



TENNESSEE NATIVE PLANT SOCIETY

Volume 35, Number 2

June 2011

Join the Annual Meeting September 16-18

DuBose Conference Center to Host Event

This year's TNPS Annual Meeting will be held September 16-18 at DuBose Conference in Monteagle just off I-24 between Chattanooga and Nashville.

Following the popular format of past years, after-dinner programs will be presented on Friday and Saturday evenings, and field trips will be offered on Saturday, with the addition this year of a field trip on Sunday. Other activities may also be offered.

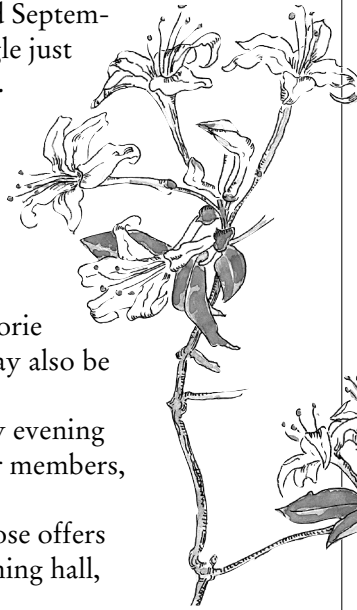
You are urged to complete the registration form printed in this issue and return it with payment to Lorie Emens in Memphis. Questions about registration may also be directed to Lorie at wildflowerlorie@gmail.com.

Everyone attending is encouraged to arrive Friday evening (Sept. 16) in time to sign in, meet and talk with other members, and have supper in the DuBose dining room.

As members may recall from past meetings, DuBose offers motel-like rooms and spacious meeting areas and dining hall, mostly under one roof.

Sitting atop the Cumberland Plateau, DuBose is close to South Cumberland State Park and other trails in the coves around Sewanee and Monteagle. Because of the September date, however, members will be shuttled to two fine late-summer wildflower sites, Morrison Meadow in nearby Warren County and May Prairie along the same route in Coffee County. Both are state natural areas.

The Friday evening program will focus on ways to interest children and young people in the world of botany. Mary Priestley, whose book, *William's Wildflowers*, was published in March, will lead the program, but she will be joined in the program by others, including Eunice Colemore of Chattanooga, who has successfully preserved the collection of wildflower paintings by the late William C. Crutchfield, Sr. Reproductions of his paintings fill *William's Wildflowers*, which was written for children and will be used in third-grade classes in the Hamilton County school system. A botanical art show may also be included on the schedule.



Rhododendron viscosum from the Crutchfield collection

Members Give Great Support to Annual Fund

The first TNPS annual fund drive, launched last fall, was a great success, gathering \$2,880 in gifts from forty members.

The funds will relieve pressure to increase dues and will allow the society to continue to support conservation, education, and research programs and projects and build friendships for TNPS.

The society has many life members, and the annual fund also allows them to continue to contribute to the organization on an annual basis.

In recent years, TNPS has provided student scholarships to Cullowhee Native Plant Conference and helped support projects like the Roan Mountain Grassy Bald restoration and a special Friends of Warner Park land conservation project.



Don't Miss the
Annual Meeting
Sept. 16-18

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TNPS Newsletter

June 2011

Vol. 35, No. 2

This newsletter is a publication of the Tennessee Native Plant Society and is published four times a year, generally in February, June, August, and November.

The Tennessee Native Plant Society (TNPS) was founded in 1978. Its purposes are to assist in the exchange of information and encourage fellowship among Tennessee's botanists, both amateur and professional; to promote public education about Tennessee flora and wild plants in general; to provide, through publication of a newsletter or journal, a formal means of documenting information on Tennessee flora and of informing the public about wild plants; and to promote the protection and enhancement of Tennessee's wild plant communities.

Dues for each calendar year are:

Regular: \$20

Student: Complimentary

Institution: \$501

Life: \$250

Dues may be sent to:

Tennessee Native Plant Society

P.O. Box 159274

Nashville, TN 37215

Officers

Bart Jones, President

Todd Crabtree, Vice-President

Margie Hunter, Secretary

Darel Hess, Treasurer

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Lorie Emens

Michelle Haynes

Dennis Horn

Larry Pounds

Mary Priestley

Susan Sweetser

Latham Davis, Editor

Please send comments or material for the newsletter to TNPS Newsletter, P.O. Box 856, Sewanee, TN 37375 or

lathamdavis@bellsouth.net

TNPS Website:
www.tnps.org/



A Letter from the President

This has been another difficult spring across the state, with flooding, severe storms and tornadoes, and copious amounts of rain. Our field trips have invariably been affected, with most dealing with rain and storms. But even in the face of these inclement conditions, our intrepid members continue to attend our gatherings. So I guess I shouldn't be surprised at the tremendous response to our initial annual fund drive.

