rhizomes with edible tubers in autumn.

These are the *Helianthus* species that occur naturally in our State. They are hardy and well-adapted to the habitats found here. They fulfill important niches in our plant communities, providing food for many species of wildlife and pollinators. And they contribute color and texture to the beauty of our roadsides and other open habitats. So I hope you will go out during mid-summer to mid-fall and see what sunflowers you find in your part of our State.

*Shaded areas on maps indicate presence of species.









Cucumber-leaf sunflower, *H. debilis*, courtesy of american-farms.com



Swamp sunflower, *H. angustifolius*, courtesy of Choess at http://commons.wikimedia.org/wiki and Dan Tenaglia http://www.alabamaplants.com



Thin-leaf sunflower, *H. decapetalus*, courtesy of David G. White at www.delawarewildflowers.org



Annual sunflower, H. annuus, courtesy of Edible Wild Plants



Woodland sunflower, *H. divaricatus*, courtesy of Dan Tenaglia at http://www.missouriplants.com









Florida sunflower, *H. floridanus*, courtesy of http://majik-phil.blogspot.com



Purple-faced sunflower, *H atrorubens*, courtesy of Jean Everett, Ph. D., College of Charleston





Giant sunflower, H. giganteus, courtesy of K. Chayka at www.minnesotawildflowers.info



Cheerful sunflower, *H. laetiflorus*, courtesy of SB_Johnny at http://commons.wikimedia.org/wiki/File:Helianthus_x_laetiflorus_001.JPG



White-leaf sunflower, H. glaucophyllus, courtesy of Jeffrey S. Pippen, http://www.jeffpippen.com



Smooth sunflower, H. laevigatus, courtesy of Kenneth Lawless



Variable-leaf sunflower, *H. heterophyllus*, courtesy John Gwaltney at http://www.southeasternflora.com



Hairy sunflower, H. hirsutus, photo by David Taylor, USDA-Forest Service







Maximillian's sunflower, *H. maximilliani*, courtesy of Dan Tenaglia at http://www.missouriplants.com







No location map was found



Few-leaf sunflower, *H. occidentalis*, courtesy of John Hilty at http://www.illinoiswildflowers.info and A.L. Gibson at http://floraofohio.blogspot.com



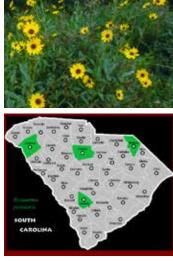
Small-headed sunflower, *H. microcephalus*, courtesy of DenPro at http://www.blogger.com/ and Dan Tenaglia at http://www.missouriplants.com







Ashy sunflower, H. mollis, courtesy of DenPro at http:// www.blogger.com/ and Dan Tenaglia at http://www.missouriplants.com



Prairie sunflower, *H. petiolaris*, courtesy of Dave Powell, USDA Forest Service, Bugwood.org and Kurt Schaefer at http://www.opsu.edu/Academics/SciMathNurs/NaturalScience/PlantsInsectsOfGoodwell/index.html



Porter's sunflower (Confederate daisy) *H. porteri*, courtesy Franz Xaver http://commons.wikimedia.org/wiki/ File:Helianthus_porteri_1.jpg







Rayless sunflower, H. radula, courtesy Dan Tenaglia http://www.alabamaplants.com







Schweinitz' sunflower, H. schweinitzii, courtesy of Trena McNabb and Tom Harville, http://www.ncwildflower.org/







Resin-dot sunflower, H. resinosus, courtesy of Janie Marlow, http://www.namethatplant.net





Pale-leaf sunflower, H. strumosus, courtesy of DenPro at http://www.blogger.com/





Jerusalem artichoke, H. tuberosa, courtesy of David G. White at http://www.delawarewildflowers.org

Activities and Accomplishments of the Upstate Chapter of the SC Native Plant Society

The South Carolina Native Plant Society was established to be a pro-active force on behalf of our State's natural resources, with our focus on the preservation and protection of native plant communities. Our stated goals are:

To educate and inform members and the general public about the importance of native plants; To support efforts by government and private agencies to protect natural habitats and endangered species; To encourage the use of native plants in public and private landscaping; And to promote the commercial availability of (non-wild-dug) native plants.

We pursue these goals through a variety of activities, and it has seemed from time to time that members and/or the public may not be adequately aware of the range and level of activities the Society engage in. We are an allvolunteer organization, and the accomplishments below represent the time and effort contributed by interested, motivated Society members.

Below is the first in a series of reports by the various SCNPS Chapters to briefly describe some of the Society's activities on behalf of our State's natural resources. Submitted by the Upstate Chapter, the report covers a period of approximately 2008 to the present. The Upstate Chapter is active in the western half of the upper piedmont region. Meetings are held in Greenville and in Central, which is near Clemson. The Upstate Chapter is the oldest chapter, having founded SCNPS in 1996.

