



SINISTER SEDUCTION: HOW PITCHER PLANTS ENTICE THEIR PREY

By Lisa Kruse

Svelte and stately, or squat and trollish, pitcher plants beguile not only bugs, but humans. Their carnivorous habit fascinates, especially since they have no moving traps. There are over 100 species of pitcher plants that occur on four continents (Asia, Australia, and the Americas). Each has tubular leaf traps that collect rainwater and secrete digestive enzymes. They lure small animals to these death-pools with elusive sweet nectar and striking colors. However, pitcher plants are not all close relatives; this prey-luring mechanism has evolved many times. Pitcher plant species occur in four plant families, Bromeliaceae, Cephalotaceae, Nepenthaceae, and Sarraceniaceae, which are each in a different taxonomic order of flowering plants.

Georgia's pitcher plants are all in the genus *Sarracenia*, which is endemic to North America. In just this one genus, there are distinct differences in carnivory. This article highlights three of Georgia's seven *Sarracenia* species: *S. flava*, *S. minor*, and *S. purpurea*.

Sarracenia flava, aka trumpet pitcher plant or yellow flytrap, is a grand species whose bright yellow-green pitchers can be up to a meter tall. *S. flava* is one of Georgia's more common pitcher plants, and its range is the southeastern Coastal Plain from Alabama and the Florida panhandle up through the Carolinas to Virginia.

Nectar production is concentrated near the lip of the pitcher, with the heaviest concentrations just above the opening beneath the lid (Fig. 1). Going for the gold, insects navigate to this precipitous overhang. There's no good grip here—a waxy surface with downward pointed hairs in the

pitcher below cause any misstep to spell disaster as the insect slips into the trap and the digestive liquid within.

Sarracenia minor is a conniving bug killer known as the hooded pitcher plant, both for its street cred as well as the nearly closed, dome-shaped lids on its pitchers (Fig. 2). This species offers up its nectar—pure bug bling—at the entrance to its pitchers, which are shaded by the hood. Sparkling at the back of the hood are translucent patches where chlorophyll is lacking in the leaf. Illuminated in sunlight, these “windows” draw insects that explore the entrance to the trap, and, misled by the light, they fly toward this false escape route. The unwitting victims collide

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Figure 1: *Sarracenia flava*
Photo by Stewart McPherson



Figure 2: *Sarracenia minor* Photo by Christa Frangiamore

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President's Perspective



BotSoc News

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Our annual meeting will be held on Saturday, July 30th, and I hope you all join us. We will announce the location in the July newsletter and before that, in the weekly email and list it on the web site. I am finalizing plans now. It will be somewhere relatively cool at the end of July. We will have a short walk before lunch followed by the meeting. Join us to celebrate the 90th birthday of the Georgia Botanical Society.

Last month BotSocers took to the bogs for a super pilgrimage headquartered in Valdosta. At the banquet, Lisa Kruse, DNR Botanist, gave us a brief talk about conservation easements and what an important part they play in protecting habitat. Then Dr. Debbie Folkerts of Auburn University described how pitcher plants interact with their prey and other fauna present in bogs.

We presented Lisa Kruse with a check for \$5,000.00 to support DNR's efforts to protect and conserve coastal plains bogs. You can read about it here:

<https://georgiawildlife.wordpress.com/2016/04/18/georgia-botanical-societys-year-of-the-bog-raises-profile-of-coastal-plain-bogs/>

Georgia DNR distributes this e-news to 80,000 people. The article was also featured in an AT&T yahoo group electronic newsletter and shared on Facebook. Charles Seabrook will be writing about the pilgrimage in his Atlanta Journal Constitution column on Saturday, April 23rd and mentioning our gift in a later story.

We have received thanks and praise from members of DNR at many levels and from the personnel at Oconee River Land Trust who are working with DNR on this project. We have gotten quite a bit of publicity and good will from this gift in addition to our objectives to preserve bogs and to educate people about the importance of this rare natural community.

I want to personally thank you for your donations to habitat conservation which the Board of Directors voted to match. You have enabled us to help protect one of the rarest natural communities in Georgia. I hope you are all as proud as I am to be a member of BotSoc.

Also, take note on page 3 of one of the new programs we are starting this year. This project is a joint venture between BotSoc and GNPS to provide education classes for beginners and non-botanists. These classes are free and a benefit of membership. Many thanks to Susan Caster (BotSoc) and Leslie Edwards (GNPS) for putting this program together. I think it's going to be very popular with members of both organizations.

