



# Mississippi Native Plants and Environmental Education

Newsletter of The Mississippi Native Plant Society and the Mississippi Environmental Education Alliance



Volume 24 Issue 4

Bare trees, clear nights, ice crystals, Orion has returned... ah!... hot chocolate weather

Winter 07

The Mississippi Native Plant Society, is a non-profit organization established in 1980 to promote the preservation of native and naturalized plants and their habitats in Mississippi through conservation, education and utilization

## MNPS Board of Directors

President: Marc Pastorek  
marcpastorek@bellsouth.net  
Tel. 504-296-8162

Vice-President:  
Dr. Tim Schauwecker  
Tel. 662-325-7895  
tjs2@msstate.edu

Secretary/Treasurer:  
Dr. Debora Mann  
mannndl@millisaps.edu

Education Chair:  
Dr. John Guyton  
Tel. 662-325-3482  
jguyton@cfr.msstate.edu

Trips Chair: Gail Barton  
Tel. 601-483-3588  
lgbarton@gmail.com

The Mississippi Environmental Education Alliance promotes environmental education, supports the work of environmental educators and encourages the adoption of earth-friendly lifestyles leading to the sustainability of natural resources.

## MEEA Board of Directors

President: Matthew Miller  
matthew\_miller@tnc.org

Past President: Barbara Dorr  
b\_dorr@bellsouth.net

Secretary: John DeFillippo  
lizardking700@yahoo.com

Treasurer: Pam Williams  
pamshopwilliams@netscape.net

Newsletter Editors: Peggy & John Guyton, pegguyton@bellsouth.net  
Peggy 662-327-6761, cell 228-324-3136; John, cell 228-324-4233

## Nature's Fireworks for Christmas and New Years

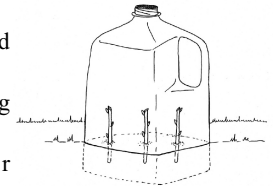
Christmas is a great time for grandparents to introduce grandchildren to some of nature's wonders. So this year consider introducing them to nature's fireworks. During Christmas eve dinner squeeze an orange or lemon rind over a burning candle to release the citrus oil for a nice dinner-table fireworks display. Later, throw a bois d'arc, or Osage orange, log on the fire and let it burn a while before scraping it with a poker. Sit back and enjoy an incredible aerial fireworks display in your fireplace. Now, lay some green magnolia leaves on the glowing coals for a staccato popping to accompany the bois d'arc aerial display. Peggy's father, Buck Swain, learned this one from his grandmother.

*Merry Christmas and Happy New Year  
from your editors Pawpaw and Grandma Guyton*

## Winter Propagation Projects by Gail Barton, MCC

Many deciduous native plants will root from cuttings taken during winter (commonly called hardwood cuttings) using the following procedure:

1. Take cuttings after leaf fall in early winter from recently formed wood averaging pencil length or longer.
2. Make bottom cuts below a bud or node. Dip fresh cuts in rooting hormone if desired.
3. Insert the cuttings directly in the ground in well drained garden soil or in pots filled with potting soil.
4. Leave the cuttings outdoors under some sort of covering or humidity dome that will prevent bud death from drying winds. Large quantities of cuttings are usually rooted in cold frames. Smaller quantities can be rooted in individual containers. In the drawing above (reprinted from my *Basic Gardening* book), the bottom of a gallon sized milk jug has been cut off. Cuttings were inserted in the soil and the milk jug was pressed into the ground around them.
5. South Carolina Propagation Guru Mike Creel likes to root his cuttings in recycled hanging baskets or 3 gallon pots. He drills extra holes in the pots to improve drainage. He creates humidity domes from recycled plastic containers and sinks them into the pots around the cuttings. Creel reports that Dannon Natural Spring Water is bottled in a 1 Gallon container that fits perfectly with sufficient water entry clearance around the edges into 3 gallon pots and most hanging baskets.
6. Regardless of materials, situate the cuttings in shade. It is best if the shade is consistent like the shade on the north side of a building or the shade provided by nursery shade cloth. A common cause of failure with hardwood cuttings is death from heat when cuttings under a plastic cover are cooked by heat buildup from the sun. Venting the covering on sunny winter days helps prevent this malady. A milk or water jug can be vented by simply removing the cap.
7. In late winter, the cuttings should develop a warty basal growth called "callus". Dr. Dirt aptly describes callus as looking like "gristle". Normally callus is a precursor to rooting. After callus appears, roots usually follow. After rooting, the covering can be removed and the cuttings transplanted.
8. A few good subjects for hardwood cuttings include: native maples, viburnums, Carolina rose, hydrangeas and Virginia willow (*Itea virginica*). Black willows can easily be rooted by school children. I have heard reports of limited success with native azaleas, silky camellia and possumhaw holly. Some evergreens will root using this method as well. Go ahead and give it a try. If your cuttings don't root, the only loss will be a milk jug and a few twigs!



## Presidential Notes

Hello all!

Our October meeting and seminar in Jackson was a great success. Thanks to all of the speakers who shared and a tip of the hat to those who showed up to fill seats. Thanks also to Felder Rushing and Dr. Dirt for having Dr. Allen on their radio program the morning of the event. I understand that brought some radio gardeners to our meeting. And, Dr. Debora Mann did an outstanding job on site arrangements!

