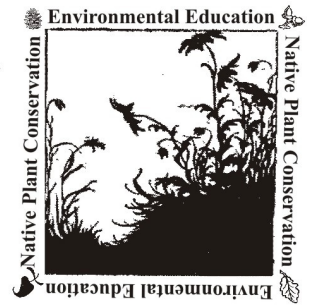




Mississippi Native Plants and Environmental Education

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



Volume 25 Number 4

Use natives in your Christmas decorating and introduce your family to native-natural decorating!

Winter 07/08

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

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Nature's Toys: A Christmas Greeting From Your Editors

With the news that China is "dumping" lead on the US toy market, now is the perfect time to search for nature's toys in the backyard, gardens, and the home workshop. The following is from a book Peg and I are working on and it seems quite appropriate for this Christmas season.

How many of these do you remember: plantain pop gun; poppy dolls; acorn men; saw palmetto dolls; rose-hip necklaces; teasel hedgehog heads; foxglove puppets; twisted rush bracelets; clover necklaces; cane elder or willow flutes and whistles; pinecone turkeys; pea shooters from hollow elderberry or sumac stems; latex used for balloons and balls; blowing leaves or blades of grass; seed helicopters; forked stick slingshots and nut ammunition; corn husk dolls; reed baskets; cattail leaf dolls, waterproof baskets, and toy canoes; Venus fly traps and pitcher plants; daisy chains; popping bladder champions (*Silene vulgaris*), the original bubble wrap; melon and apple seed necklaces; pecan pigs (wiggly matchstick legs and tail with a fly or carpenter ant inside to wiggle 'em); gourd and okra seed rattles; homemade turkey and duck calls; dodder or Spanish moss for witches hair; Mexican jumping beans; beggar lice or cocklebur tag (sticking as many as possible to each other's back; thorns for fish hooks or pins; hickory nut shell whistle; sedum frog bellies; squirting cucumber water pistols; tucking fruit-bearing stems of witch hazel in fall arrangements for the eventual seed bombardment; secretly altering the pH of soil under grandma's pink hydrangeas to change them to blue; reindeer moss model railroad trees and hackberry bark cities; making small latex balls from milkweed's milky juice; poplar leaf face masks; sycamore and pine needle hats; birch bark canoes; pinching a bloom out of a crape myrtle bud; blowing dandelion; shelf fungus art board; planting catnip for cats; milkweed pod insect cages; potato stamps; potato heads; grape vine wreaths; pumpkin jack-o-lanterns; gourd birdhouses and dippers; corn cob pipes and rabbit tobacco; smoking grapevines; grass seed heads that walk up your arm; sagebrush yard brooms; rose or gardenia petal poppers; goldenrod gall fishing floats; antler rattles to attract deer; stringing popcorn; worm weeds for fishing and making kite stays with newspaper sail and scrap cloth tail; porcupine quill embroidery; tire swings and planters; fall leaf glitter; skipping rocks and counting ripples on the pond; sand castles; mud pies; downhill go-carts made from apple or soap boxes; creek-clay figures; charred stick markers; pine-wood derbies; popsicle and matchstick structures; dew drop magnifying glasses; lovage stalk drinking straws with their celery like flavor; phone book or encyclopedic flower presses; bamboo or soup can potato cannons; firefly lanterns; scrap wood (or forked ash saplings) stilts and tin can puddle jumpers; selling Yankees porcupine eggs (cockleburs); moss carpet for doll house; lambs ear blankets for doll beds; planting seeds in egg shells; soup can top pinwheels; walnut shell or stick boats with leaf sails to float in ditches; scrap wood boats with cloth sails; floating flowers; walnut shell candles; clothespin dolls; wooden and clothespin rubber band guns with inner tube bands; tree houses; smearing mulberry juice on hats to attract butterflies; sampling honeysuckle's nectar; cardboard box puppet stage; building blocks from the wood shop; making snow angels; yard twig pick-up sticks; handkerchief parachutes; arthropod zoo (insects, arachnids, crustaceans, etc); bull-roarer (flat thin piece of wood about six inches long and 2 to 3 inches wide with about a yard of string tied to one end and whirled overhead); crimson blood-root war paint; citrus fireworks; flies on leashes; beetles pulling Coke bottles; tin can telephones; pine needle baskets; newspaper hats; sunflower houses; making scarecrows; homemade scooters made with discarded roller skate wheels; stick or broom horses; pollen wars; grafting cactus in the yard; hollyhock dolls; sticking three toothpicks in a potato or avocado pit and suspend it halfway in a jar of water to watch roots grow; and natural doll house furnishings (acorn-cap plates, red oak acorn cups and saucers, peach pit or walnut baskets, etc.).

