



ALL HAIL THE APPLE MAGGOT

As Darwin so famously claimed 150 years ago, natural selection drives the origin of species. While most of us think of evolutionary change as occurring over hundreds of thousands of years, ecological speciation (also known as reproductive isolation) can occur within just a few generations. In a recent commentary for the New York Times, evolutionary biologist Olivia Judson discusses how quickly populations of our native phytophagous insects become reproductively isolated after colonizing introduced exotic plants. Thinking of these new species, Ms. Judson argues that just as we bemoan extinctions, we might also take time to celebrate the arrival of new species - and to illustrate her point, offers up the apple maggot as reason enough for a party.

Rhagoletis pomonella, the apple maggot fly, is in the process of splitting into two species. Until the mid-1800s, *R. pomonella* was a hawthorn fly: adults met at hawthorn fruits to mate and lay eggs. But when apples were introduced to North America, some haw flies found these fruits attractive places to gather and began to mate and lay their eggs on apples instead. Today, the population of flies that like apples have become genetically distinct from those that like haw.

There are a couple of reasons why. First, flies meet each other at fruits. Since most flies have a preference for one fruit over the other, haw-preferring flies tend to meet other haw-preferring flies, and ditto for apple flies.

Second, these mating preferences are reinforced by differences in how well the flies survive. Attributes that help maggots survive on haw are different from those that promote survival on apples. Apple trees produce fruits earlier than hawthorn, and apple-specialists must thus emerge from their pupae earlier, or they risk missing the fruit. Emergence is under genetic control, so you might expect that apple flies and haw flies would have genes that predispose them to emerge at different times - and they do. As a consequence, if, say, an apple fly should happen to go to a haw instead and mate with a haw fly, their offspring will have a mix of haw and apple genes. It will thus be poorly suited to both fruits and less likely to survive.



So why don't we consider the apple specialists a new species? Because they aren't quite all the way there. From time to time, flies reared on apple will come to hawthorn to mate. And although the offspring of such a mating are less likely to survive, they aren't inviable or sterile. This means that there is still a low level of "gene flow" - i.e., successful sex - between the two groups. But because offspring from such matings have a survival disadvantage, it seems likely that there will come a time when the separation will be complete, and we will be able to raise a cheer of welcome for the newly speciated apple maggot. Yippee!

I can sense your excitement. And perhaps that's the real reason we don't celebrate apple maggots, or any of the other new species (and there are many we know about) that are in the process of evolving. For when a new species does appear, it's just not that different from the old species. To evolve the flamboyant differences that distinguish a swan from a duck, or a human from a chimpanzee - that takes thousands, even millions, of years.

And that is what we lose with extinction.

Excerpted from "All Hail the Apple Maggot" by Olivia Judson (<http://judson.blogs.nytimes.com/2008/11/18/all-hail-the-apple-maggot/>).

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Photo of the
apple maggot fly
(*Rhagoletis pomonella*)
from Central Science
Laboratory, Harpenden
Archive, British Crown,
bugwood.org.

**BotSoc News**

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Society News

2010 FIELD TRIPS & WORKSHOPS

We have an extensive and varied schedule next year. There are several new locations: McIntosh Reserve in Carroll County, the Monastery of Our Lady of the Holy Spirit in Rockdale County, Paulding Forest in Paulding County, and the Freeman trail in Lumpkin County.

This year we are offering several North Carolina trips, one for a weekend and two for a day each.

You have an opportunity to spend Memorial Day weekend walking and botanizing in the mountains.

We're continuing to broaden the days on which we offer trips with several more weekday trips and a few Sunday or Sunday afternoon trips.

We're returning to old favorites too - the Pocket at Pigeon Mountain, the Lake Winfield Scott Loop, Ocmulgee Bottomlands, and Oaky Woods in Houston County.

We'll continue to visit our state parks: Sweetwater Creek for spring wildflowers, Providence Canyon for Plumleaf Azela, and Stone Mountain park for trout lilies. And we'll offer a series of full and half day trips in the Chattahoochee River NRA throughout the flowering seasons.

Plant inventories will continue at Redtop Mountain State Park.

We have scheduled two workshops: one on geology, entitled Rocks 'n' Bots and one on the Environments of the Piedmont. Advance registration will be required for both.

We hope to offer a herbarium tour at UGA in Athens in late February, but are unable to confirm the date as of press time. Please continue to check the web site www.gabotsoc.org for the latest information. We'll also send out an email when we have more information.

Maureen Donohue,
Field Trip Chair

NATIVE GARDENING IN THE SOUTHEAST

SATURDAY, FEBRUARY 13, 2010

CHATTAHOOCHEE TECHNICAL COLLEGE

The Georgia Native Plant Society (GNPS) invites all Georgia Botanical Society members to attend their 15th Plant Symposium at a special rate of \$50. Among the topics to be presented are native vines, hollies, trilliums, plant identification, plant propagation, plant communities, and climate change and plant phenology.

Download a registration form and more information from their website
(www.gnps.org) or call 770-343-6000.

Book Review

Wicked Plants: The Weed that Killed Lincoln's Mother and Other Botanical Atrocities

reviewed by
Bob Linn

The term “natural” applied to various foods in grocery stores and elsewhere is often seen as an assurance of a more nutritious and healthful product. However, as the recent book *Wicked Plants: the Weed that Killed Lincoln's Mother and Other Botanical Atrocities* by Amy Stewart makes clear, the word “natural” often means just the opposite of healthful. While few plants are as vicious as Audrey II in the cult movie *Little Shop of Horrors*, wild plants can summon defenses against predators just as animals can. In truth, it's a jungle out there.

Plants have evolved mechanisms like colorful blooms and strong scents to attract friends (like bees and other pollinators) but also use strategies like the irritating oils in poison ivy to keep potential foes away. Often, plants with attractive blooms can have very unattractive side effects. For example, monkshood (*Aconitum napellus*) is a beautiful wildflower that is also extremely toxic. Gardeners are advised to wear gloves around the plant and its carrot-like root is deadly when eaten. In 2004, the Canadian actor Andre Noble died after eating monkshood on a hike.

While *Aconitum napellus* is a European native, other *Aconitum* species grow in the US, both in the wild and as hybrids for gardens. They are all poisonous to some degree. Of interest is the fact that *Aconitum* is part of the Ranunculaceae (buttercup) family and that its roots can be mistaken for horseradish. Not only is the plant deadly, it's tricky.