Educational activities:

- The Chapter holds monthly meetings, open and promoted to the public, in which a knowledgeable speaker presents on a topic related to native plants, native wildlife and natural habitats.
- The Chapter publishes a monthly newsletter, disseminating information on Society activities, as well as other news or issues of interest.
- Chapter members have provided numerous articles on native plants and native plant issues to area newspapers and magazines.
- Chapter members have made numerous invited presentations to local and regional environmental, gardening and other such groups. These presentations have covered a range of topics such as historical vegetation communities, invasive plants, native plant propagation and native plant-wildlife relationships.
- The Chapter has hosted two statewide native plant symposia. Chapter members also led the planning

process for a **national** native grass symposium hosted in Columbia. The Eastern Native Grass Symposium featured invited and volunteered talks and an array of field trips around the State. Participants came from all over the US, Canada, and the Caribbean.

- The Chapter has organized numerous educational field trips to important native plant habitat areas; participation is available to members and to the public. We have made field trips available to school and college students and Scouts.
- Chapter members have participated in environmental curriculum development at the state and local presecondary school level; also presentations to college classes at invitation of university instructors.
- Chapter members have assisted in development of native plant habitat gardens in schoolyards, parks and other public sites. Chapter members have also formed a team to manage at least one public native landscape garden.
- The Chapter has provided scholarships for college students and native plant activists to attend regional native plant symposia.
- The Chapter has put together and staffed, annually, an educational booth at the regional Home & Garden Show to inform the public as to the desirability of native plant options in home and corporate landscapes.
- The Chapter publishes numerous educational handouts and makes these available to members and to the public at meetings, field trips, and other events.

Community restoration

- The Chapter has led native seed collection efforts to support efforts by US Forest Service to plant more local-source native species.
- The Chapter has led in native seed collections to supply local-source seeds for establishment of SC Botanical Garden's Natural Heritage Garden, as well as Pickens County public restoration projects.
- The Chapter has organized plant rescues and replantings to re-establish native plant habitats in Lake Conestee Nature Park in Greenville.
- Chapter members have participated in regular invasive species removal projects in SCDNR Heritage Preserve sites.

- The Chapter has taken the lead in establishing a native meadow community at the SCDNR office in Clemson.
- The Chapter has performed invasive species removal from sites in public areas in Greenville, resulting in the release of jack-in-the-pulpit, trilliums, orchids and other beautiful native plants.
- Chapter members have conducted plant surveys on conservation easement properties for the Spartanburg Area Conservancy.
- The Chapter has put in place temporary measures to protect a globally rare plant species (bunched arrowhead) from habitat degradation, while at the same time developing a sound long-term protection plan and pursuing grant funding in collaboration with an elementary school administration and faculty to install the long-term measures.

Promoting sustainable native plant material availability

- The Chapter hosts twice-yearly native plant sales. Native herbaceous plants, vines, shrubs and trees are offered for sale that are otherwise scarcely available in our area.
- Several Chapter members have started up native plant propagation enterprises.

Advocacy for protection of native plant communities

- The Chapter engaged in the Save Our Saluda coalition's initiative to discourage unwise development of riparian and near-riparian areas on the Saluda River.
- The Chapter engaged in a coalition-style effort that led to the public acquisition and protection of the Stumphouse Mountain tract in Oconee County.
- The Chapter led an effort by environmental groups to assure that the splendid wildflower sites in Station Cove (Oconee County) would be safe from mountain bike trail traffic. Contributed volunteer effort and funds to re-locate a foot trail into the site and to erect an informational kiosk on site.

This is a partial list of activities carried out by the Upstate Chapter in support of native plant education, promotion, protection and restoration. Jerusalem artichoke. At the risk of seeming a bit immodest, we have to admit to being a bit proud of our accomplishments, while striving for ways and resources to do even more. We are making progress, but there is still much that needs to be done.

Autumn is Easy if you are a New Tree or Shrub

Aaah, Autumn! The days are getting shorter, and the high heat and water requirement of summer are waning. There's still lots of sunlight, but the sun angles are lower, so soil and plant tissues stay cool and comfortable. So, if you are a newly transplanted tree or shrub, life is good! You have the small ball of roots you were able to grow in that darn little pot they put you in, so one of your top priorities for a while is growing roots into the soil around your new home. With those shortening days and lowering sun angles, you don't have to work so hard to get enough water. So your root system can concentrate on getting bigger and more vigorous. You also have time to stash away a little stored energy to pass the winter on and to use for "cranking up" next spring.

And then there's that whole spring blooming-pollination-fruiting thing! What a big distraction that is! That diverts energy away from growing bigger shoots and roots. Fortunately for you, that can wait for six or seven months. Six or seven months in which you can relax, grow some new shoots and a lot of roots. So then when your first flowering season arrives, you are in a better position to enter the adult world of reproducing the species.

Now, if you are a human thinking about establishing or improving your landscape, first and foremost, BUY NATIVE! Your local songbirds and other wildlife will appreciate it tremendously. Then think about coming to the South Carolina Native Plant Society Fall Native Plant Sales to purchase your native trees, shrubs and herbaceous perennials. Then you can dig those holes, plant your new friends at just the right depth, water them carefully, and count on seeing them prospering next spring, and ready to take on the world! OK, so it's football season! God plants trees seven days a week, so planting a few native trees and shrubs on Sunday

afternoon is probably OK for you too!

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