Merry Christmas and Happy New Year from your editors!

President Gail Barton's Notes & Goals for MNPS

I am delighted with the participation at our annual meeting last month in Oxford. There were 79 people (63 members and 15 guests) recorded on the sign in sheet. During one of the talks, however, members standing in the back reported a head count of 93. Thanks to everyone who made the effort to attend.

The speakers were wonderful. My only regret is that the schedule was so tight that I didn't have the opportunity to talk to other members as much as I would have liked. Reading the Sign-in sheets after the fact, I recognized names of people I had communicated with via e-mail and would like to have met. I realized that folks I knew from my old Flowerplace Plant Farm days were there and I had either not recognized them or not had the opportunity to speak to them. I regret missing these networking opportunities.

I am honored to serve as the new president. During my time as president I would like to accomplish the following:

- I would like to hold our 2008 meeting in a natural area. I want the schedule to include speakers but have more emphasis on field trips and possibly an offering of concurrent workshops. I have been talking to the folks at the **Noxubee Wildlife Refuge** near Brooksville and there is a good possibility that we will meet there on **October 18, 2008**. This year we will request advance registration if possible and there will likely be a small registration fee. Details will follow in the next newsletter. You may want to check out what they're doing at the Noxubee Refuge and take a peek at our potential meeting site by visiting <http://www.fws.gov/noxubee/>
- I hope to continue the membership drive. Our membership has increased during the last 3 months but is still lower than it once was. I applaud MNPS members like Sherra Owen, Kristin Lamberson and Joe and Merrill Willis who work with young people. They are recruiting the MNPS members of the future. We should continue to honor them for their efforts.
- My only regret about serving as President is that I had to give up my job as Trips Chair. MNPS was founded in a large part so that members could learn about native plants in the field under the tutelage of Dr. Sidney McDaniel. I think we need a website where field trip photos can be published. Participation in field trips might increase as a result. I would like input from members on a web site.

Please contact me by e-mail at lgbarton@comcast.net if you have input or ideas about a website. By the way, I gave a different e-mail address at the meeting and due to a glitch on my own web site, the address did not work. If you tried to contact me to give me your e-mail address, please try again at the address above. I also solicit your ideas regarding speakers or topics for the next meeting.

Hilary's MNPS Meeting Report

The 2007 Annual meeting at the Lafayette County and Oxford Public Library were delightful. "Functional Flora: Creating Landscapes to Nurture, Teach, Heal and Feed" fit the measure of good luck for an old-fashioned wedding: something old, something new, something borrowed, something blue: Ed Croom, foremost ethnobotanist for the plants of the Southeast, fired us up with a glimpse of the fascinating folks and folkways for the healing uses of plants – something "old." Sherra Owen's engaging presentation might just as well have been called Senses of Place, as she summons the excitement of the moment of discovery – feeling the smooth stem and the rough stem – something "new." Robert Poore, award-winning Landscape Architect, Landscape Ecologist and Ecological Planner focused on the patterns of nature which represent the ecological processes for sustainable planning -- something "borrowed." Kristin Lamberson, Strawberry Plains Audubon Center Interpretive Gardens Specialist, shared inspiring photos of plants and animals, stressing the interconnectedness of the landscape and the residents it feeds, shelters, nurtures – something "blue," if you think of clean sky and water, something "green" if you think of the vegetation as the basis of the catchy NRCS slogan "Earth Green - Water Clean".

President John DeFillipo's Letter

As the last of the leaves crunch to the ground we turn inward to the warmth of our homes and the comfort of our thoughts. It is a time of reflection as well on the achievements of MEEA and our new growth potential.

MEEA greeted the coolness of the season with a comfortable gathering at this year's fall conference. Friday night's event at the Rainwater Observatory had us peering into the heavens to catch a glimpse of comet Holmes. Inquire at the observatory about public events the second Friday of the month. Saturday teachers energizing their curriculum, journeying to Mexico for the eclipse of the century, focused on Mississippi's watersheds and learned about the great backyard bird count. We are in the beginning phase of planning next year's fall conference and we would appreciate your help in coordinating and planning another successful event.