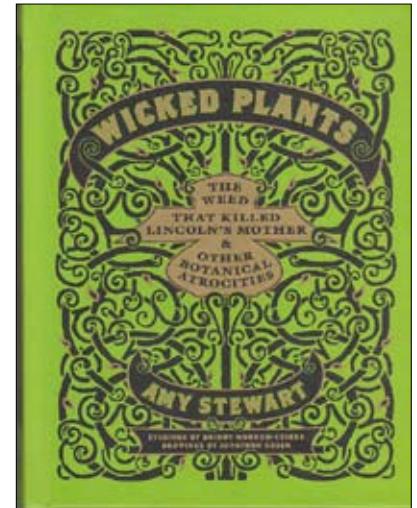
Recent scholarship has suggested that the Lewis and Clark expedition was nearly ruined by a wild plant. Expedition members may have eaten *Zigadenus elegans*, helpfully called “death camas” (though not labeled as such for the explorers) while they were in an area near the Bitterroot Mountains. Stewart quotes dietician Elaine Nelson McIntosh, who thinks that death camas was mistaken for the edible blue camas (*Camassia quamash*). This error caused serious illness among expedition members for two weeks. *Z. elegans* grows only in the western U.S. In north Georgia, *C. scilloides* or wild hyacinth is a non-poisonous relative. A National Geographic website warns, “No plants of the genus *Zigadenus* should ever be eaten.” And so you are warned.

Abraham Lincoln's mother Nancy Hanks (and the example used in the book's subtitle) died from “milk sickness” after drinking milk that had been tainted with white snakeroot (*Eupatorium rugosum*; now known as *Agertina altissima*). In fact, several other members of the Lincoln family as well as neighbors died from the same source. It is probably just chance that Abe himself was not killed. White snakeroot is kin to Joe Pye weed (*E. purpureum*), a plant reputed to have medicinal value.

Stewart's book does much more than simply report on poisonous plants. She also includes short chapters on psychoactive plants, carnivorous plants, and destructive plants (think kudzu). All of this is done in brief informative chapters that make this an entertaining book to browse.

One serious idea that comes out of Stewart's discussions is the idea that “natural” is not a useful word when applied to supposedly healthful products. Nature is filled with incredible beauty as well as unbelievable ugliness and with both beneficial plants and deadly ones. Sometimes people take herbal remedies because they are labeled “natural,” but what makes a remedy beneficial is not the plant itself but the active chemicals in it. The ingredients of death camas are natural, but include the poisonous compound tremetol as an active ingredient. Plants are studied to determine if these active ingredients are beneficial (digitalis in foxglove, for example), dangerous (tremetol in death camas) or simply non-existent (tests have shown that *Echinacea* has no effect on colds though it is not harmful either).

Like our instructions to field trip participants, this book admonishes BotSoccers to not pick the plants but also warns us not to snack on



Wicked Plants: The Weed that Killed Lincoln's Mother and Other Botanical Atrocities

written by Amy Stewart

illustrated by Briony Morrow-Cribbs

Hardcover
223 pages
Algonquin Books of Chapel Hill
Chapel Hill, NC
2009

The Native Garden

GROWING NATIVES ISN'T ALWAYS EASY

SOME GEORGIA PLANTS TO CHALLENGE ANY GARDENER

by Hal Massie

A typical list of native plants for the landscape is usually based on some ornamental aspect or the value of the plant to wildlife. Not so in this case. All of these plants do have ornamental quality or wildlife value, but the factor that binds them all, from a cultivation perspective, is that none of them are easy to grow!

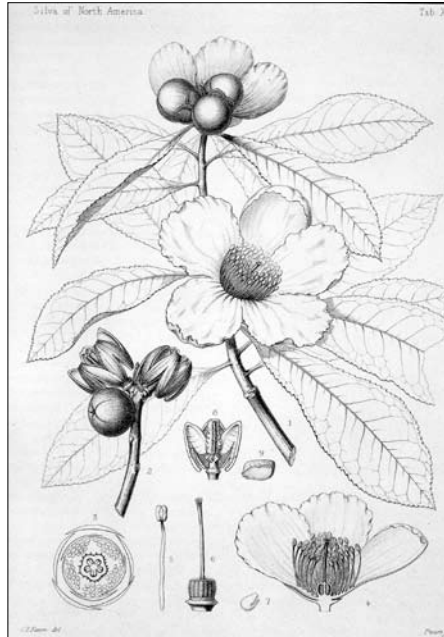
Over the years, I've grown quite a few unique and interesting plants. I've always liked the challenge of growing rare plants, particularly rare natives, and I like having obscure plants in the garden to stump visitors. Sometimes I'll try a plant that isn't particularly rare, but has a reputation for being hard to grow.

The key word is "try". I have to confess that I am not always successful.

If you like growing natives in the landscape and are up to a serious challenge, try these plants:

Franklinia alataamaha: If a plant that is extinct in the wild can be called rare, Franklinia is the rarest plant in Georgia. Discovered in 1765 by John and William Bartram, this shrub of the tea family (Theaceae) hasn't been seen again in the wild since at least 1803. Fortunately for the horticultural world, the Bartrams collected specimens in 1770 and grew them, quite successfully, in their Philadelphia garden. All Franklinias in the nursery trade today are descended from those plants.

My experience with growing this shrub ranges from death within weeks to one plant that lived for over nine years. That particular plant bloomed twice before succumbing, possibly to drought. It appears that the critical factor in cultivating this plant is perfect drainage. The Franklinia specimen that I had the most success with spent four years in large pots before I planted it in the ground. When I finally decided to dig a hole, I planted the Franklinia at



Franklinia (*Franklinia alataamaha*)
Drawing from the Library of Congress in James L. Ravel's *Gentle Conquest, The Botanical Discovery of North America*.

the very edge of a slope under the high shade of mixed pine and hardwoods. The planting area was amended with perlite, sand, and ground pine bark to improve drainage.

All of the large Franklinias that I have seen in botanical gardens were planted in similar conditions – slopes under high shade. I do find it curious that Franklinia, a plant supposedly endemic to southeastern Georgia, thrives in Pennsylvania. What clue does this offer about the cultivation of Franklinia, or even the origins of this mysterious plant? Is it a relict that was pushed south by ice and then stranded?