Maureen Donohue

Bog references for this issue's article:

- Stewart McPherson. 2007. **Pitcher Plants of the Americas**. The McDonald & Woodward Publishing Company. Blacksburg, VA
- Donald E. Schnell. 1976. **Carnivorous Plants of the United States and Canada**. John F. Blair, Publisher. Winston-Salem, NC.
- Alan S. Weakley. 2012. **Flora of the Southern and Mid-Atlantic States**. Working Draft of 30 November 2012. University of North Carolina Herbarium (NCU), North Carolina Botanical Garden, University of North Carolina at Chapel Hill, Campus Box 3280, Chapel Hill, NC 27599-3280

Society News

Introductory Plant ID Workshop Series

The Georgia Botanical Society is partnering with the Georgia Native Plant Society to offer an ongoing Introductory Plant Field ID Workshop series, beginning this year. The goal is to enable beginners and non-botanists to identify many common native plants of Georgia in the field, and to understand how the plants relate to their environment. The workshops will cover particular plant families and how to recognize common Georgia plants within the families. Field ID, rather than keys, will be the means of identification for this introductory series, and the workshops will emphasize common names in addition to teaching the scientific names. During the first year, we will start in the Georgia Piedmont and learn about the Heath family (Ericaceae) Aster family (Asteraceae), Grass family (Poaceae) and Pine family (Pinaceae).

The workshops this year will follow a standard approach. We will start with a trailhead or classroom introduction to the family, including key traits that are observable in the field; ways to distinguish them from similar looking families; and a brief discussion of their ecology. On the trail we will stop at about ten plants and learn how to recognize them, some interesting facts about them, and the natural community they are in.

Each workshop will be limited to 14 participants. The first workshop will focus on the Heath family (Ericaceae), including azaleas, pipsissewa, and mountain laurel. It will be held on May 7, 2016 at 10 am in the Chattahoochee River National Recreational Area. Susan Caster will lead the workshop. The first seven requests to participate from each organization will be sent details on the meeting place location. The workshops are free and are open ONLY to members of GNPS or GBS. Membership will be verified prior to acceptance into the workshop. For questions about the series, email Susan.Caster@gmail.com.

Sosebee Cove Fig Buttercup Update

For the past five years, BotSoc has been conducting workdays at Sosebee Cove in the early spring in an effort to control a very aggressive invasive exotic species – *Ficaria verna*, fig buttercup. This year, as a result of the steadily declining numbers of plants seen the past two years, no work day was planned, to allow the native vegetation and soil a year off from our trampling. On March 25, a reconnaissance of Sosebee Cove located only nine fig buttercup plants, which were removed. We have made excellent progress - going from several lawn garbage bags of removed plant material to just nine plants (for comparison, the nine plants today collectively were about half the mass of a normal human thumb).

A big thank you to all the folks who have worked on this effort through the years, those who wanted to but were unable to, and to the U.S. Forest Service (in particular Ranger Jim Wentworth). It has been a team effort and we are winning this battle. Still too early to celebrate, but the light at the end of the tunnel is getting much brighter. ~ Rich Reaves

A Fond Farewell

We have just learned of the death Margret Voss on April 3rd, 2016. She and her husband, Jorg, have been longtime members of BotSoc. They always attended the annual pilgrimage until recently when Margret was not well enough. Margret will be remembered for her kindness, generosity and intelligence. She had an enduring love of nature and animals, and she advocated for the protection of the environment.

We send our condolences to Jorg and their sons, Erik and René.

Pitcher Plants (cont'd from page 1)

with the back of the pitcher and fall straight down to their demise. Like *S. flava*, *S. minor* is one of Georgia's more common Coastal Plain pitchers, more tolerant of drought and soil disturbance than most of its congeners. Its distribution is from Florida to the Carolinas.

Sarracenia purpurea, the purple pitcher plant, contrasts strongly in form with other Georgia pitcher plant species. Its stocky pitchers are nearly supine, and their wide-open lids offer no protection from the diluting effects of rainwater on their digestive enzymes (Fig. 3). *S. purpurea* relies less on enzymes than other pitcher plant species, and its enzyme production declines as the leaves age. This brings us to a new frontier: pitcher plants do not operate alone in their flesh-consuming universe.

Digestion in all *Sarracenia* is aided by a microcosm of bacteria, unique in its species composition to the realm within their pitchers. *S. purpurea* has even greater complexity. Three species of insect larvae inhabit the food web enclosed in its pitchers, that of a fly, a midge, and a mosquito. Each is associated only with the purple pitcher plant. They specialize in feeding on carcasses of drowned insects. The midge and the fly larvae shred prey into more quickly decomposing parts, while the mosquito larvae filter feed on smaller prey remnants suspended in the milieu. All of the food web inhabitants assist in breaking down prey into the nutrients the pitcher plants need.

Sarracenia purpurea has several varieties; the species broadly occurs in the Southeastern U.S. north into Canada, growing widely across the boreal regions of North America. In Georgia it is incredibly rare. In this state, the mountain purple pitcher plant occurs naturally in only one location and the Coastal Plain purple pitcher plant occurs only in two counties.

All of Georgia's *Sarracenia* species are threatened in the wild due to pressures from human population growth. Particularly problematic are disturbances that disrupt the seeping water flows in their fragile wetland habitats, or that allow more aggressive plants to compete for sun and water. Therefore, wetland drainage, intensive timber practices, and fire suppression are primary threats to pitcher plant species. In Georgia, *Sarracenia* conservation is a primary project of the Georgia Plant Conservation Alliance, whose partners work on many fronts - ecological, horticultural, and educational - to preserve pitcher plant populations and their habitats.