The launch of our webpage www.EEinMississippi.org was met with great excitement and positive feedback. Within the course of 2008 this website will become our first and foremost communication tool. If you haven't already done so, please go to the site and register your name. We need your help in populating the site with organizations, EE schools and EE events statewide.

Our new board of directors discussed ideas, goals and initiatives for 2008. One of our first goals is to invigorate MEEA's standing committees. As you reflect on your new years resolutions, please consider joining one or more of the following committees: Awards/Grants, Budget/Finance, Educational/Career, Communication/Publications, Conference, Membership, Nominations and/or the Greening of MEEA. Please contact Angel or me for more detailed information.

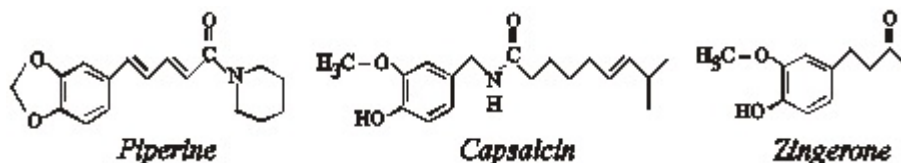
Thank you all for your time and commitment to make our organization all it can be. I look forward to the development and growth of MEEA during 2008. May you reflect and enjoy the gift of our Earth this holiday season. – MEEA President John DeFillipo

Pesticidal Spices and the Smell of a Chemical Double Bond

by John Guyton, MNPS Education Chair

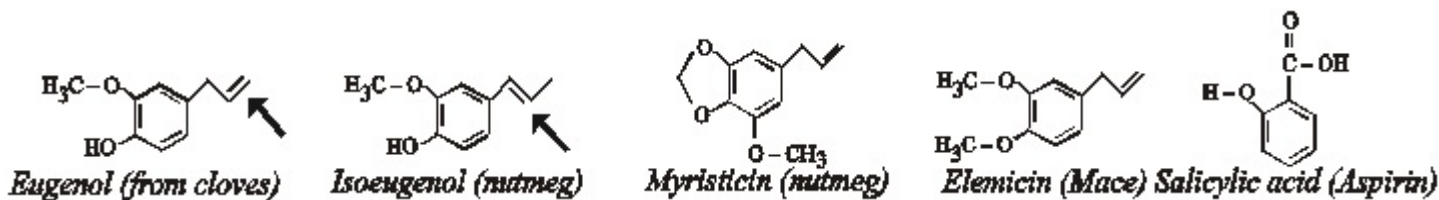
Pepper (*Piper nigrum*), the most commonly used of all spices, originated in India. The active ingredient is Piperine (C₁₇H₁₉O₃N) and the hot sensation is not a flavor, or taste, but the response of the pain nerves to a chemical stimulus! The shape of the molecule is thought to fit a protein in the nerve ending.

Chili peppers (*Capsicum*) originated in Mexico and have been used for at least 9000 years. The chemical compound responsible for their pungent flavor and intense heat is capsaicin (C₁₈H₂₇O₃N) and its structure is similar to piperine (C₁₇H₁₉O₃N). The shape of the molecule is responsible for its heat. Ginger root (*Zingiber officinale*) contains zingerone (C₁₁H₁₄O) another hot compound with a similar structure. All three of these plants have other similarities associated with their molecular structure, all increase the production of saliva and aid digestion. Sample a few grounds of black and red pepper reflecting on pain or flavor. Piperine and capsaicin are alkaloids, and natural fungicides, insecticides and pesticides.



Clove and Nutmeg are from the Spice Islands (now Indonesia). Arab, Malay and Chinese traders marketed the spices in Europe and Asia at greatly inflated prices from the many hands the spices passed through. Most scholars and mariners had accepted that the world was round by this time, but not the Vatican. Pope Alexander had allowed Spain all non-Christian lands west of a north-south line 300 miles west of Cape Verde Islands – in effect this could be interpreted to give Spain control of the Spice Islands. The Spanish therefore financed Ferdinand Magellan's expedition to reach the Spice Islands by sailing west in 1512.