Zenobia pulverulenta: Zenobia, also known as honeycups or dusty zenobia, is a small shrub in the heath family (Ericaceae). Of the difficult plants on this list, zenobia is the one that I have never successfully grown for any period of time. I have killed this plant over and over, trying different soils and techniques to no avail.

The natural range of this plant is from southern Virginia to Georgia (Bryan County), in the outer coastal plain. It is usually found in pocosins, Carolina bays, and the edges of ponds, typically in areas of deep peat soils. It sometimes grows in association with *Sarracenia flava*, yellow pitcher plant. This suggests that zenobia prefers a moist habitat, yet many books will tell you to plant it in "well drained soils". In reality, dusty zenobia requires very moist soils, at least until it is established. There is a fine planting of dusty zenobia behind the Discovery Center at Callaway Gardens. The zenobias are planted right up to the waterline of Mountain Creek Lake in very wet, mucky soil.

Zenobia often has very glaucous leaves, sometimes giving the plant a powder blue effect. A few cultivars have been selected based on the glaucous foliage. The blue leaves and very fragrant flowers (like so many members of the Ericaceae) make zenobia a challenge

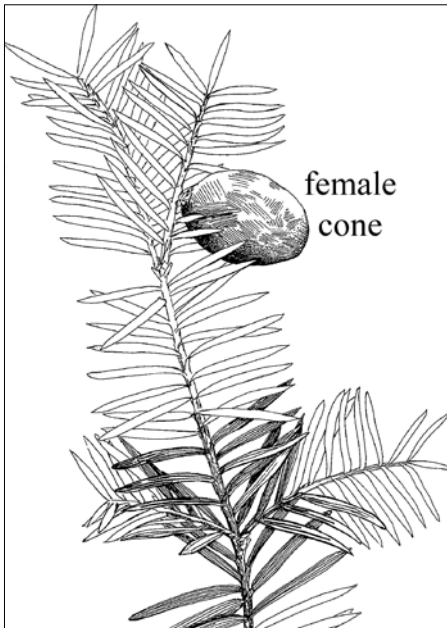


Zenobia (*Zenobia pulverulenta*)
Drawing from USDA-NRCS PLANTS Database.

The Native Garden

worth pursuing. Yes, despite my failure to grow this plant more times than I care to admit, I will try again.

Torreya taxifolia: Torreya is a federally endangered conifer that grows in ravines on the east side of the Apalachicola River. It is restricted to the Florida panhandle and one county in southwest Georgia. Also referred to as Florida torrey or Florida nutmeg, it was once called stinking cedar because the crushed leaves have an unpleasant odor. The needles are dark green, sharp, and reminiscent of a yew. In fact, Torreya is in the yew family (Taxaceae).



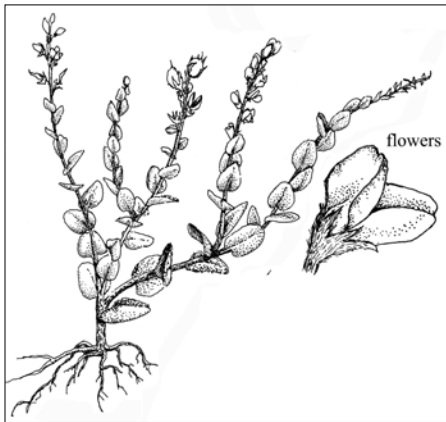
Torreya (*Torreya taxifolia*)
Drawing by Jean Hancock in Linda Chafin's *Field Guide to the Rare Plants of Georgia*.

In the wild, Torreya suffers from a fungal blight that has decimated natural populations. An extensive propagation effort by botanical gardens and groups like the Georgia Plant Conservation Alliance has yielded very encouraging results. Curiously, Torreya, somewhat like Franklinia, seems to thrive away from its natural range, especially farther north and in mountainous areas. There are fine specimens of Torreya at the entrance of the Wildflower Trail at Callaway Gardens; it thrives on the grounds of the Biltmore Estate in North

Carolina; and the National Champion torrey is a 60-foot tall monster in Warren County, North Carolina.

Torreya is probably the easiest plant on this list to grow – I have had fair success growing it, with drought seemingly the greatest enemy in garden settings. Like so many plants that are difficult to grow, Torreya prefers a fairly narrow range of “well drained, moist soil”. Growing the plants on a slope, in deep leaf litter and high shade yields the best results. Keeping it well watered in periods of drought is critical and probably the leading cause of my own failures with Torreya.

Baptisia arachnifera: Hairy rattleweed or hairy wild indigo is a Federally Endangered baptisia endemic to sandhills in Wayne and Brantley Counties of Georgia. The leaves have a cobweb-like pubescence which gives them a blue-



hairy rattleweed (*Baptisia arachnifera*)
Drawing by Jean Hancock in Linda Chafin's *Field Guide to the Rare Plants of Georgia*.

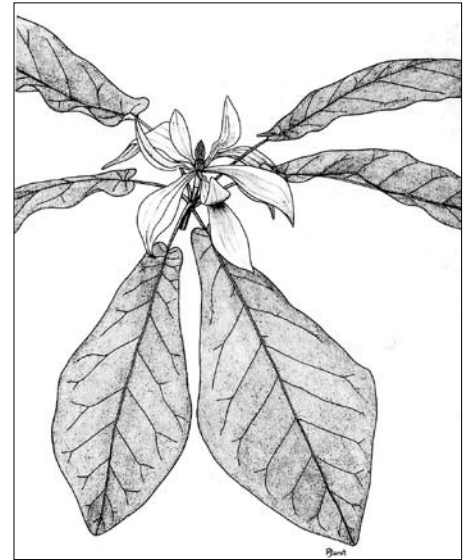
gray cast. The color and arrangement of the leaves reminds me of a eucalyptus tree. The flowers are a bright, clear yellow which contrasts nicely with the leaves. Hairy rattleweed is a member of the bean family (Fabaceae), but isn't as easy to grow as most baptisias.

Because hairy rattleweed is adapted to sandhills, it requires sharp drainage. I believe most people have trouble with this plant because they try to grow it in clay soils. Ironically, I've had several nurserymen tell me that hairy rattleweed

is difficult to grow in containers, which seems counter-intuitive. I suspect the real problem is overwatering. Not only does this plant prefer well drained sandy soil, it also doesn't like to be pampered.