Congratulations to Dr. Tim Schauwecker for his nomination and election to the Vice President's position. And from all of us, thank you Joe Mcgee for serving as Vice President and for your many years of service to the Mississippi Native Plant Society.

Our field trip to the forest research site in Bovina got off to an exciting start since we had to caravan I-20-style through Jackson. All survived and arrived! We meandered under White Oak, Cherrybark Oak and Sugar Maple and saw Broad Beach Fern, Indian Pipe, Spiral Orchid (possibly *Spiranthes ovalis* I am told), Paw Paw, and Spice Bush.

From there we bee-lined it to Dr. Dirt's Swept Path Garden. A friend once said it's the ultimate folk garden and I think she might be right. For me, it was an amazing treat. A blend of design and artistic expression influenced heavily with horticulture using pass-alongs and natives. Care and training of just the *Helianthus* sunflowers was so creative, and it didn't hurt that we hit it during peak bloom. That was the third time I'd been to Dirt's garden and it's been a different garden each time.

The prairie jaunt in Scott County was a jewel. The weather made it so. It was fun because we only knew where one site was located and the others we had been directed to but had never been. Thank goodness for Jerry Palmer's Mississippi Gazetteer! The best discovery du jour in my opinion was the Sherman Hill Road site with it's scenic overlook.

We have a great line-up of field trips in the works! Gail Barton, Horticulture, Meridian Community College is planning for the northern half of the state and Dr. Mac Alford, Professor of Biology at University of Southern Mississippi is planning for the south. I have heard discussion of possible sites and am very much looking forward to seeing all of you there... and maybe a plant or two.

Smile while you garden! – Marc Pastorek, MNPS President

Dear MEEA Members

Those of you who couldn't attend the November 3-4 MEEA Conference at Plymouth Bluff missed a great weekend. The weather was beautiful and the sessions offered a little something for everybody. Conference highlights included: water quality sampling onboard the MUW Explorer with Dr. Marty Harvill, Biology Dept. MUW; Leopold Education Project presented by Jonathan Peeples, MSU; The Nature of Learning presented by Terri Jacobson, USFWS; Dr. John Guyton's Meteorology for Teachers; Recognition of Cynthia Harrell for EE Educator of the Year (2005) and John DeFillipo for Conference Chair (2005). Thanks to John and Peggy Guyton and Sandra Murphy for their work facilitating the conference.

This year we have planned something different with regard to our annual conference. MEEA is conducting two mini-conferences. So if you missed the conference at Plymouth Bluff circle the dates of March 23-24 and join us for the second conference at Hugh White State Park located near Grenada. Planning is in the works so stayed tuned for conference happenings and registration information. It's not too late to get on the program to present your favorite EE activity or share your EE experiences. At the Spring conference MEEA will hold elections for Board Members and officers. We will also be recognizing the MEEA Environmental Educators of the year. Contact John DeFillipo or Matthew Miller for presenter information or to nominate a candidate for office or Educator of the Year.

As we go into the holiday season and make plans to spend time with family and friends, we have the opportunity to reflect on the many things we have to be grateful for. Among these are the natural resources of our State; from the beaches and tidal marshes along the coast to the hill country of the northeast, from the piney woods to the bottomland hardwoods along the Mississippi River. During the Holiday Season I encourage you to get out and explore these beautiful natural areas. – Best regards, Matthew Miller, MEEA President

## The Native Plant Society of Texas by Gail Barton, Horticulture Faculty MCC

- The Native Plant Society of Texas ("NPSOT") was founded in 1980 for the purpose of "protecting the botanical legacy of Texas." NPSOT currently has close to 1700 members and more than 30 chapters.
- All meetings and field trips are conducted locally by the chapters except for one annual group meeting. The annual meeting is hosted by a different chapter each year in October. The meeting's educational programs and field trips celebrate the unique flora of the meeting's site. As a result, members have the opportunity to botanize all around the state.
- At the close of the annual meeting, NPSOT hosts an Awards Banquet. At the banquet the members honor individuals who have made significant contributions to the field of Texas native plants. Some of the awards are bestowed on active chapters, outstanding members, authors of popular and scientific books and those who have made notable achievements in horticulture.
  - NPSOT is governed by a Board consisting of officers and representatives from each chapter.

**What can MNPS learn from NPSOT?** *Consistency* - Should we consider having our annual meeting at the same time each year so that MNPS members can keep their calendars open?

*Community* - Our organization could be more effective if we had a foundation of local chapters. MNPS has 2 chapters. Do we need others?

*Awards* - MNPS has many deserving members and former members. Should we establish an annual Award for Lifetime Achievement in the Field of Mississippi Native Plants?

*Pride* - Mississippi flora is just as deserving of celebration as the flora of Texas. How can we better celebrate our own floristic Diversity?

MNP&EE is the quarterly newsletter of the Mississippi Native Plant Society and the Mississippi Environmental Education Alliance.