Nonetheless, you can enjoy and showcase *Sarracenia* at home, as they are relatively easy to maintain in cultivation. If you would like to add *Sarracenia* to your garden, take utmost care to purchase plants grown ethically from appropriately sourced seed. It is critical that *Sarracenia* are never collected from the wild. They are a delight to observe throughout the seasons. In the spring, nascent pitchers emerge in brilliant colors. In late summer and autumn, the nectar can be so strong insects coming to your wildflowers will inevitably be diverted to the deadly pitchers. In winter, slice open their senescent leaves to observe the animal remains within. You may even find a dragonfly or an unfortunate anole! In endless ways, *Sarracenia* are an incredible part of Georgia's natural heritage.



Figure 3: *Sarracenia purpurea*
Photo by B. Wilson

Field Trip—First Trip of the Year

Text and Photos by Scott Ranger

The day was perfect! Crystal blue skies, comfortable temps about 50°F, and twenty folks slowly following Ellen Honeycutt at a proper glacial speed on the trails of the **Big Trees Forest Preserve** in Sandy Springs learned about winter tree identification. A pair of Red-shouldered Hawks put on a show above us as we gathered.

As usual, it didn't take too much walking out of the parking lot for our first stop where Ellen begins to demonstrate and give tips on what to look for when identifying winter trees. We slowly head downslope through a woods full of invasive species yet towered over by old trees of magnificent stature and follow along the banks of Powers Creek.

Some of the trees examined closely include the MADwoods (Maples, Ashes, and Dogwoods) that have opposite leaves. Quite a number of shrubs have opposite leaves as well, such as buckeye (in this case the shrubby red buckeye (*Aesculus pavia*)) and a viburnum. These represent one easy way to narrow down the tree at hand when one is not sure about identification.

Three trees species with marcescent leaves provided color to the understory. The nearly ubiquitous American beech (*Fagus grandifolia*) outnumbered the other two probably 100:1 and this woods has a much higher percentage of large, mature beech than most places in the Piedmont of Georgia. It is thought that hanging onto leaves helps the tree from herbivory, here white-tail deer.

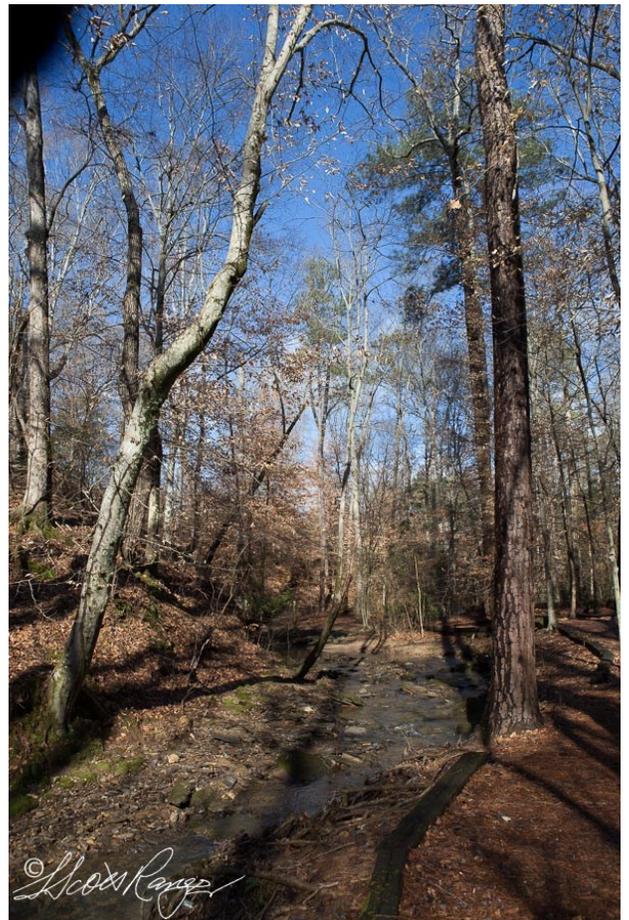
Folks got into touchy-feely stuff with the chalk maple (*Acer leucoderme*) as the underside of the leaves, even this late into the winter season, feels velvety to fingertips. It's confusing relative Florida maple (*Acer barbatum*) just feels crunchy.

American hophornbeam (*Ostrya virginiana*) holds its leaves a long time as well, but they aren't near as showy as the beech and maple. Lenny Borg points out that some call this the "cat scratch tree" as the shaggy bark looks like cats have been working on it. A few examined the leaves which are singly serrate, a character that separates them from the commonly found companion American hornbeam (*Carpinus caroliniana*) with its doubly serrate leaves (the serrations have serrations!). Since hornbeam (also called musclewood or blue beech) loses its leaves we couldn't compare the two today.