Fellow gardener and amateur botanist Chris Inhulsen overcame the clay problem by creating his own sandhill habitat. He mounded sand on top of his native garden soil and then planted a variety of sandhill specialists, including species of Conradina, Clinopodium, Agave, Hypericum, Opuntia...and hairy rattleweed. I hope to try this myself, provided I can find hairy rattleweed in the nursery trade again.

Magnolia pyramidata: Pyramid magnolia is perhaps the smallest of



pyramid magnolia (*Magnolia pyramidata*)
Drawing by Melanie Darst in Robert Godfrey's *Trees, Shrubs, and Woody Vines of Northern Florida and Adjacent Georgia & Alabama*.

our magnolias, usually only reaching a height of twenty feet, though individual specimens of much greater height are known. This magnolia occurs in the Coastal Plain and lower Piedmont region usually on steep, but mesic slopes. Mature trees can be fairly easily accessed in both Providence Canyon State Park and Sprewell Bluff State Park.

continued on page 10

Upcoming Field Trips

Date	Description	Directions	Leader
<p>Jan 30 9:00 AM</p> <p>NOTE early start time.</p> <p>Meet at DECU.</p>	<p>Rocks 'n' Bots of Georgia: Savoring Our Landscape, Cobb County</p> <p>From the vast flatness of the outer coastal plain to the rounded tops of the Blue Ridge, Georgia has an abundance of landscape to savor. How did all this come to be? Were the ancient mountains created when Africa collided with North America really taller than the Himalayas? Is the Blue Ridge the remnant of this continental collision? How did all this "granite" in the Piedmont form? What's going on with these monadnocks anyway? Why is Lookout Mountain's top so flat and its sides so steep? Where did all that sand and clay in the coastal plain come from? Can you really tell geology from botany? Why is the Pocket of Pigeon Mountain so rich, and so full of plants of northern affinity? And what's with all these loblolly and slash pines? If you've ever wondered to yourself about questions like this but didn't know where to go for an answer, join with Scott Ranger for a workshop on the geology and related botany of Georgia. The morning includes an illustrated talk and the afternoon a hands-on exploration of some of the most fascinating geology of the Southeast, the Brevard Fault Zone.</p>	<p>I-75 to Cumberland Blvd Exit. From the north, turn right to Cobb Parkway, (US41) and turn right onto Cobb Parkway, and left on Riverwood Parkway. Turn left into the DECU facility, the large brick building on the left. Park in the separate white garage to the left of the DECU building. From the south, turn left at the Cumberland Blvd exit and then follow the directions above. From I-285, use exit 20 to Cobb Parkway (US41 South), turn left (south) go past Cumberland Mall on right. Turn right at Riverwood Parkway and left into the DECU facility.</p> <p>Delta Community Credit Union (DECU) 3250 Riverwood Parkway Atlanta, GA 30339</p> <p>Facilities: Restrooms at the credit union. Port-a-Potty in the park.</p> <p>Bring: Picnic lunch to eat in the park, along the Chattahoochee River, \$3.00 parking fee or annual pass, notepaper, pen and pencil, water bottle for afternoon walk, comfortable walking shoes.</p> <p>REGISTRATION REQUIRED, contact Scott, preferably via email.</p>	<p>Scott Ranger</p> <p>scottranger@comcast.net</p> <p>770.429.1836</p> <p>For questions about directions: Maureen Donohue</p> <p>macaire75@att.net</p> <p>770.818.9303 678.687.7963 cell for day of workshop only</p>
<p>A trip to the University of Georgia Herbarium with a demonstration of plant mounting is tentatively scheduled for late February. Please contact Maureen Donohue if you are interested in participating: macaire75@att.net; 678-687-7963.</p>			
<p>Feb 15 Monday 1:00 PM</p> <p>Meet in the parking lot nearest Pavillon.</p>	<p>Powers Island Chattahoochee River NRA, Fulton County</p> <p>We normally visit this park unit in the Spring, but now we'll take a wonderful winter stroll along the river, enjoying the views. Then a good walk up the hill to see if we find any early signs of the wildflowers that will bloom in April.</p>	<p>From I-285 West, take exit 22, turn right on to New Northside Drive. Use the through lane to pick up Interstate North Parkway. Powers Island is 0.6 mi on the right before the river. From I-285 East, take exit 22. Go to 2nd traffic light and turn left onto New Northside Drive. Use the through lane to pick up Interstate North Parkway. Follow as above. For directions from other areas, contact leader.</p> <p>Walking: Easy, ~2.5 mi. One moderate hill.</p> <p>Facilities: Restrooms at pavilion</p> <p>Bring: Good walking shoes, water, snacks, camera</p>	<p>Maureen Donohue</p> <p>770.818.9303</p> <p>678.687.7963 cell for day of walk only</p> <p>macaire75@att.net</p>