**Deadlines for Articles**

Winter (Dec - Feb) - November 15  
 Spring (March - May) - February 15  
 Summer (June - August) - May 15  
 Fall (Sept - Nov) - August 15

## ***Weeds & Wildflowers in Our Yard Part 3 by John and Peggy Guyton***

**Greenbriar** (*Smilax*) - I must have taken Frost's "Road least traveled," because the paths through the woods I frequented as a youth were choked with greenbriar thickets that must not have been harvested for decades! I never doubted what plant Joel Chandler Harris was thinking about when Brer Rabbit, using reverse psychology, begged Brer Fox not to fling him into the briar patch. We have three small but healthy specimens in our yard. All three seem to twine to the right and each has different shaped leaves. I can't imagine how they have survived former owners, but they are safe for our tenure and we are going to find out if pinching the asparagus-reminiscent flavored tips causes them to develop more lateral vines! I have a piece of greenbriar root from Gail Barton's yard, that we will experiment with maybe carving, include in a mystery table or maybe in an inlay.

**Toothache Grass** (*Ctenium aromaticum*) showed up in our experimental flower bed and we left it for its attractive seed head, to experiment with next time one of us has a toothache and to share with friends. The stems' and leaves' citrus odor can be smelled by crushing them and chewing the leaves and stems releases isobutylamide that alleviates toothache. I can testify to its tingly numbing effect. It is an easy grass to identify with its solitary curved one-side flower/seed spike that resembles a toothbrush.

**Stinkhorn Fungi** - Our stinkhorn fungus welcomed us on our second night in our new house. Of course it did not show itself and at first we thought it was a dead animal near our front door. We even searched under the thick cypress mulch and fortunately the smell was gone in a couple days. A few months later we again noticed our odorous neighbor near the mail box - again there was a good quantity of cypress mulch. About this time we discovered termites in the mulch, so we hauled all the cypress to our compost pile to join the kitchen scraps. Soon the large round stinkhorn "eggs" were erupting into gorgeous fruit, smelly but visually appealing. Stinkhorn's fungi relatives include puffballs, earthstars and the bird's nest fungi. And since it is a decomposer, it is in a good place. Even the flies that come to eat, inadvertently spreading the spores, are in a distant corner of the yard and seldom make it to the house.

**Resurrection Fern** (*Polypodium polypodioides*) - I am reminded of Thoreau's statement that God created ferns to show what He could do with leaves. Well, in this case He stretched the limit! Harold Anderson, the state Project Learning Tree Coordinator, and I were doing a workshop in Ocean Springs at a church preschool when one of the teachers started pulling, the apparently dead, resurrection fern from a live oak in the yard commenting they should clean up their grounds. I immediately stopped her and suggested she bring the pieces inside where we put them on a plate with some water. By the end of the workshop they has resurrected and the participants not only got an incredible collection of materials to use in their classrooms but a religious experience to boot! The resurrection fern in our yard came in with a load of firewood and Peggy pushed the base of one fern leaf into the bark of our water oak where 2 years and a hurricane later (Katrina), it is still alive. We keep a piece of wood with a good stand of resurrection fern in a flowerbed as a show and tell; it is convenient to grab and take to meetings and conferences and was on display as a non-verbal environmental lesson during the 2004 North American Association for Environmental Education Conference in Biloxi and day by day we resurrected it by giving it progressively better soakings.

## ***A Dry Pond Demonstration by Jonathan Peeples, MSU Wildlife and Fisheries Associate***

The MSU Department of Wildlife and Fisheries has recently opened an educational facility illustrating farm pond construction and maintenance. This 1.3 acre pond, located approximately one mile east of the round-about on Blackjack Road at the Berryman Institute, is open Monday through Friday. The site features a concrete pathway connecting informational kiosks describing features normally under the water's surface. A boat on an elevated platform helps visitors visualize where the water surface would be.

Informational kiosks include construction tips and other information on:

- Boat ramps - showing proper construction, slope and appropriate materials,
- Pond dam - demonstrates proper height, slope and general construction,
- Contours - explains pond edges, earth piers, etc. associated with ponds,
- Function and features of fish structures such as gravel beds, underwater streams and brush piles,
- Pier and fish feeders - demonstrates proper pier construction as well as fish feeding tips,
- Fertilization - explains what benefits are derived from fertilizing a farm pond,
- Drain and overflow pipe - Shows how to construct a pond drainage system and
- Additional kiosks are being planned to address duck boxes, wetlands and other features.

## ***Liquid Amber: Tears and a Smilax Berry***

On a walk with an elderly aunt, MNPS member Sherra Owen learned that the teeth-pulling sap from a sweetgum tree is much more enjoyable if chewed with a stretchberry (she identified the stretchberry as *Smilax*) and said it would even enable you to blow bubbles!

## ***A Great Stocking Stuffer – And That Ain't All***

Put Mississippi Story Teller Matt Miller's *And That Ain't All* CD in Christmas Stockings this Year. Matt's collection of 9 stories only cost \$15. Please add \$1 for shipping and handling. Proceeds go into the MEEA Teacher Mini-Grant fund. Please make checks payable to MEEA and mail your request to Matt Miller, TNC, P.O. Box 3477, Tupelo MS 38803.