The BotSoc has walked this trail several times for a winter walk and an elm tree still defies identification! Ellen showed the asymmetrical leaf base that is characteristic of the elm family and the bark that is not typical of the tree Piedmont elms (American, slippery and winged) but rather the brown, green and orange jigsaw puzzle piece bark of Chinese or lacebark elm (*Ulmus parvifolia*). None of us have gone back to examine the tree when leafed out!

Several of us chuckled quietly about the folk art of two Canadian or eastern hemlock trees (*Tsuga canadensis*) still decked out with Christmas ornaments. What a great way to start the 2016 BotSoc field trip year! Thanks Ellen!!

Field Trip Photos



Photos above and left: Pictures from Big Trees Forest Preserve field trip; photos by Scott Ranger



Left: BotSoccers on boardwalk at The Pocket at Pigeon Mountain; photo by Mike Christison.
Right: BotSoccers examine a native palm on the Wolf Creek field trip; photo by Rona Cook.

Field Trip - The Pocket of Pigeon Mountain

Text and Photos by Mike Christison

For many of us in Botsoc, spring doesn't really begin until the last week of March and the annual Botsoc Field Trip to the Pocket of Pigeon Mountain. There is a reason for this: the mesic forest along the Shirley Miller Wildflower Trail, with its rich calcareous valley floor, produces spectacular wildflower displays throughout late winter and spring, but usually peaks in late March. As this area is a "thumb" off Lookout Mountain and is part of the Cumberland Plateau, it contains many plants rarely found in Georgia.

On this date, 28 Botsocers started the field trip by rock hopping across the small creek at the end of the parking lot to a thin woods beside the water. Here we saw the first of a never ending trail of wildflowers, including long-spurred violet (*Viola rostrata*), blue cohosh (*Caulophyllum thalictroides*), rue anemone (*Thalictrum thalictroides*), lanceleaf trillium (*Trillium lancifolium*), and a large number of trailing trillium (*Trillium decumbens*). After this introduction, we headed to the Shirley Miller Wildflower Trail to see the main events of the morning: yellow wood poppy (*Stylophorum diphyllosum*), Virginia bluebell (*Mertensia virginica*) and bent trillium (*Trillium flexipes*), all of which were in good bloom. We found Ohio buckeye (*Aesculus glabra*), rare in Georgia, in beautiful flower. The bluebells were particularly numerous this year and we followed them well past the end of the boardwalk. Along the rocky path to the bottom of Pocket Falls, we spotted the delicate Bishop's cap (*Mitella diphylla*), purple Phacelia (*Phacelia bipinnatifida*), and doll's eyes (*Actaea pachypoda*), and many bent trillium and wood poppy. Due to recent rains, the double waterfalls was spectacular.

After lunch, we walked on the old roadway to the top of the falls. On the way, we passed the tiny Cumberland spurge (*Euphorbia mercurialina*), stonecrop (*Sedum ternatum*) and some hard to find pennywort (*Obolaria virginica*). Above the falls was an enormous patch of trout lily (*Erythronium americanum*) in peak bloom. We discovered that the twin leaf (*Jeffersonia diphylla*) was mostly past bloom, but we did manage to find one excellent specimen in flower. Finally, at the springs at Blue Hole, we found one of the highlights of the day, goldenseal (*Hydrastis canadensis*), in fine bloom. A perfect end to a wonderful beginning of spring.



Left: Large-flowered bellwort (*Uvularia grandiflora*); Right: Bent trillium (*Trillium flexipes*)