Upcoming Field Trips

Date	Description	Directions	Leader
<p>Feb 20 10:00 AM</p> <p>Meet at library in the Williams Room.</p>	<p>Slide Show, Exploring the Natural History of Southeast Alaska, Dunwoody Library, Dekalb County Alaska was purchased for a mere pittance (\$7.2 million) because the Russians destroyed their golden goose (fur seals and sea otters). Joe Juneau and Richard Harris initiated the next pillaging reign when they were led to gold by a Tlingit Indian. The Tongass National Forest has lost 80% of its big trees. What's next in the human history of SE AK? Join Scott Ranger who will delight us with his recent adventures in Southeast Alaska.</p>	<p>From the West, take I-285E to Exit 29. Turn left onto Ashford Dunwoody Rd. Bear right onto Mt. Vernon Rd. Turn right on Chamblee Dunwoody Rd. The Library is on the left. From the East, take I-285 North or West to Exit 29 Turn right on to Ashford Dunwoody Rd. Continue right on Mt. Vernon Rd. Follow as above. Bring: Notebook, pencils and your curiosity. Facilities: On site.</p> <p>Dunwoody Library 5339 Chamblee Dunwoody Road Dunwoody, GA 30338 770.512.4640</p>	<p>Scott Ranger 770.429.1836 scottranger@comcast.net</p>
<p>Mar 5 Friday 1:00 pm</p> <p>Note date & time!</p> <p>Meet at Paces Mill parking lot.</p>	<p>West Palisades, Paces Mill, Chattahoochee River NRA, Cobb County We'll walk to Rottenwood Creek to see the trout lilies' hillside display and along the way, see toothwort, bloodroot and toadshade trillium in bloom. Eastern redbud will start flowering now too. Green-and-gold leaves will be out and black cohosh will reappear, although not blooming yet. Afterwards, depending on time and weather, we may head upriver via foot or car to the next unit about a mile away to find wild geranium and other forest delights. Paces Mill Unit, 3445 Cobb Parkway, Atlanta, GA 30339.</p>	<p>From I-75S: Cumberland Blvd exit. Turn right end of exit ramp to reach Cobb Pway, US41. Turn left (downhill) to just beyond the BP station at Paces Mill Rd. Turn right at the large brown National Park sign. From I-75N: Mt Paran Rd exit. Turn left at exit ramp and right on Northside/US41 (becomes Cobb Parkway after the river). Turn left at National Park sign before Paces Mill Rd. For other directions, contact leader. Walking: 1 mi round trip on a paved easy trail. Terrain for optional 2nd walk is easy downhill, but moderately steep uphill return. Facilities: Port-a-potty at Paces Mill. Bring: comfortable walking shoes, hand lens, \$3.00 parking fee or annual pass, water, camera, field guide.</p>	<p>Maureen Donohue 770.818.9303 678.687.7963 cell phone for day of walk only macaire75@att.net</p>
<p>Mar 7 Sunday Note date!</p> <p>Meet at 10 AM at Walk Up Trail parking lot near restroom or at 9:45 at the Marta lot on 4th street.</p>	<p>Trout Lilies at Stone Mountain Park, DeKalb County We will see areas of Stone Mountain Park that are carpeted in blooming trout lilies. There should also be some hepatica in bloom at this time. There will be an option for those who do not want to walk the whole way around the mountain on the Cherokee Trail to view the trout lilies a short distance beyond the Nature Garden and then return to their cars on their own. For those who wish to walk the 6.2 miles around the mountain, plan to bring a trail lunch.</p>	<p>From US 78 take the Stone Mountain Park exit. If entering from East Gate (Athens area), bear right at road fork before depot. Continue to Confederate Hall and the Walk Up Trail parking lot on left. If entering from West Gate (Atlanta area), bear right and turn left into the Walk Up Trail parking lot. To avoid \$8 - \$10 parking fee, meet outside the park (at 9:45) at Marta bus parking lot on 4th Street in Stone Mountain Village for short walk to gate across from Walk Up Trail. Facilities: Bathrooms at the meeting place and spaced at intervals along the trail Walking: Mostly easy with some rocky, root crossed sections on well maintained trails. Some areas where we walk on rock may be slick if there has been rain. Bring: \$8 to \$10 parking fee inside Park.</p>	<p>Jane Trentin janetrentin@yahoo.com 770.978.1839 770.598.5291 cell</p> <p>Susan Cowan 770.483.6523 770.313.0145 cell</p> <p>Susan will meet people at 4th Street Marta lot at 9:45 to walk into park.</p>

Upcoming Field Trips

Date	Description	Directions	Leader
<p>GEORGIA BOTANICAL SOCIETY SPRING WILDFLOWER PILGRIMAGE Bainbridge and SW Georgia March 12 - 14, 2010</p> <p>Use the registration form in the pilgrimage issue (coming to your mailbox soon) or download the registration form and pilgrimage information from gabotsoc.org. Registration deadline is February 16, 2010.</p>			
<p>Mar 20 10:00 AM</p> <p>Meet at the parking lot for the gift shop.</p>	<p>Monastery of Our Lady of the Holy Spirit, Conyers, Rockdale County Assisted by naturalist Francis Michael Stiteler (the Monastery's abbot, i.e. Head Honcho), we will tour some developed areas of interest and open to the general public and then hike to see early spring wildflowers at several places on the nearly 2000 acres of this Trappist monastery. At least one plant rare in Georgia should be in bloom, <i>Corydalis flavula</i> (yellow fumewort). This will apparently be the society's first field trip to this famous Greater Atlanta landmark. Find general information about the Monastery at http://www.trappist.net/. Our Lady of the Holy Spirit Monastery 2625 Highway 212 SW Conyers, GA 30094-4044 770-483-8705</p>	<p>From I-20 exit 82, turn south onto GA Hwy 20/138. Proceed 1.2 mi to the 4th traffic light, then turn right to stay on Hwy 138. Proceed 4 mi to traffic light at Hwy 212 and turn left. Go another 2.5 mi. Entrance is on the left, at the bottom of a hill. At the end of a long entry drive flanked by magnolias, look for parking lot on right at the gift shop. From I-75 exit 216, turn left onto GA Hwy 155. In McDonough continue straight onto GA Hwy 20 and continue for 11 mi. Turn left onto GA Hwy 212 (Kinnet Rd). Immediately after turning left onto Hwy 212, turn left again to stay on 212. In ~4 mi, the Monastery entrance will be on your right, at the bottom of a hill. Park as instructed above. Facilities: Rest rooms available near meeting and lunch locations. Walking: Easy to moderate; carpooling will be combined with short hikes. Lunch: Bring a picnic lunch (to eat indoors in event of inclement weather). Bring: Dress for weather of the day. Entry and parking are free.</p>	<p>Jim Allison</p> <p>706.818.0210</p> <p>jimbotany@aol.com</p>
<p>Mar 21 Sunday Note day!</p> <p>10:00 AM</p> <p>Meet at Paces Mill parking to shuttle to Akers Mill trail head.</p>	<p>Spring Wildflowers at West Palisades, Chattahoochee River NRA, Fulton County We'll celebrate the start of spring and look at the early spring forest and great views from atop West Palisades Ridge. The hike will lead us across the upper section of Trout Lily Creek, through a mature oak-hickory forest. Paces Mill Parking Area 3445 Cobb Parkway Atlanta, GA 30339</p> <p>Reservations required: 678-538-1200</p>	<p>From I-75S: Cumberland Blvd exit. Turn right end of exit ramp to reach Cobb Pway, US41. Turn left (downhill) to just beyond the BP station at Paces Mill Rd. Turn right at the large brown National Park sign. From I-75N: Mt Paran Rd exit. Turn left at exit ramp and right on Northside/US41 (becomes Cobb Parkway after the river). Turn left at National Park sign before Paces Mill Rd. Walking: Moderately strenuous Facilities: At Paces Mill and at dispatch office at Akers Mill. Bring: Annual pass or \$3 parking fee. Lunch for forest picnic. Camera, hand lens and binoculars are recommended.</p>	<p>Jerry Hightower</p> <p>770.206.0338</p> <p>678.538.1245 cell phone for day of walk only</p> <p>jerry_hightower@nps.gov</p>