Clove and nutmeg are from different places and different trees and they have similar chemical structures that results in distinctive flavors. Oil of clove is essentially eugenol and oil of nutmeg is isoeugenol, the only difference being the location of a double bond. **Smell clove and nutmeg while examining their molecular structure** (first 2 molecules in figure below) **noting that you are smelling the difference the location of one double bond makes** (see arrows)! Note also the similarity of zingerone, or ginger's, structure and distinctive smell (molecular structure above). Cloves were used during the Han dynasty (200 B.C.) as breath fresheners and oil of clove was used for toothaches and as an antiseptic.



The nutmeg produces two spices, nutmeg from the shiny brown nut and mace from the red covering or aril. The structures of these two compounds, myristicin and elemicin are very similar to each other as well as to that of cloves, nutmeg and peppers.

Now, why did all of these plants develop similar chemicals? As it turns out piperine, capsaicin, zingerone, eugenol isoeugenol and salicylic acid are potent natural insecticides. Our livers are effective at breaking down these compounds and we are much larger organisms than the pesticides are adapted to repelling. The brain releases opiate like compounds known as endorphins to mitigate the pain. These endorphins result in feelings of satisfaction or contentment and may contribute to addictions to spicy foods!

[Inspired by the book Napoleon's Buttons by Penny LeCouteur and Jay Bureson ISBN: 1585423319 - and thanks to Molly Maass for sharing this book with me!]

Ants, the Earliest Teachers? by John Guyton, Ed. D. MNPS Education Chair

The Smithsonian magazine reported in March 2006 the observation of the English ant (*Temnothorax albipennis*) in an educational practicum. The exercise is referred to as tandem running where the teacher, an experienced ant, leads a naive ant from the nest to food. The student communicates with the leader by tapping its antennas on the leader's abdomen. During the lesson the leader slows her (no, not a sexist slip) pace to about one-quarter speed, making this quite possibly the first non-human pupil-teacher interaction!

THANK YOU to all of you who have renewed your memberships and a Special THANK YOU to our new Life Members!

Putting Bugs in Schools by John Guyton, EdD, MSU Wildlife and Fisheries; David Held, PhD and Mike Williams, PhD, Entomology and Plant Pathology

Children come to school curious because nature has created in each a discovery quest. Teachers do what they can to protect children from things that can harm them, and since they often do not know much about insects, they err on the side of safety, discouraging children from playing with them.

Insects are ubiquitous and represent humans' most frequent encounter with wildlife. When these encounters are not successful, humans are often on the painful end! Insects are linchpins in the web of life and both the bane and an essential partner in agriculture. Insects and other invertebrates are of great concern to medical entomologists and are currently influencing our time outdoors - insects today including gnats, and mosquitoes, are sending a lot of people running for cover! Most curriculum elements involving animal life can be taught with locally observed or collected insects.

Textbooks are the purveyor of curriculum, and textbook authors are lobbied hard by various special interest groups. Unfortunately, textbooks remain devoid of a lot of important material including entomology. The American Forest Foundation responded to the lack of factual information by creating a forestry curriculum supplement, Project Learning Tree (PLT) over 30 years ago, that remains very popular and has been successful in getting their message out. The PLT strategy to get forestry information into schools has been copied successfully by many other organizations, and we will use a similar approach with Project Bug.

We have been conducting residential bug camps in Mississippi for over a decade and have accumulated a wealth of experience and activities. Teachers discovered Bug Camp a long time ago and we provide them with CEUs. The Bug Camp staff is composed of entomologists, horticulture extension specialists, science educators and others. Check out bugcamp.org for a more information.

We have begun outlining the project and, with this article, invite teachers and others interested in bugs to join us. A variety of venues will be used to support teachers and several are listed below.

Drs. Held, Guyton and Williams publish an almost-monthly newsletter for youth and adult entomological enthusiasts, making it useful to teachers. As activities are developed, the best will be shared with readers of the *Gloworm*. Participating teachers and others will be added to the *Gloworm* mailing list, and the *Gloworm* will serve as a regular avenue of communication with our developers (teachers and others). Back issues of the *Gloworm* can be viewed on the Internet at <http://msucare.com/newsletters/pests/gloworm/index.html>.