Upcoming Field Trips

<p>May 1 10:00 AM</p> <p>Note: This is a Sunday</p>	<p>Tennessee Rock Trail at Black Rock Mountain State Park</p> <p>This is an easy to moderate 2.2 mile loop trail in Georgia's highest elevation state park (3,640 feet). We will walk through deciduous forests to see spring ephemeral wildflowers such as yellow mandarin, bellworts, Indian cucumber-root, showy orchis, and Solomon's seal, as well as several Trillium species. There is also a small boulderfield with masses of Canada violet, may apple, umbrella-leaf, and blue cohosh.</p> <p>For more detail on this hike, see the Nourses' "Favorite Wildflower Walks in Georgia."</p>	<p>Directions: Drive north on U.S. Highway 441 to Mountain City. Look for the brown state park sign and turn left onto Black Rock Mountain Parkway. Drive west up the mountain to the park's Visitor Center to use the facilities. Meet at the trailhead which is about 0.5 mile before you reach the Visitor Center and has no facilities. [Black Rock Mountain State Park, 3085 Black Rock Mountain Parkway, Mountain City, GA 30562]</p> <p>Walking: Mostly moderate with some easy and some strenuous stretches. Total distance 2.2 miles.</p> <p>Bring: \$5 parking fee or Georgia State Park Pass, 10x hand lens, sturdy shoes for hiking, trekking poles, cool-weather and rain gear, lunch, water.</p>	<p>Linda Chafin lchafin@uga.edu 706-548-1697</p>
<p>May 7 10:00 AM</p> <p>Note: registration required.</p>	<p>Woody Gap</p> <p>This trip will start at Woody Gap and follow a little-known trail southeast along Cedar Ridge. We will first stop to see a huge population of wood betony, <i>Pedicularis canadensis</i> which is usually in full flower in early May. Afterward, we'll hike about a quarter mile uphill to a site where you can actually see eastern Indian-paintbrush, <i>Castilleja coccinea</i>, up close and in relative safety. The same area has a population of small yellow lady's-slipper, <i>Cypripedium parviflorum</i> var. <i>parviflorum</i>.</p> <p>When we have sated ourselves on bright red and brilliant yellow flowers, we will continue to the top of the ridge to a rock outcrop with magnificent views to the south. After we return to Woody Gap, we may drive down to the Chestatee Overlook (less than 2 miles south) to look for pink lady's-slippers.</p> <p>Pre-registration required: Contact the trip leader directly to sign up.</p>	<p>Directions: Woody Gap is north of Dahlonega in the Chattahoochee National Forest. Take GA 60 (either the Bypass or the Business route) north from Dahlonega. US 19 and GA 60 split at Rockpile Gap, take GA 60 to the left. The parking lot is on the right side just as you crest the ridgeline after a long, winding uphill stretch. Woody Gap is approximately 14 miles from Dahlonega.</p> <p>Facilities: Yes.</p> <p>Walking: This hike is mostly easy with a moderate uphill climb in the beginning. Both the Indian paintbrush and the yellow lady's-slippers are off-trail and will require walking through some serious poison ivy, as well as uneven rocky ground and deep leaf litter. Total walking will be less than 1.5 miles.</p> <p>Bring: Dress for the weather. Bring a lunch to eat at the outcrop. Those susceptible to poison ivy or particularly beautiful vistas should plan accordingly. Because of the short distances, we will have more</p>	<p>Hal Massie massiehome@aol.com 478-957-6095</p>
<p>May 8 10:00 AM</p> <p>Note: This is a Sunday</p>	<p>Lake Winfield Scott Loop Trail</p> <p>We will hike for one mile on the narrow, steep Jarrard Gap Trail up to Jarrard Gap and the Appalachian Trail, then return to the lake and campground via the same trail. We'll then walk around the lake and through the campground on relatively flat surfaces, for a total of about 3.5 miles. (Those who wish to follow the originally planned, six-mile hike along the Appalachian and Slaughter Creek Trails can leave the group at Jarrard Gap and continue on their own.) After we return to the Jarrard Gap trailhead at the lake, we will eat lunch, so there will be no need to carry lunch on the Jarrard Gap Trail portion of the hike.</p> <p>Limit: 12 people. Contact trip leader prior to April 28.</p>	<p>Directions: Take GA 400 north until it ends just south of Dahlonega. Turn left onto Ga Hwy 60 and take GA 60 around Dahlonega. Continue for about 15 miles on Hwy 60, heading toward Suches. Drive through Stone Pile Gap, bearing to the left at the pile of rocks to stay on GA 60. Shortly after the lake, watch for Ga Hwy 180 on the right (there is a service station/convenience store at that corner). Turn right on Hwy 180 and go for about 4.5 miles. Turn right into Lake Winfield Scott Recreation Area, pay the \$5 entrance fee, then continue to the parking area above the lake. Meet at trailhead.</p> <p>Facilities: At the bathhouse on the lake near the meeting site.</p> <p>Walking: Mostly moderate with some easy and some strenuous stretches. Total distance 5.5 miles.</p> <p>Bring: \$5 per vehicle for entrance fee to Lake Winfield Scott, sturdy shoes for hiking, trekking poles, rain gear, lunch, extra water.</p>	<p>Linda Chafin lchafin@uga.edu 706-548-1697</p>