In December of last year our previous president, Mary Priestley, sent a letter to each of you outlining the many projects and services TNPS supports and some of our budgetary issues we have in meeting these commitments. The Board of Directors voted to authorize an annual fund drive that would supplement our dues income and alleviate the budget issues. The response we received exceeded our wildest expectations, with 40 members contributing \$2,880, which minus expenses resulted in a net gain of \$2,607.98, money that will go into our operating expenses account.

I cannot begin to thank those of you who gave enough. Your generous contributions will help us maintain the high quality of our newsletter, a service that you have routinely relayed to us is one of the things you most value from your membership. These monies will also ensure TNPS maintains its position as one of Tennessee's most dynamic groups looking after our state's floral communities and habitats. We will continue to support environmental education with student scholarships to conferences such as Cullowhee, present a strong voice in shaping environmental legislation through our alliance with Tennessee Conservation Voters, partner with other groups to preserve some of the last and best examples of Tennessee's wild places, and allow us to respond to new opportunities as they present themselves in the future.

I've always known TNPS members are some of the most caring and concerned people when it comes to things Natural, and also to each other. Your outpouring in response to the fund drive request just shows how true that is. Our future is bright and exciting thanks to your generosity.

See you on the trail!

Bart

A new location for *Boechera perstellata*

Braun's rock cress *Boechera perstellata* is a rare member of the mustard family (*Brassicaceae*) that grows on rock out crops in Middle Tennessee and Northern Kentucky. It is a federal endangered species, and recent searches funded by the U.S. Fish and Wildlife Service have resulted in a range extension in Tennessee. Previously known only from high knobs and river bluffs in Davidson, Rutherford, and Wilson counties, the new site is in Smith county on the north side of a minor knob.

Many rare plants are like Goldilocks. The conditions have to be "just right" for them to be happy. This rock cress is happy only when limestone out crops, open mature woods, and neighboring moist forests are all present. These factors can be used to find new populations. Data for soil, geology and vegetation type, combined together, were used to discover the new site in Smith county. Information from the current search will be used to further refine the methods for future searches.

Todd Crabtree

2011 TNPS Annual Meeting

September 16-18, 2011

Please complete and return by August 31

Registration fee per person \$15.00	# _____	@ \$15.00	
Room: Single per night		\$56.00	
Double per person, per night		\$38.00	

Those sharing a room should register together. Two checks may be sent.

Friday Supper		@ \$ 16.00	
Saturday Breakfast		@ \$ 8.00	
Lunch		@ \$ 10.00	
Saturday Supper		@ \$ 16.00	
Sunday Breakfast		@ \$ 8.00	
		TOTAL	

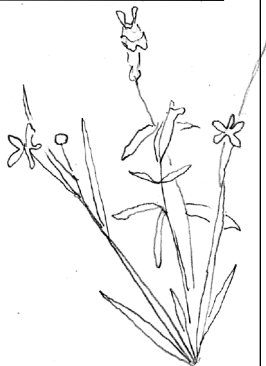
Registrant #1 Information:

Name _____
 Address _____
 Telephone _____
 Email _____
 Special Needs _____

Registrant #2 Information (if sharing a room):

Name _____
 Address _____
 Telephone _____
 Email _____
 Special Needs _____

Mail check(s) payable to TNPS to:
 Lorie Emens
 557 N. Mendenhall Rd. #6
 Memphis, TN 38117



Annual Meeting

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Saturday evening's program will be a presentation on ferns by Patricia Cox of Knoxville, who is a botanical specialist for Tennessee Valley Authority in addition to being president of the Association of Southeastern Biologists and a member of TNPS. Pat may also be able to lead a fern hike planned for Sunday morning.

The TNPS Board of Directors will meet on Sunday morning.

New Executive Director at TCV

This spring, Tennessee Conservation Voters announced the appointment of a new executive director, Kim Sasser Hayden, who brings to the organization a decade of experience in Tennessee politics. Kim may be contacted at kim@tnconservationvoters.org.