The Mississippi Entomological Association (MEA) represents an excellent place for participating teachers to learn what is happening in entomology, interact with entomologists, and discuss possible lessons or activities. After development of the base curriculum is completed, the Project Bug staff will continue to work with Mississippi teachers to develop related materials and will host an annual workshop during the MEA conference. Over the next couple years the Mississippi Science Teachers Association and the Mississippi Environmental Education Alliance will be utilized for sharing our progress and recruiting additional teachers. Periodic drive in workshops will be held to introduce teachers to entomology concepts to further stimulate their creativity. As other opportunities to bring teachers and entomologists arise we will bring them together!

In fact, one has just come to our attention - the Lepidopterists Society <<http://www.lepsoc.org/>> is meeting at Mississippi State this summer and we have been invited to bring our teachers! Of course we readily accepted so go ahead and mark June 23 through 27 on your calendars. We may start a day earlier and stop a day earlier but we are early in the planning stage. Dr. Richard Brown, conference planner, has offered to group the less-technical papers early in the conference to provide us with a lot of excellent ideas to begin converting into lesson plans. There will be incredible nocturnal and diurnal opportunities to collect with professional and avocational butterfly and moth enthusiasts!

Project Bug will contain activities for all grade levels and all subjects. The greater emphasis may be on science, however innumerable interdisciplinary opportunities exist, and there are incredible opportunities for development in all subjects. In science, insects could be used to teach about habitats, pollination, camouflage, life cycles, defensive chemicals, plant insect interactions and hundreds of other topics. Math teachers could sample the ants in their school yard and estimate how many live in the community. There are innumerable statistical studies more advanced math students could pursue. Evaluation of different pesticides might be a science-math opportunity. Insects have adorned jewelry for centuries and could be useful and motivational in teaching art. Insects have been frequent subjects in literature. Collecting and physical education seem a natural. Speed, endurance and weight lifting between students and insects could be compared as a math-physical education activity. There is much we can learn about social structures from insects. Activities could also be developed on insect nutrition, so it seems there are opportunities in all subjects. There are innumerable entomological questions, problems and projects that classes, small groups or individual students could work on. Project Bug will contain roots for numerous of these.

If this sounds like fun and you would like to get in on the bottom level of a project that is already a lot of fun for us, give me an email or call <jguyton@cfr.msstate.edu or 662-325-3482> and we will get you involved!

Fall and Winter Planting Tips from MNPS President Gail Barton

- Late fall and early winter are the best times to plant any cold hardy native plant. Our soil stays fairly warm in Mississippi during the dormant season. As a result, plant roots make most of their growth during winter. This means that a container grown nursery tree planted in fall will enter our brutally hot spring and summer seasons with a well rooted foundation. Also in a normal winter, there is ample rain to support the root growth. Plant now and the chances of survival will be greatest
- Never set a plant any deeper than it was previously growing. Roots need air to survive and excess layers of soil slow air movement to the roots. Mulch can and should be added on top of existing roots but no dirt.
- Dig the hole wider than the root ball and the same depth. The hole can even be shallower if you are planting in heavy clay or dealing with a shallow rooted plant like dogwood or native azalea.
- Loosen the root ball of any pot bound plant. Some gardeners like to remove most of the artificial bark-based potting soil from the roots and spread the roots out in the hole. The potting soil is then mixed into the backfill rather than being planted in one large block that can dry and shed water. I've found this "bare-rooting" technique to be essential when planting native azaleas and mountain laurels.
- Pulverize the dirt that is removed when digging and use it for backfill. Add up to a ¼ of the volume in organic matter (like finely ground bark or compost) to the backfill if desired. Don't stomp the backfill. Instead, water thoroughly to remove air pockets.
- If you won any of the connoisseur plants donated for the membership raffle and can't plant immediately, leave them outdoors so they can experience normal temperatures. The quickest way to kill any plant that normally winters outdoors is to attempt to over-winter it in a greenhouse or other heated area. Cold hardy plants need cold weather to break their dormancy.
- To enhance cold hardiness of container plants that you haven't gotten around to setting out, water them before drastic temperature drops and temporarily cover them or bring them inside just for the night. New transplants also need to be watered before hard freezes if soil is dry.
- This is also a good time of year to move plants around in the garden. To do this, decide where you want to set the new plant first. Dig a good planting hole as described above. Dig the plant with as big a root ball as possible. Mark "north" before taking the plant out of its old location. If the plant is heavy, set it on a tarp or large bath towel that you will use like a makeshift sling. This will allow you to enlist a friend to help with the moving. Set the plant in its new hole at the same depth it was growing previously with the "north" marker facing the north. Fill in with native soil incorporating some of the soil from the previous site if desired. Water to settle.
- If the plant you desire is not available locally, purchase plants from mail order nurseries that sell plants adapted to the Deep South. Being a former plant peddler, I am a discriminating buyer. Some of my favorite mail order nurseries are Niche Gardens (www.nichegardens.com/ or 919-967-0078); Coyote Creek Nursery (<http://www.coyote-creek.net/> or 225-635-6736), and Mail Order Natives (www.mailordernatives.com/ or 850-973-6830). Visit them online or call the number listed to order a paper catalog.