## ***Integrative Management: Approaches for Roadside Rights of Way***

***by Dr. Jeanne Jones MSU Dept. Of Wildlife and Fisheries***

There are thousands of miles of roads and highways in the Southeastern U.S. Proactive management of vegetation in rights of way (ROW) can provide safe travel and access for motorists and enhance landscape beauty and wildlife habitats. Many states, such as Texas and North Carolina, have well established wildflower programs along their highways and other roads. These beautiful vistas actually tend to increase tourism and visitor satisfaction in these states! A wildflower program does not necessarily require the planting of expensive seed mixtures as many people think. Along Mississippi's roadsides many native wildflowers will colonize naturally if the frequency of mowing and herbicide applications is modified. Furthermore, selective herbicides can be used to target undesired vegetation while maintaining desired plant cover. Management of native plants along roadways can also benefit native wildlife species. Many native wildflowers and native grasses are preferred food and larval host plants of butterflies and moths. Pollen and nectar production of wildflowers attract a diversity of insects that, in turn, serve as high protein foods for wild turkey, northern bobwhite quail, and nongame birds, such as indigo buntings and eastern meadowlarks. In general, seed, pollen, nectar, and forage production by wildflowers and native grasses provide important foods for native birds, and small mammals. Wildlife food plants that can be expected to grow naturally along forest edge-roadside areas may include sunflowers, daisies, asters, partridge pea, lespedezas, coreopsis, blazing stars, horse mints, milkweeds, and many native grasses and sedges. Within the Blackland and Jackson prairie regions of the state, native prairie grasses, including switchgrass, Indiangrass, gammagrass and bluestems, often grow naturally along roadsides. Wet drainages, ditches, and streamsides may support some of the state's most beautiful wildflowers, including phlox, cardinal flower, meadow beauty, beggar tick, sunflowers, wild irises, and spider lilies.



Roadside management that focuses on changes in mowing regimes can result in the colonization of over 50 species of native wildflowers and grasses. Many of these species are not highly preferred forage plants for white-tailed deer, and thus, will not result in concentration of deer along roadsides when compared to frequently mowed, fertilized vegetation, such as ryegrass and fescue. Many naturally colonizing flowering plants are sold commercially at rates of over \$100 per pound for seed and over \$12 per root stock. However, the purchase of wildflower seed is not generally necessary in most areas due to the naturally occurring source of seed and vegetative propagules in adjacent habitats. Many prairie wildflowers and grasses produce seed that are transported by wind or animals, thus, seeds of these species are dispersed to new growing sites over time. If herbicide application and mowing are modified or curtailed, wildflowers will usually appear within one to two growing seasons. Exceptions to this statement may be found in areas that are surrounded by highly maintained lawns, concreted areas, areas with dense stands of agronomic or invasive plants or sites where there has been a high application of herbicide. Even under these conditions, many native plants that produce wind- or animal dispersed seed will colonize sites over several growing seasons.

To enhance wildflower communities, managers should inspect roadsides to determine where mowing will be limited or curtailed. Mowing and herbicide applications can often be changed along the outer edge of the road right of way, especially along woodland-ROW edges. The road berm (within 10 feet of roadbed or pavement) can be mowed according to traditional schedules for maintenance and/or visibility. However, mowing should be limited or curtailed from the forest edge to the roadside ditch. Mowing in this strip should be conducted only during late fall (October through November) to allow for flowering and seed maturation in desirable plants. Late season mowing or selective herbicide application can be used to control undesired woody plants that may restrict visibility for motorists. On gravel or low-use roads where visibility is not as essential, land owners and managers may elect to allow wildflower communities to develop on the entire ROW (from the road to ROW edge). Low maintenance ROW can be mowed one time annually during late fall and undesired vegetation can be managed with selective herbicide applications. Late fall mowing allows time for seed maturation in many wildflowers and wildlife food plants.

Concern may arise over attracting wildlife to roadsides through the abundance of native food and cover plants; therefore, proper location selection of native plant areas is essential in an integrative vegetation management approach. Erosion control plantings along roadways that require seeding of fertilized cool season annuals often attract foraging white-tailed deer during spring and winter months following seeding. Thus, the incidence of deer – vehicle collisions create real concerns about attracting wildlife to roadsides. In the Southeast, many native plants that provide food and nesting cover for other wildlife species are not highly palatable to deer. Coverage of these plants may actually attract fewer deer to roadsides when compared to fertilized erosion control plantings and agronomic grasses.



Wildflowers, butterflies and grassland-shrub birds are among the wildlife species that can benefit from roadside habitat management. For example, research has shown that some species of birds, such as indigo buntings and field sparrows, were positively affected by maintenance of early successional native vegetation along roadsides. Many small mammal species are benefitted by creation of early successional and shrub habitats on roadsides. But why attract songbirds, quail, rabbits and butterflies only to have them killed by vehicles? Zonation of various plant communities along a roadside can address concerns

over mortality arising from vehicle-wildlife collisions. The location of these food plants along the right of way edge can provide a dispersal or movement route away from traffic flow. This consideration is especially important for birds and butterflies that fly within 5 feet of the ground's surface as they cross roadways. Conversely, native plant management within medians can lead to greater vehicle induced mortality. Although establishment of wildflowers within the medians can enhance roadside beauty and wildlife habitat quality, planners should consider that as animals travel to and from food plant sources, they may suffer high mortality rates if traffic is heavy. In median

areas, native warm season grasses, such as switchgrass, big bluestem, little bluestem or Indiangrass, can provide attractive cover that control erosion and enhances aesthetic quality.