Kim reports that TCV has had a busy legislative session: "While not successful in all we wanted to accomplish this year, we were able to have several victories in this tough legislative session. A couple of highlights include a house resolution on hydrological fracturing (hydro-fracking) as well as a bill focused on rock harvesting. Additionally, we continue to monitor but feel very hopeful that this year's budget will include the dedicated funding for land acquisition and preservation.

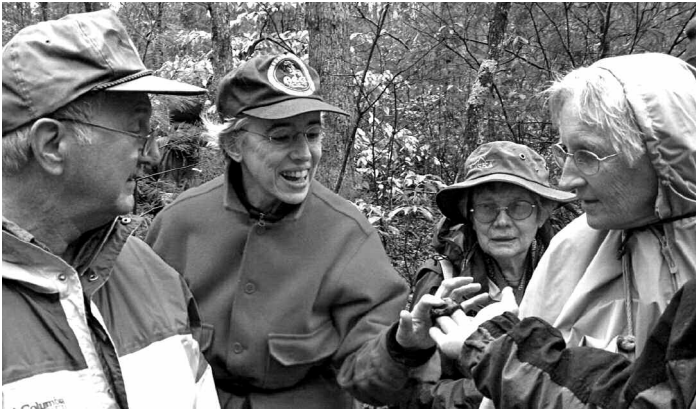
"HR 98 by Representative Jeanne Richardson encourages meetings of interested parties and the development of appropriate state regulations on fracking.

"Rock harvesting legislation is sponsored by Senator Steve Southerland and Representative David Hawk."

March 5, 2011

Micro-Safari along the Caldwell Trail, Sewanee

On our micro-safari, instead of the lianas, Cecropias and jaguars of American jungles we saw dendrophyllous liverworts, *Haplobytenium* and rotifers. These and many other small things were enjoying the high humidity of the misty overcast day. As we walked along the trail and Dr. Paul Davison told us about microscopic plants and animals, we stopped periodically to sample. By merely sifting a bit of leaf litter into a white pan we were able to see a number of small animals that inhabit the spaces between decomposing leaves, twigs, fungus, and



TNPS hikers delight over micro-finds on the Caldwell Trail.

other forest detritus. Tiny spiders, springtails, and whip scorpions were all visible, and their behavior could be observed as they searched for prey or avoided becoming prey.

Dendrophyllous liverworts like *Frullania asagrayana* love growing on trees. We found this *Frullania*, on this moist overcast day, very happy with all the humidity. It was producing spores, which are rarely seen.

Haplobytenium is a fairly common genus of mosses that grow on tree bark. Its long strands of tiny leaves can contain tiny animals called tardigrades. Tardigrades are also called water bears, and they do resemble tiny primordial bears. They can survive extreme conditions including the vacuum and radiation of space. In one experiment, tardigrades were sent into space and when they returned were rehydrated for 30 minutes. Only a few of those that were subjected to UV radiation survived, but most of those that were only exposed to the vacuum of space survived to go on and lay eggs that hatched normally.

Rotifers are small animals that can be found in areas where water puddles but is not permanent. They feed on detritus, algae, and protozoa. They share a common trait

with some other microscopic animals. They can survive long periods of dryness. Sometimes these animals can be observed by rehydrating dry bits of moss or liverwort. When the moss is saturated, things like rotifers and tardigrades come out of dormancy. Some rotifers take up residency in the folds between liverwort leaves and can be seen under the microscope by carefully focusing between the leaves.

After spending some time on the trail before it started to rain, we convened to the lab. Dr. Davison prepared some of the samples we collected along with some he brought with him. He also demonstrated a micro-aquarium that can be used to assemble a complete habitat with plants and animals. As he answered questions about the lives of these small creatures, we looked through dissecting scopes and compound microscopes at rotifers, ostracods, and copepods. Everyone who had not observed life at the small scale received a great introduction and detailed information on how to continue their studies.

Todd Crabtree

March 26, 2011

Ross Forest Nature Preserve, Hardin County

A group of 10 to 12 participants ventured out this early spring day. The forecast for rain and storms caused several others to cancel. John Ross led us to Sugar Camp Hollow, one of three nature preserves in the Ross Forest tracts. We held up for about 30 minutes at John's log cabin until the next storm passed and then we struck out into the intermittent rain, which continued most of the day.