Upcoming Field Trips

Date	Description	Directions	Leader
<p>Mar 27 10:00 AM</p> <p>Meet at Indian Trail parking area at bulletin board.</p>	<p>Spring Wildflowers at Indian Trails East Palisades, Chattahoochee River NRA, Fulton County</p> <p>We'll look for spring wildflowers along Indian Trail Ridge Trail to Charlie's Trapping Creek, then up the Salamander Creek Trail to enjoy the view from Overlook Ridge. We will then take Cabin Creek Trail through a beautiful forest to Cabin Creek. Along the way we hope to see hepatica, hastate violet, toothwort, trilliums, May apple and more. Jerry has been roaming these ridges since childhood, but don't believe all of his tales.</p> <p>East Palisades Unit/Indian Trail 1425 Indian Trail NW Atlanta, Georgia 30327</p>	<p>From I-285 East: Take exit 22, Northside Drive/ New Northside Dr/ Powers Ferry Rd. Turn right on Northside Dr, then left to go under I-285. Go through intersection at Powers Ferry Rd where the name changes to Northside Dr. Travel ~1 mi to Indian Trail. Turn right on Indian Trail which goes directly to the park. From I-285 West : Take exit 22, and go straight to turn right at Northside Dr, in front of McDonalds. Continue ~1 mi, turning right on Indian Trail and follow as above.</p> <p>Facilities: Big trees and lots of bushes. Difficulty: Moderately strenuous, off trail for short sections. Bring: Annual pass or \$3 parking fee. Lunch for forest picnic. Camera, hand lens and binoculars are recommended.</p> <p>Reservations required: 678-538-1200</p>	<p>Jerry Hightower 770.206.0338 678.538.1245 cell phone for day of walk only jerry_hightower@nps.gov</p>
<p>Mar 27 10:00 AM</p> <p>Meet at Pocket Cove parking area.</p>	<p>Pocket at Pigeon Mountain, Walker County</p> <p>Every year we look forward to spring and our return to the premier spot in Georgia for early wildflowers! This area, part of the Cumberland Plateau, contains many plant species rare to our state. We will be looking for Virginia bluebells, celandine poppy, bent trillium, Ohio buckeye, twin leaf and a variety of other early spring flowers.</p>	<p>Take I-75 exit 320. Go west on GA136, crossing US27 onto GA193 west into downtown Lafayette. From South Main St, follow GA193 for 8 mi to Davis Crossroads at intersection with GA341. Turn left on Hog Jowl Rd (maybe unmarked, but paved), go south 2.6 mi passing Mt Herman Baptist Church. At next hill top, turn left onto Pocket Rd and drive 1.2 mi to parking lot on left.</p> <p>Facilities: None; restaurants in Lafayette. Difficulty: Short & easy from parking lot. Optional moderately strenuous to falls and off trail to twin leaf site. Bring: Lunch for parking lot picnic.</p>	<p>Mike Christison 770.973.6482 770.596.3564 cell for day of walk only mikepaddler@netscape.net</p>
<p>Mar 28 Sunday 1:00 PM Note day and time!</p> <p>Meet in parking lot near Visitor's Center.</p>	<p>Spring Wildflowers, Sweetwater Creek State Park, Douglas County</p> <p>A moderate 5 mile walk with some strenuous spots over rocks along the creek. We will follow the "White" hiking trail to see a wonderful display of spring wildflowers, including: bloodroot, toadshade trillium, toothwort, green and gold, wild geranium and many more. There may even be a few trout lilies still in bloom. There are wonderful views of Sweetwater Creek, which rivals the Chattahoochee River in size. If it's sunny, we will see many turtles sunning themselves on logs and rocks in the wide creek.</p>	<p>From Atlanta take I-20 West to Exit 44, Thornton Road. Turn left and go ¼ mile. Turn right on Blairs Bridge Rd. After 2 miles, turn left on Mt. Vernon Rd and proceed to the park.</p> <p>Facilities: At the Visitor's Center. Bring: \$5.00 daily parking fee or annual state park pass, snack, water, sunscreen, hat, field guide, hand lens. Wear sturdy walking shoes.</p> <p>Sweetwater Creek State Park 1750 Mt. Vernon Rd Lithia Springs, GA 30122 770 732-5871</p>	<p>John Manion 540.894.6551 phone for day of walk jmanion@atlantahistory-center.com</p>

The Native Garden (cont)

The leaves of pyramid magnolia resemble those of bigleaf and Fraser magnolia, with the same distinctly auriculate base of those two closely related trees. Pyramid magnolia leaves are generally shorter than the other two species. The flowers have an unusual...fragrance...that is sometimes described as reminiscent of turpentine.

Pyramid magnolia grows in the wild within thirty miles of my home – on steep ravines and in the flood plain of the Flint River near Sprewell Bluff. Most of the pyramid magnolias I have seen in the wild were growing as understory trees on relatively steep slopes in deep leaf litter. My guess is that they have a very narrow range of requirements for drainage and moisture retention.

In my own garden I have tried to duplicate those conditions as closely as possible, but have had zero success growing this rare tree. I've grown several other native magnolias, including bigleaf, Ashe, and cucumbertree with good results, but pyramid magnolia eludes me so far.

Gordonia lasianthus: I actually have no personal experience growing *Gordonia*, also called loblolly-bay. The tree has such a terrible reputation for refusing to grow in cultivation that

I have just avoided it altogether.

Loblolly-bay occurs naturally in the outer coastal plain in wet conditions such as Carolina bays, pocosins, swamp edges and moist pine savannas. This tree is often found growing in standing water, but, ironically, under cultivation seems to require perfect drainage. One theory is that the acid conditions of its natural habitat protect loblolly-bay from some disease organism.

Gordonia is another member of the tea family and is probably the closest relative of *Franklinia*; hybrids between the two have been produced. It is a striking tree in maturity, with deeply furrowed gray bark, handsome smooth leaves and large white flowers with yellow

centers. An easily accessible mature specimen can be found growing in a narrow strip between Hummingbird Lake and the Scenic Drive at Callaway Gardens. I have also seen this tree growing reasonably well in large containers.