Road and highway management agencies must ensure good visibility due to safety and liability requirements. In many cases, roadside rights of way are maintained in low growing grasses through frequent mowing during the growing season. Woody vegetation is often controlled through application of herbicides. These measures are implemented to retain plant height that generally does not exceed 3 feet. Although this structure and height may be required, flexibility often exists in maintenance requirements. For example, the width of maintained corridors along roads and highways often exceeds 50 feet on each side. Managers often begin mowing these areas during April-May and continue mowing at regular intervals throughout the growing season. This approach requires high expenditures of funds, personnel time, and equipment use. Frequent mowing that occurs from spring through summer months destroys the nests of ground nesting animals, such as rabbits and wild turkey, and often curtails seed production in annual wildlife food plants. In many areas where littering is a problem, mowing exposes discarded trash along the roadsides, creating unsightly roadside conditions and impairing public perception and ecotourism value. Frequent mowing and broadcast application of broad-spectrum herbicides for broad leafed plant control also tends to reduce wildlife food plants and wildflowers over time. This type of management generally favors the spread and formation of dense stands of less desirable non-native plants, such as tall fescue, Johnson grass, bahiagrass, bermudagrass, vasey grass, sericea lespedeza and cogongrass. Although these plants can control soil erosion, they are of minimal value to wildlife (bahiagrass is an exception due to seed value for turkeys), and all out-compete native wildlife food plants. Specifically, the spread of cogongrass along road and highway ROW of the Southeast is of major concern. Seed and root propagules of this plant are transported on mowing and road maintenance equipment, and roadsides create optimal dispersal corridors for this highly invasive plant due to vegetation management practices. For optimal wildlife benefits, roadside management must include detection, monitoring and control of invasive plants.

An approach is needed that integrates the maintenance of roadside visibility, control of invasive plants, wildlife habitat development and roadside aesthetics. To allow for the development of wildlife food plants along roadsides, mowing immediately adjacent to the road within a 10 to 15-foot buffer can be accomplished. This buffer can be mowed or herbicided regularly to maintain low growing vegetation. Another approach is to develop and maintain a low growing coverage of plants within this roadside buffer. Low growing plants less than 1 ft. in height which grow during the cool season of late winter to mid spring include hop clover, oxalis, chick weed, hen bit, wild mints and wild geranium. Most of these species are early colonizers and occur naturally following disturbance associated with road construction, contouring or grading. Due to their soil building capabilities and wildlife food value, they should not be killed by herbicide applications. Adjacent to the buffer that is to be maintained in low growing vegetation, a plant community of intermediate height (3 feet or less) should be developed. Plants, such as panic grass, beggarweeds, native perennial lespedezas, vetch, bullgrass, common ragweed and milk pea are desirable mid-sized plants. These plants should not be herbicided if they occur naturally on the ROW, and mowing should be conducted during late fall to allow time for maturation of seed. A third zone located along the outer ROW edge can be allowed to develop into a vine-shrub community. This area may exhibit a mixture of low-growing woody plants, such as blueberry and blackberry, and tall-growing herbaceous plants, such as tall goldenrod, native sunflower, beggartick and compass plant. This cover can provide resting, nesting, escape and feeding cover for many wildlife, such as turkey and rabbits, especially in areas where road ROW cross urban development or croplands.



Mississippi's landscape is diverse and beautiful. Many citizens and visitors drive to see this beauty and to view wildlife. Roadside and highway side management that integrates retention of our state's beauty and wildlife diversity along with motorist safety can increase our life quality on a daily basis and enhance public perception and visitation to our state. So specific benefits of roadside management for native plants can include the following for Mississippi's people and wildlife:

- Create lower vegetation expenditures by an average of over \$10-\$20/unmown acre,
- Slow the rate of spread of invasive plants which require bare soil and disturbance for spreading along road ROW,
- Obscure visibility of roadside litter and trash,
- Increase roadside beauty due to occurrence of wildflowers, native bunch grasses and native pollinators (butterflies and hummingbirds),
- Increase food plants for wildlife species of old fields, prairies and meadows and
- Provide nesting habitat for wild turkey, rabbits and other ground-nesting birds and small mammals.

### ***Notes from the Harrell Prairie Field Trip by Gail Barton***

On Saturday, November 4, a group of seven MNPS members gathered at Wendy's near I-20 in Forest, Mississippi. We caravanned the short distance to Bienville National Forest's Harrell Hill which is the site of Harrell Prairie. At the site, Marc Pastorek briefly talked about characteristics of prairies and some of the common plant elements. The group quickly learned to identify the Four Horsemen of the Prairie - Indian Grass (*Sorghastrum nutans*), Little Bluestem (*Schizachyrium scoparium*) Big Bluestem (*Andropogon gerardii*) and Switch Grass (*Panicum virgatum*).