Leaving the cabin on the ridge top we descended into the Horse Creek floodplain and soon crossed a bridge over the swollen creek. As we followed a lane through fields and woods we found acres of Virginia Bluebells in the alluvial bottoms of Horse Creek. Along the trail above the bluebells were scattered several plants of *Trillium stamineum* (twisted trillium), *T. cuneatum* (sweet Betsy), *Thalictrum thalictroides* (rue anemone), and an occasional hepatica still on bloom. The rare *Erythronium rostratum* (beaked trout lily) flowers were mostly closed because of the rain.

We then headed into Sugar Camp Hollow where a small waterfall was found in the end of each of two separate ravines. Fossils were scattered throughout the hollow. In the second ravine a large number of goldenseal were in the early stages of flowering and also the bladdernut tree with

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its inconspicuous white flowers. Returning from the hollow, we found a nice group of *Obolaria virginica* (pennywort) beside the small tributary we were following.

Because of the rain we decided to wait for lunch until we returned to the cabin. John had built a warm fire in the fireplace which was a welcome sight for this wet bunch of hungry botanizers.

Dennis Horn

April 9, 2011

Millstone Mountain, Tipton County

A beautiful spring day, a rare occasion this year, greeted us as we gathered in Covington. A short drive led us to the base of Millstone Mountain, an isolated remnant of the loess bluffs that line the Mississippi River on the Tennessee side. For those of you in Middle and East Tennessee I know the term “mountain” brings a little snicker, but a large mound of rock and dirt rising 125 feet above the floodplain really is impressive to us West Tennessee flatlanders.

We began our trek toward the center of the mountain and immediately encountered our first displaced plant, *Phlox pilosa* (downy phlox). A few species were found along the trail, *Viola sororia* (common blue violet), *Viola palmata* (wood violet), *Ophioglossum vulgatum* (adder’s tongue fern), and leaves of *Tipularia discolor* (crane-fly orchid). A detour off the trail into some narrow ravines produced richer habitat with *Arisaema triphyllum* (jack-in-the-pulpit), *Arisaema dracontium* (green dragon), and *Uvularia grandiflora* (large-flowered bellwort).

Back down the mountain we enjoyed a great lunch and conversation. Unfortunately, about half the group had to leave at this point.

Our second excursion started in the flatwoods near the Hatchie River. Not much could be found in the herbaceous layer, but we added several new species of trees such as *Carya aquatica* (water hickory), *Populus deltoides* (cottonwood), *Acer saccharinum* (silver maple), and *Quercus pagoda* (cherry-bark oak). We followed the flatwoods until we came back to the mountain. This time we explored the northern terminus and immediately noticed the increase in diversity and richness. The herbaceous layer was much thicker here and we started seeing the wildflowers we were hoping to see; *Viola pubescens* (smooth yellow violet), *Polemonium reptans* (Jacob’s ladder), *Phlox divaricata* (blue phlox), and *Geranium maculatum* (wild geranium). Several plants of the state listed special concern *Hydrastis*

canadensis (goldenseal) were in bloom along the bluff, as well as some impressive specimens of *Actaea pachypoda* (doll’s eyes). Everywhere were large patches of *Podophyllum peltatum* (mayapple) and *Tradescantia subaspera* (wideleaf spiderwort), not quite in bloom, but one could only imagine the spectacle a few weeks would bring.

It was at this location where we discovered the reason behind the “millstone” part of Millstone Mountain, large slabs of conglomerate rock that looked as though a dump truck had unloaded the remains of a demolished concrete building.

The day ended on a high note, and I extend my apologies to those who left at lunch and missed the best. I hope to go back in a few years with the knowledge of where the true beauty of Millstone Mountain lies.

Bart Jones

April 16, 2011

Walls of Jericho

Fifteen people arrived at the Alabama trailhead for our adventure to see the Walls of Jericho. Members of TNPS and the Association of Southeastern Biologists, as well as participants in State Natural Areas Week, were all represented in the group.

As we descended the Cumberland Plateau escarpment 900 feet to the valley floor we stopped a few times to identify rare and common plants. Near the top, while still on a sandstone substrate, we saw *Antennaria plantaginifolia* (pussytoes) and *Pedicularis canadensis* (lousewort). Further down the slope we found a small stand of *Cypripedium pubescens* (greater yellow lady’s slipper) with one plant flowering. This species is distinguished from other yellow lady’s slippers in Tennessee by the width of the sepals and the size of the pouch. In an area of drier woods we saw *Silphium brachiatum* (cumberland rosinweed) plants as their distinctive halberd shaped leaves were beginning to expand. This species is rare in Tennessee and



Actaea pachypoda

Continued on next page

TNPS FIELD TRIPS

is known only from Franklin county. In open woodlands and forest edges the rosinweed will bolt up to heights of seven feet and then flower towards the end of summer.