Loblolly-bay is definitely not a plant for the faint-of-heart gardener. In his *Manual of Woody Landscape Plants*, Michael Dirr states, "The lack of ease-of-cultivation probably dooms it to novelty or collector status".

Georgia offers an exciting array of native plants worthy of cultivation. A few (*Elliottia*, some orchids) are so difficult to propagate that they will always be difficult to acquire, let alone grow. The plants listed above aren't easy, but provide a worthwhile challenge to the persistent, or maybe stubborn, gardener. Along the way, we can learn quite a bit about their environmental requirements and maybe even some insights into their ecological history

Sources:

Nearly Native Nursery
776 McBride Road
Fayetteville, Ga 30215
770-460-6284
www.nearlynativenursery.com

Woodlanders, Inc.
1128 Colleton Ave.
Aiken, SC 29801
803-648-7522
www.woodlanders.net

References:

Brown, Claud L., Kirkman, L. Katherine, "Trees of Georgia and Adjacent States," 1990, Timber Press, Portland, Oregon
Chafin, Linda G., "Field Guide to the Rare Plants of Georgia", State Botanical Garden of Georgia, Athens, Georgia
Dirr, Michael A., "Manual of Woody Landscape Plants," 1998, Stipes Publishing, Champaign, Illinois
Bozeman, John R., Rogers, George A., "This Very Curious Tree," *Tipularia*, November 1986, The Georgia Botanical Society, p. 9
Weakley, Alan S., "Flora of the Carolinas, Virginia, Georgia, and Surrounding Areas", 5 Aug 2009 Working Draft, Unpublished

Gordonia
(*Gordonia lasianthus*)
Photo by Hal Massie



smooth leaves and large white flowers with yellow

Field Trip Report



Pickett's Mill Battlefield Historic Site in Paulding County, northeast of Atlanta, is said to be one of the nation's best preserved Civil War battlefields. During fierce fighting there on May 27, 1864, more than 1,600 Union soldiers and 500 Confederates were killed. Today in the park, visitors can travel roads used by troops of both sides, see the earthworks they built and walk through the ravine where hundreds died.

The other day, some of us members of the Georgia Botanical Society were there to perform another mission — an ongoing plant inventory of the 765-acre park.

Where Minié balls once whizzed and men clashed in deadly combat, the now peaceful historic site encompasses many natural habitats — including hardwood forests, stream banks, old fields — that harbor a large diversity of native flora. The inventory project is a partnership between the botanical society and the state historic site to help the park's managers learn about and protect the native plants. Since the project began in 2006, more than 450 species of wild plants have been identified at Pickett's Mill. One is the Georgia aster, a threatened species. Its beautiful blue flowers were still blooming in the fields when we were doing inventory the other day.

On that survey, we also found two more native species to add to Pickett's Mill's inventory list. One was the lesser snakeroot (*Ageratina aromatica*), which sports white blooms in late summer. Our leader, Tom Patrick, a Department of Natural Resources botanist, noted that the plant is very similar to the one that killed Abraham Lincoln's mother — white snakeroot (*Ageratina altissima*). On Oct. 5, 1818, when young Abe was 9 years old, Nancy Hanks Lincoln died of "milk sickness," contracted from drinking the milk of a cow that had eaten the poisonous white snakeroot.

Seed gathering: Pickett's Mill's old, grassy fields are of special botanical significance — they

are carpeted almost entirely in native grasses and sedges, such as Indian grass, big and little bluestems and brown sedge, and other grassland species such as goldenrods.

"You won't find many old fields like this in Georgia," Patrick said. The grasses also are what botanists call "native phenotypes," meaning that not only are the species native to Georgia, they are direct descendants of the grasses that were here hundreds of years ago.

That's why Botanical Society volunteers come to Pickett's Mill to harvest some of the native seeds. The seeds will be sown in other locales in Georgia — part of an effort to restore native grasslands in the state.

Charles Seabrook writing for the Atlanta Journal-Constitution, November 05, 2009.



lesser snakeroot
 (*Ageratina aromatica*)
 Photo by James H. Miller, USDA Forest Service, Bugwood.org.