We then wandered through the Harrell Prairie for almost two hours, identifying plants as we walked. Few plants were in bloom but the group learned to recognize a good many prairie plants by their fruit characteristics. A partial list of plants identified includes: Three-awned Grass (*Aristida* spp.), Purpletop (*Tridens flavus*), Beaked Panicum (*Panicum anceps*), Eastern Gamagrass (*Tripsacum dactyloides*) Coastal Muhly Grass (*Muhlenbergia capillaris*), Florida Paspalum (*Paspalum floridanum*), Bushy Blue Stem (*Andropogon glomeratus*), Longspike

Tridens (*Tridens strictus*), Gray-headed Coneflower (*Ratibida pinnata*), Whole Leaf Rosinweed (*Silphium latifolia*), Purple Coneflower (*Echinacea purpurea*), Black Eyed Susan (*Rudbeckia hirta*), Button Blazing Star (*Liatris squarrosa*), Sneeze Weed (*Helenium autumnale*), Clasp Leaf Aster (*Aster patens*), White Fall Aster (*Aster dumosus*), Ironweed (*Vernonia missurica*), Butterfly Weed (*Asclepias tuberosa*), Button Snakeroot (*Eryngium yuccifolium*), Bee Balm (*Monarda citriodora*), New Jersey Tea (*Ceanothus americanus*), Narrowleaf Mountain Mint (*Pycnanthemum tenuifolium*) and Prairie Clover (*Dalea* spp.).

No field trip is complete without mystery and excitement. We saw two unknown and very beautiful tall purple asters in full bloom. One was almost 8 feet tall. We think they may have been *Aster puniceus* or *Aster novae-angliae*. We saw many exciting plants but the most thrilling moment was when Jennifer Heffner almost stepped on a young armadillo and the two of them leapt straight up into the air.

When we left Harrell Prairie, we set out to find two other prairie remnants. We followed directions provided by JoVonn Hill who has done entomological research at the sites. The first remnant was around 10 miles from Harrell in beautiful rolling hills near Pinkston Hill which is one of the highest points in Scott County. The site is on the very scenic Sherman Hill Road. We admired many beautiful hickories and post oaks as we drove. Marc had explained that presence of Indian grass (*Sorghastrum nutans*) is one of the most reliable indicators of a prairie remnant. We drove slowly looking for Indian grass and stopped when we saw a large stand of little bluestem by the road. We explored the site, finding a lovely Ladies Tresses Orchid (*Spiranthes magnicamporum*) in full bloom. We proceeded down Sherman Hill Road, headed back to I-20 and on to Exit 100 where we found a second remnant just ¼ mile south of the interstate. This remnant was small but diverse. We found a couple of plants that we had not seen at Harrell including Century Plant *Manfreda virginica* and Compass plant (*Silphium laciniatum*).

The sky was blue and the weather was beautiful and breezy. The hickories were at their peak color. Our small, diverse group, hailing from Braxton, Vicksburg, Brandon, Jackson, Picayune and Meridian, included serious gardeners, landscapers, a golf course superintendent and a teacher. We had pleasant conversation and we all learned some new plants. In short, it was a wonderful day to be in the prairie. If you couldn't make the field trip, you may want to check out the Mississippi Entomological Museum's web site about Black Belt Prairies in Mississippi at <http://www.msstate.edu/org/mississippientomuseum/habitats/black.belt.prairie>.

### ***A Naturalist's Guide to Weather Forecasting Part 3 by John Guyton, Ed. D.***

**Relative Humidity** is the ratio of the amount of water vapor in the air to the amount it can hold at that temperature. A glass of ice tea is an indicator of relative humidity. Moisture in the air that comes in contact with the cold glass condenses, leaving drops of water on the outside of the glass. A pine cone is also an indicator of relative humidity. Moist air tightens the scales to protect the seeds. A fresh pine cone on a window ledge is fun to watch as the humidity changes. Increasing humidity is often a sign of rain.

The hygrometer is used to determine the amount of water vapor in the air relative to the amount it can hold. Warm air can hold more water than cool air, and air containing water vapor is lighter than dry air (this also influences barometric pressure - air containing water vapor is lighter so the barometric pressure is less).

When the indoor humidity drops below 30%, breathing can become uncomfortable and furniture creaks. Humidity in excess of 60% can contribute to mold and mildew problems. When the humidity is less than 40%, air pulls, or absorbs, water from any available source. Dry air can make you feel cold in a warm room. Moisture evaporating from the skin leaves a feeling of chilliness, even when the temperature is 75° F or more. A humidity higher than 60% makes people feel their environment is warmer than it really is. An area at 72° F and 60% relative humidity, or greater, feels warmer than 72° F with a relative humidity of 40%. The evaporative cooling of the body (perspiration) is reduced as relative humidity increases. If the thermostat indicates it is 75° F and you are still cold, turn on the humidifier!