Before arriving at the first creek crossing we saw several other spring-flowering plants including *Actaea pachypoda* (doll's eyes), *Caulophyllum thalictroides* (blue cohosh) and *Podophyllum peltatum* (mayapple). The bridge that crosses Mill creek is a large log that has been flattened on one side. It has a wooden railed handle on the upstream side of the log. Anyone with a good sense of balance can cross this with no problems and everyone in our group did cross it.

In the flood plain between the crossing for Mill Creek and the first crossing for Turkey Creek we saw a few *Mertensia virginica* (blue bells) that had flowered earlier. Numerous *Lindera benzoin* (spice bush) were growing in this low area that looked as if it must have been farmland many years ago. *Forestiera ligustrina* (glade privet) was growing in the middle of this area, and this was a surprise. Normally this species is found on dry limestone outcrops on the plateau escarpments, which are high above the stream we had just crossed in Mill Creek cove.

The first crossing of Turkey Creek has a bridge and it consists of a log like the one over Mill Creek, but it has no railing, only a thin rope stretched loosely across the creek. At some point high water has caused this log to shift and the flattened side is at an angle that makes the crossing more of an adventure than a mere walk across a bridge. One of our party crossed and then held the rope tight for the rest of the group that decided to attempt the crossing. A few decided not to attempt this and Forrest Evans (Middle Tennessee stewardship ecologist for Tennessee State Natural Areas) stayed with this group as they hiked around the woods by the stream while the other group continued toward the walls area. Forrest crossed later and retied the rope to make it more useful when crossing on the log bridge.

The flowers were more abundant along Turkey Creek as the trail traced a line along the narrow strip between the steep western slope and the creek. *Trillium flexipes* (bent trillium) was at its peak and several large patches bordered the trail.

Although the *Hepatica acutiloba* (sharp-lobed hepatica) that we saw were past flowering we did see plenty of *Thalictrum thalictroides* (rue anemone) along the trail.

As we neared the state line and the boundary for Walls of Jericho state natural area in Tennessee, we saw a small sign. It had been placed there to mark the location of the

largest *Cladrastis kentuckea* (yellow wood) tree in Alabama. This tree has a trunk that is 28 inches in circumference and is 48 feet tall. The species can have a trunk circumference of 72 inches and a height of 75 feet, so this is a smaller individual. Even though it is small for the species it deserves the recognition it has received as the champion tree of its kind for Alabama.

Before we crossed Turkey Creek for the second time we saw a few individuals of *Viburnum bracteatum* (limestone arrow wood). It is a rare shrub known from a few counties in Alabama, Georgia, and Tennessee. A recent publication by Dr. Estes of Austin Peay State University combined this species with *Viburnum ozarkense* (Ozark arrow wood). After this combination of the two into one species (*V. bracteatum*) it is also known from northwestern Arkansas, one county in southeastern Oklahoma and



Members and guests enjoy lunch at Walls of Jericho.

two counties in southern Missouri. It has not been found anywhere between these two areas. One part of its range is centered in the midwest and the other in the southeast.

Normally the second crossing of Turkey Creek involves a little rock hopping but on this day of unusually high water from recent rains, the crossing required wading in ice cold water. After the adventurous group made the final crossing we picked up the last bit of trail as it rose above a waterfall and turned the corner to see two cascading waterfalls where there is normally one small rivulet coming from a cave in the side of the limestone wall.

The water coming out of the cave was shooting out over the limestone bedrock where it met the other stream that was pouring over what is normally a dry wall of limestone. These two streams came together and flowed over the waterfall that we had passed on the trail below. We marveled at this natural wonder and the sheer limestone

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walls above as we ate lunch sitting in a natural amphitheater. This spectacular view was well worth the hike.

Carex eburnea (bristleleaf sedge) can be found here if you know where to look. We returned to join up with the rest of the group that didn't cross Turkey Creek and everyone returned to the trailhead. We got a little sun during the day but the weather was just cool enough for strenuous hiking.

Todd Crabtree

May 7, 2011

Cumberland Trail Inventory Continuance

On May 10 five members of TNPS carried out the fifth survey of plant species along the Cumberland Trail (CT). TNPS has been making a list of all the plants that grow in this section of the CT that passes through the Cumberland Mountains between I-75 and Wartburg.