Upcoming Field Trips

<p>May 13 10:00 AM</p> <p>Note: This is a Friday</p>	<p>Fort Stewart Military Installation, Fort Stewart</p> <p>Ft Stewart is a mosaic of many habitats including longleaf pine-wiregrass sandhill, and longleaf, loblolly, and slash pine flatwoods communities. There are hardwood/cypress/gum drains, swamp forest, seeps, bogs, and bottomland. At more than a quarter-million acres, Ft Stewart manages the largest remaining acreage of the longleaf-wiregrass ecosystem in Georgia.</p> <p>We will encounter an abundance of rare, native, and coastal plain endemic species as well as the habitats of silky camellia (<i>Stewartia malacodendron</i>), hooded pitcherplant (<i>Sarracenia minor</i>), shiny coneflower (<i>Rudbeckia nitida</i>), trailing krameria (<i>Krameria lanceolata</i>), fever-tree (<i>Pinckneya bracteata</i>), snowy orchid (<i>Platanthera nivea</i>), dwarf witch-alder (<i>Fothergilla gardenii</i>), and smooth coneflower (<i>Echinacea laevigata</i>).</p>	<p>Directions: From I – 16: Take I-16 to exit 127 GA Hwy 67. Take Hwy 67 south to Pembroke. Stay straight through traffic light – note road number will change to GA Hwy 119. Continue south for 17.5 miles to the intersection of GA Hwy 119/144. From I-95: Take Exit 90 in Richmond Hill. Go west on GA Hwy 144 for 20 miles to GA Hwy 119. Turn north (right) onto GA Hwy 119 and travel for about 0.5 miles to the intersection of 119/144. Meet at: The unpaved parking area located at the intersection of Hwy 119 and Hwy 144.</p> <p>Difficulty: Easy to moderate.</p> <p>Facilities: None</p> <p>Bring: Lunch, snacks, and water. Dress appropriately for woods hiking and the weather. Dress for insects and remember insect repellent (the mosquitoes here are unrelenting). Wear comfortable hiking shoes. You may wish to bring binoculars, hand lens, notebook, and camera.</p>	<p>Larry Carlile and Dee Mincey</p> <p>912-767-8241</p> <p>Lawrence.d.carlile.civ@mail.mil</p> <p>912-531-2124</p> <p>Henry.d.mincey2.civ@mail.mil</p>
<p>May 14 8:30 AM</p> <p>Note: Early start time</p>	<p>Flint River Canoe Trip and Shoals Spider Lily Walk</p> <p>This beautiful river offers an interesting array of flora due to the Coastal Plain – Piedmont interface. This float begins at Spruill Bluff and winds along a five mile section ending at the outfitters. Suitable for beginners, the Flint offers several Class I / II rapids along our route.</p> <p>Contact the trip leader in advance if you plan to attend.</p>	<p>Directions: We will meet at the Flint River Outdoor Center 4429 Woodland Road Thomaston, GA 30286 at 8:30 a.m. There is a small shuttle fee. Bring your own boat or rent canoes and kayaks from the outfitters. If you would like more information on rentals or to reserve a canoe or kayak please call Flint River Outdoor Center at 706-647-2633.</p> <p>Facilities: Yes.</p> <p>Difficulty: Suitable for beginners with some experience canoeing or kayaking on rivers.</p> <p>Bring: Lunch, snacks, sunscreen, hat, rain gear, and water. Camera, binoculars, and hand lens are recommended. Bring a day pack or other bag and also a water proof container or bag for your valuables.</p>	<p>Jerry Hightower</p> <p>770-206-0338</p> <p>jerryhightower@hotmail.com</p>
<p>May 22 10:00 AM</p> <p>Note: This is a Sunday</p>	<p>Palisades Canoe Float Spring Flora</p> <p>Bring your own canoe or kayak and join the Georgia Botanical Society and naturalist Jerry Hightower for a leisurely float on the Chattahoochee River. We will float a three-mile section of the river from Powers Island to Paces Mill at US Hwy 41, exploring plants, geology, and wildlife, including an extraordinary array of late spring wildflowers. There are three mild Class 1.5 rapids suitable for beginners along this part of the river. The Palisades have narrow floodplains and steep ridges rising to over 1,000 feet. The area offers a great diversity of habitats and includes oak-hickory forest, steep north-facing slopes, mesic ravine forest, and floodplain forest. Created by the geologic action of the Brevard Fault, the river, and the effects of weather, this is a rugged and beautiful section of the river. We will stop at Devil's Stair Step Beach (Diving Rock) for lunch and a short loop walk.</p> <p>Pre-registration is required with the trip leader.</p>	<p>Directions: Meet at Powers Island, 5862 Interstate North Pkwy., Sandy Springs, Georgia at 10:00 a.m. to unload equipment. We will then take the majority of the vehicles to Paces Mill and shuttle the drivers back to Powers Island. Please let Jerry know if you have a multi-passenger vehicle and could help with the shuttle.</p> <p>Facilities: Yes</p> <p>Bring: Lunch, sunscreen, hat, rain gear, and water. Camera, binoculars, and hand lens are recommended. Bring a day pack or other bag to secure items inside your boat. \$3.00 daily parking pass or annual parking pass needed.</p>	<p>Jerry Hightower</p> <p>770-206-0338</p> <p>jerryhightower@hotmail.com</p>