The science involved in determining the amount of moisture in the air is rather interesting. The dryer the air the more quickly water will evaporate. Water must absorb heat to evaporate. When you dip your finger in a glass of water and spin it around you notice it becoming cooler. The water is scavenging heat from your finger in the process of evaporating. Think of temperature as a measure of molecular motion - the greater the molecular motion the higher the temperature. Some of your finger's molecular motion is transferred to the evaporating water. A wet/dry bulb hygrometer compares the temperature of a thermometer with a wet wick over its bulb to a dry bulb on another thermometer. The wet bulb temperature will typically be lower because of the evaporative cooling of the water on the wick. Tables are used to interpret the readings from the hygrometer. Direct reading digital hygrometers are also found on many digital weather stations.

**Dew Point** is the temperature at which atmospheric water vapor starts to condense as the air is cooled. As air heats up it can hold more water vapor. When the air mass begins to cool down it must give up some of its moisture. When the relative humidity reaches 100% and the temperature continues to drop, water vapor will begin condensing into liquid water in the form of dew, clouds, fog or rain. When the ground cools off very rapidly at night, the water vapor in the air touching blades of grass condenses directly onto the grass. When you shower, the warm water increases the humidity and the dew point temperature. The cooler mirror condenses some of the moisture. If the shower is hot enough and the air humid enough, a light fog may form in the bathroom. If the humidity is high and the temperature is falling you are headed for dew point and can expect dew, fog or precipitation.

**Forecasting Frost** – The closer the sunset temperature to freezing the better the chance for frost. Strong breezes discourage frost formation. Wind shifting to the north or the arrival of a cold front overnight can cause frost. Warm soil discourages frost. If the local terrain is in a bowl or depression, cold air may puddle contributing to frost formation. Land heats faster and cools quicker than water so wet soil or proximity to a lake may inhibit frost formation. And finally, if the dew point is above 45°F at sunset frost is less likely but if the dew point is below 40°F a frost warning may be in order.

**Thunderstorms and Lightning** – The distance to a thunderstorm can be determined by counting the seconds between the flash and thunder. Five seconds is about a mile. Lightning travels at 186,000 miles per second (almost instantaneous) and sound travels at 1,100 feet per second. If the flash and thunder are almost simultaneous it is very close. **If you can hear thunder you are within striking distance. Seek shelter immediately!** During the past 30 years, lightning has killed an average of 73 people per year in the United States. The National Weather Service reports that lightning injures 325 to 500 people per year. This is not surprising with about 21,746,000 cloud-to-ground strikes each year. There are approximately 1800 thunderstorms occurring at any given moment with about 100 strikes per second. Many casualties occur **before** a thunderstorm arrives by people ignoring the early warning signs. A person struck by lightning can sometimes be revived by mouth-to-mouth resuscitation.

A thunderstorm can last for 2 hours, however, peak activity typically last for only about 15 to 30 minutes. Since most weather arrives from a westerly direction, lightning north or south of your position is passing you by. Lightning west of you is headed your way.

As lightning passes through air it heats the air to around 15,000 degrees C (over twice the temperature of the sun's surface) causing it to rapidly expand! As the air expands and contracts explosively pressure pulses are generated along the path of the lightning strike. The peals of thunder originate at different points along the path of the lightning and thus arrive at different times causing its rolling sound. The sound of thunder can be simulated by lining up a couple of classes of students outside and having each student, in turn, pop an inflated paper bag.

### Try This

A delicious way to teach the concept of **dew and frost** is to make ice cream in a can. Seal ½ pint (250ml) light cream, a small can of condensed milk, 1-2 teaspoons vanilla extract in a small clean dry coffee can. Place this can in a larger clean coffee can filled with ice and salted liberally, then cap. Gently roll this can around on a non-carpeted floor (accidents happen). Soon moisture will begin to condense on the outside of the larger can. Allow the can to stand for a few minutes and the moisture (dew) might freeze forming frost. The air touching the can has been chilled below the dew point forcing the air to give up some of the water it contains and then in a simulation of the ground giving up a lot of heat energy during a clear night (getting cold) the dew freezes. Air conditioned rooms and the dry air characteristic of cold fronts may reduce the available moisture and cause this activity to perform poorly - but it will still taste good.

## Local Phlox Makes it Big in Texas! By Gail Barton, Horticulture Faculty at MCC

A few years ago, while botanizing in Scott County, my friend Peter Loos and I discovered an interesting stand of prairie phlox (*Phlox pilosa*). Normally prairie or Ozark phlox has pinkish purple flowers. This small population, however, exhibited every shade of pink, purple and even one lovely clear white.

I took cuttings and luckily several of the white ones rooted. I then took cuttings of the cuttings. We both shared the plants with friends in Mississippi and Texas. Peter was generous with the cuttings he gave to the SFA Mast Arboretum at his alma mater, Stephen F. Austin University. Dawn Stover, a Technician at the Arboretum, loved the phlox and began telling nurserymen what a great plant it was. She suggested that we name the plant 'Forest Frost' phlox since it was found near Forest, Mississippi. In addition to the unusual white flowers, 'Forest Frost' has very narrow fine-textured leaves and a long season of blooms. It tolerates heat, drought and other abuse. I think it is a superior garden plant and many others agree.