So far we have only surveyed a small part of this section, as much of the trail needed for this section has not been built.

This was an exuberant group. We climbed all the way to the top of Lick Creek Mountain (part of Lawson Mountain?) and enjoyed the view. Our round trip was about six miles. Particularly striking was the alternate-leaved dogwood which was fully in flower. We have not completed the compilation of species but it appears that we added at least 20 new species to our list for this section on that day. It has been suggested that TNPS should widen the scope of its survey work and include projects in other parts of the state. Plant surveys are a service that TNPS provides to benefit scientific knowledge and resource management.

Larry Pounds

May 14, 2011

Bridgestone/Firestone Wilderness Area

The weather did not look promising on Saturday, May 14. TNPS and the Middle Tennessee and Tennessee Valley chapters of the North American Butterfly Association (NABA) had planned a joint field trip to Bridgestone/Firestone Centennial Wilderness WMA to look for both plants and butterflies. Of particu-

lar interest was the Baltimore Checkerspot, an uncommon butterfly, which has been found at Bridgestone/Firestone on several occasions.

The group met in Sparta, and we left the local McDonald's just as the sun was breaking through the clouds. We headed off to the Wilderness area and spent the first hour or so searching for the Baltimores in known spots on the property. We were disappointed, for we did not see the Baltimores. Probably they are still in the chrysalises waiting for warmer weather. Butterflies are very temperature sensitive and temperatures affect their growth and development in the immature stages.

We did, however, see lots of other butterflies during the day including a Pipevine Swallowtail, Eastern Tiger Swallowtail, Spicebush Swallowtail, Checkered White (laying eggs), Orange Sulphur, Clouded Sulphur, Eastern Tailed-Blue, Spring Azure, Pearl Crescent, Common Buckeye, Little Wood-Satyr, Monarch, Silver-spotted Skipper, Horace's Duskywing, Swarthy Skipper, Least Skipper, Sachem and Pepper and Salt Skipper. The Checkered White was laying eggs on exotic mustard. The Checkered White is known to sometimes lay eggs on plant species that the caterpillars cannot survive on, but it is not known if this particular mustard will be suitable or not.

We walked the grassy mowed paths of the old farm and ate lunch near the barns. After lunch we hiked in the woods not far from the Chestnut Mountain Ranch Trail where the woods were teeming with ferns including *The-lypteris noveboracensis* (New York fern), *Ophioglossum vulgatum* (adder's-tongue fern), *Polystichum acrostichoides* (Christmas fern), *Lygodium palmatum* (climbing fern), *Osmunda cinnamomea* (cinnamon fern), and others. The pink lady's slipper orchid, fire pink, and two-flowered Cynthia added splashes of color to the ferny woods, and we were delighted with the area.

Rain began again around 2:45, so we headed back to the cars. As we were walking back to the parking lot, a truck turned in and passed us; it was the manager of the WMA, James Ray Douglas and his son, Braxton. Thinking he looked familiar, Bart realized that Ray is one of his cousins from Bible Hill. Ray was very friendly and invited us to come back anytime and visit again. We headed back to McDonald's for debriefing, map-looking and refueling with ice cream, coffee and hot apple pies.

We were all pretty soaked, despite our rain gear. We still, however, had a great time being together in the lovely spring woods of the Cumberland Plateau.

Rita Venable



Tennessee's Native Trees Face Two New Threats

Thousand cankers disease and emerald ash borers are two emerging problems for trees in Tennessee, according to Todd Crabtree, State Botanist.

State agencies have instituted some quarantines but are still developing policies to deal with these serious threats to our native forests.

We can all do something to help. First, do not move firewood far from the area where it was cut. Second, educate yourself and others about these and other pathogens that can destroy large areas of forest. TNPS has shown its support for better controls to stop tree pests from expanding into new areas. We need to continue this effort to protect our forests.

Check out thousand cankers disease at:

www.tn.gov/agriculture/regulatory/tcd.html

Emerald ash borer:

<http://www.tn.gov/agriculture/regulatory/eab.html>



Asclepias quadrifolia provides an eye-catching combination of pink buds and white flowers.

Check Your Dues Date?

Check your mailing label—the year through which you have paid dues is printed at the top. If the date's 2010 or 2009, please send a check promptly to Darel Hess, our treasurer. TNPS, P.O. Box 159274, Nashville, TN 37215.

TNPS Newsletter
P.O. Box 856
Sewanee, TN 37375