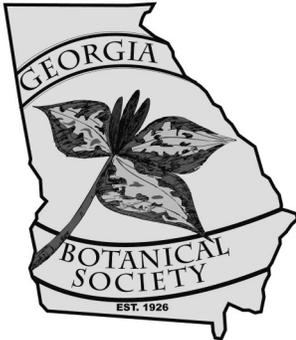
Upcoming Field Trips

<p>May 28 9:30 AM</p> <p>Note: Early start time</p>	<p>Roadside Botanizing: Cohutta Mountains, Gilmer & Fannin Counties</p> <p>We will drive along the Forest Service roads stopping to look at flowers along the way. There will be several short excursions from the cars, always along the road. We can expect to find several trilliums, 4-leaved milkweed (<i>Asclepias quadrifolia</i>), wild geranium (<i>Geranium maculatum</i>), Solomon's seal (<i>Polygonatum biflorum</i>), lily-of-the-valley (<i>Convallaria majuscula</i>), wood betony (<i>Pedicularis canadensis</i>), fire pink (<i>Silene virginica</i>), and much more. Some years the Indian pink (<i>Spigelia marilandica</i>) has been very nice and occasionally we come across some yellow ladyslippers.</p>	<p>Directions: Take I-575/ GA 515 north to East Ellijay to turn left on GA 52. At ~5 mi west of the square on GA 52, turn right on Gates Chapel Rd. When pavement ends the road will fork, take Wilderness Trail/ FR 90 (dirt road to the right). At ~0.9 mi do not turn left at WMA sign for Pinhoti Trail. Continue 0.1 mi to Pinhoti Trail Parking on right on FS90. Carpooling is encouraged to minimize our parking footprint on the narrow unpaved roads.</p> <p>Facilities: No.</p> <p>Walking: Easy, within walking distance of cars.</p> <p>Bring: Water, snacks, camera, lunch, bug spray.</p>	<p>Rich Reaves rich.reaves@att.net 770-827-5186 (c)</p>
<p>May 29 10:00 AM</p> <p>Note: This is a Sunday</p>	<p>Roadside Botanizing: Coweeta Hydrologic Laboratory (CHL), Otto, NC</p> <p>We will drive along the Forest Service roads stopping to look at flowers along the way. There will be several short excursions from the cars, always along or just off of the road. In past years, on or about this date, we have seen approximately fifty species of wildflowers and flowering shrubs blooming along the route we will be taking. Among these are alumroot (<i>Heuchera americana</i>), whorled loosestrife (<i>Lysmachia quadrifolia</i>), poke milkweed (<i>Asclepias exaltata</i>), goat's beard (<i>Aruncus dioicius</i>), false goat's beard (<i>Astilbe biternata</i>), Michaux's saxifrage (<i>Saxifraga michauxii</i>), speckled wood lily (<i>Clintonia umbellulata</i>), including a striking deep purple color variant. If we are lucky, we may also see pale (rock) harlequin (<i>Corydalis sempervirens</i>), if the season is delayed, and/or small (lesser) purple fringed orchid (<i>Platanthera psycodes</i>), if the season is running a little late. Of course, many of the common montane spring ephemerals will be on display, including several of the trilliums and Solomon's seal.</p>	<p>Directions: GA Hwy 441 north through Clayton and Dillard, GA. Measuring from the GA/NC line, just north of Dillard, go north on Hwy 441 for 3.4 miles. Look for the Coweeta Hydrologic Laboratory U.S. Forest Service sign on the left. Turn here and proceed down Coweeta Lab Road for 3.0 miles. At the lab, you will see a fork in the road, with Ball Creek Road (FS 83) on the left and FS 751 on the right. The main lab office is located between the two roads at the fork. The student dorms are located a short distance down FS 751 (on the right). We will meet in the parking lot behind the main office and carpool.</p> <p>Walking: Easy, probably all within 500 feet of cars.</p> <p>Facilities: The student dormitory will be open for "visitation" before we start, during a mid-trip break when we move from FS 751 to Ball Creek Road and at the end of the field trip.</p> <p>Bring: Lunch, water, bug spray.</p>	<p>Don Hunter caverdon24@gmail.com 706-207-0013</p>
<p>May 30 10:00 AM</p> <p>Note: This is a Monday</p>	<p>Reed Branch Wet Meadow Preserve</p> <p>Reed Branch Wet Meadow is a Nature Conservancy Preserve that protects the only natural population of Federally Endangered green pitcher plant, <i>Sarracenia oreophila</i> in Georgia. It is also the last example in Georgia of a low mountain bog. Besides pitcher plants, Reed Branch is host to numerous plants normally associated with the coastal plain, such as colic root (<i>Aletris farinosa</i>) and sundew (<i>Drosera</i> sp.), among others. If we are lucky, we will find a beautiful, if ghostly, orchid - ragged fringed orchid, <i>Platanthera lacera</i>. The preserve encompasses 8 acres, with the green pitcher plants concentrated into about 1 acre of the property.</p> <p>The upper portion of the Preserve may require that we walk through a very narrow trail in dense vegetation. It will be important to stay in single file and be careful where you step. Reed Branch is not open to the public and we have special permission for this trip. This is a very sensitive area – please follow the guidance of the trip leaders and obey all restrictions.</p>	<p>Directions: Reed Branch is between Hiawasse and the North Carolina state line. Take US 76 to Hiawasse from either the west or east. In Hiawasse, turn north on GA 75 and go approximately 3 miles to Mull Rd., which will be on the left. If you see a sign that says 'Welcome to North Carolina', you have gone too far. Almost immediately after turning left onto Mull Road, there will be a parking area on the left just behind a gate.</p> <p>Facilities: None. Last facilities are in Hiawassee.</p> <p>Difficulty: This will be a very easy walk.</p> <p>Bring: Camera, hat (nearly the entire preserve is in the open), hand lens, lunch, sunny disposition.</p>	<p>Hal Massie and Rich Reaves massiehome@aol.com 478-957-6095 rich.reaves@att.net 770-827-5186 (c)</p>