In early October, I received a phone call from the Awards Chairman of the Native Plant Society of Texas. Each year NPSOT gives the Lynn Lowrey Memorial Award for horticultural achievement in the field of Texas native plants. Peter Loos and I had been selected to receive the 2006 award for our work on 'Forest Frost' phlox. One of the criteria for selection is that the plant has to be in commercial production. So, the awards committee found a reasonable number of Texas nurseries that are growing the plant. That means that 'Forest Frost', after taking a detour through Texas, will be coming home soon to a garden center near you!

## Field Trips - Everyone is invited MEEA, MNPS or others interested in seeing Mississippi's finest! Just let us know...

**Mississippi's Grand Canyon - The Old Cove** Bob Brzuszek will lead this excursion on Saturday March 24 from 9:00 to noon. The Old Cove is a very deep ravine with incredible plant diversity. Many of Mississippi's heritage plants can be found in the Old Cove.

The **Ethel S. Vance Natural Area** excursion (just west of Liberty on the West Fork Amite River) will be led by Dr. Mac Alford on Saturday, May 5, 2007 where we will see a hardwood forest on a gravel outcrop/bluff featuring goodies like *Stewartia* and *Schisandra* and then a bottomland hardwood forest with magnolia, beech, spruce pine, and millions upon millions of *Illicium floridanum* (stinkbush or Florida anise). This is also the weekend of the Liberty Heritage days complete with musical entertainment, arts and crafts booths etc.

Contact Trip Chair Gail Barton if you plan to participate or with questions at [lgbarton@gmail.com](mailto:lgbarton@gmail.com), 601-483-3588 (home) or 601-481-5440 (cell). Please let Gail know ASAP since arrangements often depend on the number of participants expected.

**MS Native Plant Society Membership Application or Renewal Form**

Join the organization devoted to the study and appreciation of wildflowers, grasses, shrubs and trees native to the state of Mississippi. **Join Today!**

\_\_\_\_\_ New Member \_\_\_\_\_ Renewal Name \_\_\_\_\_  
\_\_\_\_\_ Student: \$7.50 County \_\_\_\_\_  
\_\_\_\_\_ Individual or Family: \$10.00 Address \_\_\_\_\_  
\_\_\_\_\_ Sustaining: \$15.00 \_\_\_\_\_  
\_\_\_\_\_ Contributing: \$35.00 Telephone \_\_\_\_\_  
\_\_\_\_\_ Life: \$125.00 email \_\_\_\_\_

Please return this form with check to: MNPS, Inc., C/O Dr. Debora Mann, 114 Auburn Drive, Clinton, MS 39056-6002

**Gulf Coast Chapter MNPS:** Meets every 4<sup>th</sup> Monday at various locations near Gulfport. For more information contact president, Edie Dreher at 228-864-2775 or mail to 100 24<sup>th</sup> St., Gulfport, MS 39507.

**\*Starkville Area Chapter:** For meeting times and information, contact Bob Brzuszek at rbrzuszek@lalc.msstate.edu or phone 662-325-7896.

**Visit the MNPS, Inc. Web site at:** groups.msn.cm/mississippinativeplantsociety

***Join MNPS, MEEA or Both!***

**Mississippi Environmental Education Alliance Membership Application**

The state alliance devoted to environmental education and the affiliate of the North American Association for Environmental Education. **Join Today!**

**Name:** \_\_\_\_\_ New \_\_\_\_\_ Renewal \_\_\_\_\_

**School or Organization:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

**Phone:(day)** \_\_\_\_\_ **(evening)** \_\_\_\_\_

**e-mail:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

- |  |   |                                 |
|--|---|---------------------------------|
| <b>Membership Category</b>                           | <b>Committee Interests:</b>                 | with your check or money order, |
| <input type="checkbox"/> Individual (\$10.00)        | <input type="checkbox"/> Strategic Planning | to MEEA, C/O John DeFillipo,    |
| <input type="checkbox"/> Student (\$5.00)            | <input type="checkbox"/> Nomination         | MS Museum of Natural Science,   |
| <input type="checkbox"/> Family (\$25.00)            | <input type="checkbox"/> Conference         | 4391 South Frontage Rd.,        |
| <input type="checkbox"/> Institution/Business (\$50) | <input type="checkbox"/> Awards             | Columbus, MS 39701              |
| <input type="checkbox"/> Life (\$150.00)             | <input type="checkbox"/> Communications     |                                 |
| <input type="checkbox"/> Patron (\$150 - \$1,000+)   | <input type="checkbox"/> MEEA Board         |                                 |
|  | Return this application,                    |                                 |

The Mississippi Environmental Education Alliance conducts an annual conference and occasional workshops. They are preparing to assist colleges of education meet the new EE standards required for NCATE accreditation. For information on upcoming activities watch the newsletter or contact President Matt Miller.

*MEEA's Web site, "EE in Mississippi," should be active in early 2007!*

*Join us for the MNPS Field Trips on March 24 (Old Cove) and May 5, (Ethel S. Vance Natural Area ), 2007.*

Jackson,  
Box 150  
Millsaps  
c/o Dr. I  
PLANT  
MISSISS