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2010 GEORGIA BOTANICAL SOCIETY FIELD TRIPS & WORKSHOPS

Date	Trip / Workshop	Leader/ Facilitator	County
30-Jan	Geology Workshop	Scott Ranger	Cobb
13-Feb	GA Native Plant Society Symposium	GNPS	Cobb
15-Feb	Power's Island – Chattahoochee River NRA	Maureen Donohue	Fulton
20-Feb	Southeast Alaska Slide Show & Winter Walk	Scott Ranger	Dekalb
5-Mar	West Palisades – Chattahoochee River NRA	Maureen Donohue	Cobb
7-Mar	Stone Mountain	Trentin/Cowan	Dekalb
12-14 Mar	GA BotSoc Spring Wildflower Pilgrimage	Jim Drake	SW Georgia
20-Mar	Monastery of Holy Spirit	Jim Allison	Rockdale
21-Mar	West Palisades – Chattahoochee River NRA	Jerry Hightower	Cobb
27-Mar	The Pocket at Pigeon Mt.	Mike Christison	Walker/Floyd
27-Mar	East Palisades – Chattahoochee River NRA	Jerry Hightower	Fulton
28-Mar	Sweetwater Creek State Park	John Manion	Douglas
2-Apr	Cochran Shoals - Chattahoochee River NRA	Maureen Donohue	Cobb
2-Apr	Quarry Garden - Atlanta History Center	John Manion	Fulton
10-Apr	Plant Inventory - Redtop Mt. State Park	Tom Patrick	Bartow
10-Apr	Broxton Rocks - TNC	Frankie Snow	Coffee
17-Apr	Paulding Forest	Rich Reaves	Paulding
18-Apr	Forest Cove/Hambridge Center & Till Ridge Cove	Patty Lowe	Rabun
21-Apr	Sope Creek, Fox Creek Wildflower Loop	Jerry Hightower	Cobb
22-25-Apr	TN Spring Wildflower Pilgrimage	Amy Delaplaine	Gatlinburg, TN
24-Apr	Environments of the Piedmont Workshop	L. Edwards/T. Govus	Hall
1-May	Devil's Den	Tom Govus	Fanin
2-May	Lake Winfield Scott Loop	Linda Chafin	Union
2-May	SE Georgia Wildflowers	Ed McDowell	Ware
4-May	Paces Mill, West Palisades, Chattahoochee River NRA	Maureen Donohue	Cobb
8-May	Beech Creek/ Bull Cove	Eddi Minche	North Carolina
8-May	Wild Edible Workshop & Walk	Jerry Hightower	Fulton
9-May	Pine Mt Recreation Area	Annette Ranger	Bartow
14-May	Vickery Creek Magnolia & Ridge Overlook	Jerry Hightower	Fulton
14-May	Vickery Creek Rhododendron Loop	Jerry Hightower	Fulton
15-May	McIntosh Reserve	D. Morgan/W. Hoomes	Carroll
22-May	Lower Panther Creek/ Davidson Creek Area	Ben Cash	Stephens
22-May	Flint & Shoals Spider Lilies Float	Jerry Hightower	Talbot
29-May	Chestatee Canoe Float & Spring Wildflowers	Jerry Hightower	Lumpkin
29-May	Chattooga River Trails	Ben Cash	South Carolina
30-May	Wagon Wheel Trail	C. Inhulsen/H. Massie	Towns/ Union
31-May	Black Rock Mountain State Park	Rich Reaves	Rabun
1-June	Southern Highlands Reserve	Ellen Honeycutt	North Carolina
5-June	Oaky Woods - Black Belt Prairies	Ed McDowell	Houston
19-June	Plant Inventory - Redtop Mt. State Park	Tom Patrick	Bartow
10-July	Roan Mt N. C.	Jim Drake	North Carolina
11-July	Blue Ridge Parkway	Jim Drake	North Carolina
17-July	Providence Canyon State Park	Tom Patrick	Stewart
29 Jul – 31 Jul	Cullowhee Native Plant Conference	Ed McDowell	North Carolina
7-Aug	Slide Show – Central Alaska	Rich Reaves	TBA
15-Aug	Freeman Trail	Linda Chafin	Lumpkin
15-Aug	Palisades Float & Late Summer Flora	Jerry Hightower	Fulton/Cobb
27-Aug	Paces Mill, West Palisades, Chattahoochee River NRA	Maureen Donohue	Cobb
4-Sept	Woody Gap – Appalachian Trail	Rich Reaves	Union/Lumpkin
11-Sept	Annual Meeting	Ed McDowell	TBA
18-Sept	Plant Inventory - Redtop Mt. State Park	Tom Patrick	Bartow

Continued on back page

24-Sept	Paces Mill, W. Palisades, Chattahoochee River NRA	Maureen Donohue	Cobb
25-Sept	Taylor County Sandhills	C. Inhulsen/H. Massie	Taylor
2-Oct	Brasstown Bald/Track Rock	Jim Drake	Union
4-Oct	Gold Branch- Chattahoochee River NRA	Maureen Donohue	Cobb
9-Oct	Ocmulgee Bottomlands	Tom Patrick	Houston
11-Oct	Pigeon Creek Tract of Sprewell Bluff Natural Area	Hal Massie	Meriwether
16-Oct	Stone Mountain Park	Jim Allison	Dekalb
30-Oct	Georgia Aster Count – Picketts Mill Historic Site	M. Donohue/ E. Nash	Paulding
5-Nov	Indian Trails East Palisades-Chattahoochee River NRA	Maureen Donohue	Fulton
12-Nov	West Palisades - Chattahoochee River NRA	Maureen Donohue	Cobb
26-Nov	Sope Creek/Cochran Shoals-Chattahoochee River NRA	Maureen Donohue	Cobb
4-Dec	Holiday Party	Ed Mc Dowell	TBA

BotSoc Field Trips...

... are open to everyone interested in Georgia's native plants. Trips usually meet at 10:00 a.m. on Saturdays with directions to the meeting site published in the BotSoc News and on the BotSoc website (www.gabotsoc.org). Simply show up at the site to join the trip. If overnight accommodations are needed, you are expected to arrange them on your own, but we often list suitable local places.

Newcomers are encouraged to ask questions and not be intimidated by overheard esoteric discussions of whether that protrusion at the end of a leaf is a spine or a bristle. Questions like "What is it, how can you tell, does it have a use?" are always in order. We've heard more dumb answers than dumb questions! Many of our members simply enjoy seeing beautiful plants in natural settings; some go well beyond that. We accommodate all levels of interest enthusiastically!

Before heading out to a BotSoc trip, it is a good idea to see if anything has changed by calling the field trip chair (Maureen Donohue macaire75@att.net; 678.687.7963) or the trip leader listed for the trip in the BotSoc News. Remember that all trips are tentative. We rarely cancel a trip, but they do change occasionally. Directions for a field trip are in the latest issue of the BotSoc News and on our website (www.gabotsoc.org). You can receive email reminders of upcoming field trips by including your email on your BotSoc membership form or by contacting Anita Reaves (rich.reaves@att.net).

Please be aware that these are **outdoor** field trips, and there is some risk involved. An indication of the physical nature of the trip is included in BotSoc News so that you may determine if the trip is appropriate for your abilities. Most trips involve easy to moderate walking at a leisurely pace suitable for virtually anyone who goes outdoors. Trips marked "exploration" can mean strenuous, long, cross-country travel in difficult terrain, and that we don't know what we're going to find. Canoe trips expect that all attending can swim and have at least novice ability at canoeing (these trips are **not** the time to learn to paddle a canoe!) and that personal flotation devices will be worn when on the water. Summer trips can be blisteringly hot and insects can be miserable accompaniments to your hike. Trips in the mountains usually involve some strenuous stretches of trail. If you have any question about the physical nature of the trip, ask the leader at the site before heading out. All participants in BotSoc field trips are expected to sign a liability waiver as a condition of attending.

A few rules for those attending BotSoc field trips:

NO PLANT COLLECTING

We sometimes collect specimens for a recognized herbarium, but please don't use our trips to "scout" for plants. It is unethical to return to a botanical site to dig plants for your garden or for any other purpose.

NO PICKING OF PLANTS

We often pick part of a plant for teaching identification of the plant, but please, no bouquets!

STAY ON THE TRAILS

If there is a trail, we expect you to stay on it.

DON'T TRAMPLE VEGETATION

When we go cross-country, there is no choice but to walk through, over, and on vegetation. On those occasions, we don't walk single-file, but spread out so that we do not all stomp the same plants.

NO SMOKING

Except in your privately owned vehicle.

NO PETS

On the trail.

It is our policy to visit private property only with permission of the owner.