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<p>Jun 4 10:00 AM</p>	<p>Lake Winfield Scott Fungal Foray</p> <p>This is an easy to moderate walk with some easy off-trail walking in and about Lake Winfield Scott National Recreation Area. We will be looking for fleshy mushrooms and any other fungi we come across, both large and small. Our emphasis will be on diversity and ecology. We have permission to collect one or two samples of what we find, which we will bring back to a central location, spread out, and review at the end.</p> <p>Fungi are the primary decay organisms that cycle plants back into plants; they're critical enablers of plant nutrition through roots; and they can be parasites or predators of plants as well. With perhaps 4,000 species of fungi (not to mention slime molds) in the Georgia mountains, we'll have lots to work with! For botanists, come learn about "the rest of the story..."</p>	<p>Directions: Drive north on U.S. Highway 441 to Mountain City. Look for the brown state park sign and turn left onto Black Rock Mountain Parkway. Drive west up the mountain to the park's Visitor Center to use the facilities. Meet at the trailhead which is about 0.5 mile before you reach the Visitor Center and has no facilities. [Black Rock Mountain State Park, 3085 Black Rock Mountain Parkway, Mountain City, GA 30562]</p> <p>Walking: Mostly easy to moderate, slow, poking about in the woods. Total distance about 1.5 miles, about 4 hours.</p> <p>Bring: \$5 parking fee or Georgia State Park Pass, 10x hand lens, sturdy shoes for hiking, trekking poles, cool-weather and rain gear, lunch, water. A hand lens and small basket would be useful.</p>	<p>Bill Sheehan bill@productpolicy.org 706-247-2500</p>
<p>Jun 5 10:00 AM</p> <p>Note: This is a Sunday</p>	<p>Chestatee River Canoe Float & Late Spring Flora</p> <p>The beautiful Chestatee River flows out of the mountains north of Dahlonega into the Chattahoochee and is an easy 6.3 mile float punctuated with several very mild rapids.</p> <p>Paddle past banks covered with rhododendron and mountain laurel, ferns, and wildflowers. River birch, oaks, and sycamores tower overhead, draped with muscadine, Virginia creeper, and cross vine. Sheer cliffs slip into currents that flow around the remains of old gold mining operations.</p> <p>We will stop at Big Bend Beach for a picnic lunch and perhaps a swim. This river is more beautiful than the gold beneath its waters. This will be a very leisurely float with multiple investigative stops to fondle plants, terrorize turtles, and startle snakes.</p> <p>Please contact Jerry Hightower at 404-953-9331 or via email if you are planning to join this trip.</p>	<p>Location: We will meet at the Appalachian Outfitters Outpost on Highway 60 near Dahlonega at 10:00 a.m. There is a small shuttle fee. Bring your own boat or rent canoes and kayaks for the outfitters. If you would like more information on rentals or to reserve a canoe or kayak please call Appalachian Outfitters at 1-800-426-7117.</p> <p>Facilities: Restrooms and changing rooms are available at Appalachian Outfitters Outpost.</p> <p>Difficulty: Suitable for beginners with some experience on rivers. Class 1.5</p> <p>Bring: Lunch, snacks, sunscreen, hat, rain gear, and water. Camera, binoculars, and hand lens are recommended. Bring a day pack or other bag and also a water proof container or bag for your valuables.</p>	<p>Jerry Hightower 770-206-0338 jerryhightower@hotmail.com</p>
<p>Jun 25 10:00 AM</p>	<p>Fern Workshop and Walk</p> <p>Meet at Davidson-Arabia Mountain Nature Preserve to learn more than you ever thought possible about ferns. A lecture will introduce ferns using live samples, microscopes and hand lenses, also included will be a field guide/resource review. Bring your hand lens if you have one and your favorite fern guides. Followed after lunch by an easy two-mile stroll on the forested "Fern Trail" to sort out fern genera in the field.</p> <p>Likely finds will be Like finds will be <i>Athyrium</i>, <i>Asplenium</i>, <i>Dryopteris</i>, <i>Marselia</i>, <i>Phegopteris</i>, <i>Pleopeltis</i>, <i>Polystichum</i>, <i>Thelypteris</i>, and more!</p>	<p>Location: Davidson-Arabia Mountain Nature Preserve, DeKalb County</p> <p>Facilities: Yes.</p> <p>Difficulty: Easy to moderate.</p> <p>Bring: Lunch, snacks, hand lens if you have one and your favorite fern guides.</p>	<p>Teri Nye tnye@terinye.com 404 664 8224 (c)</p>

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