History of Roadside Development edited by the MNP&EE editors

We found this on the US DOT Federal Highway Administration website and knew from many discussions with MNPS members that roadside plantings including wildflowers was a sustained interest. Most State Departments of Transportation share a common history. The 1987 Surface Transportation and Uniform Relocation Assistance Act formalized a native wildflower requirement and established the case for use of native plants. See: <http://www.fhwa.dot.gov/environment/rdsduse/ms.htm>

1932 - A midwest group, Friends of the Native Landscape, reported an approach to the Illinois Department of Transportation for Roadside Planting and Development. Many States were pursuing this approach due to the economic pressures of the times.

1936 - Jesse M. Bennett wrote *Roadsides, the Front Yard of the Nation*. Although the book's title stuck, Bennett's words did not: "What is really desired, however, is attractive and useful roadsides which can be obtained by preserving or creating a natural or an approach to a natural condition in keeping with the adjacent or surrounding country. And the significant thing about this is outright economy in road maintenance." Texas agreed.

1965 - The Highway Beautification Act, under Ladybird Johnson's influence, encouraged the removal of billboards, screening of junkyards, and landscaping of roadsides.

1969 - The NEPA (National Environmental Policy Act) established the notion of avoidance and minimization of disturbance. This law encouraged environmentally sensitive solutions.

1987 - STURAA (Surface Transportation and Uniform Relocation Assistance Act) is the act that includes the requirement to plant native wildflowers with 1% of a highway project's landscape budget when federal funds are used. By 1987 some States were already exceeding that minimum. By 1994 only 38 States had program level support for native wildflowers.

1991 - ISTEPA (Intermodal Surface Transportation Efficiency Act) provided funding for enhancements. One of the ten categories of enhancements was landscaping. All ISTEPA projects were subject to the STURAA requirement of native wildflower use.

1994 - The Executive Memorandum (E.M.) on environmentally and economically beneficial landscaping was signed by President Clinton recommending the use of regional native plants, reduction in the use of fertilizers, pesticides, and irrigation on federal grounds, lands, and federally funded landscape projects, including highway construction projects.

1999 - The Executive Order (E.O.) on invasive plants signed by President Clinton ordered increased communication and cooperation of all agencies through a National Invasive Species Council. All agencies focused on prevention and control of invasive plant species and were directed to follow-up with restoration of native plants.

This newsletter is now being archived on the einmississippi web site!

Harold Anderson Wins MFA's Highest Award

At the Mississippi Forestry Association's awards banquet in Natchez, **Harold Anderson**, was recognized with the MFA's highest award the **Meritorious Service to Forestry**. Of course, we know Harold best for his real passion - Project Learning Tree. Harold is the State Coordinator for Project Learning Tree and I would be remiss if I did not mention he also received Project Learning Tree's most prestigious award, the Gold Star! Now, Harold is officially retired and continuing to maintain PLT as Mississippi's preeminent EE program. And, Harold has attracted the International Project Learning Tree Coordinators conference to Mississippi. That's our Harold!

Post MNPS Conference Field Trip Report by Merrill Willis

On Saturday, October 27, 2007, following the annual meeting in Oxford of the Mississippi Native Plant Society, the Yoknapatawpha Heritage Nature Walk was enjoyed by about forty MNPS members. Group guides Heather Sullivan, Sherra Owen and Joe Willis provided interesting details relating to plants, rocks, and habitats. The natural peat bog with *Polytrichum commune*, and other mosses, beautiful ferns such as cinnamon (*Osmunda cinnamomea*), royal (*Osmunda regalis*), netted chain (*Woodwardia areolata*), sensitive (*Onoclea sensibilis*), lady (*Athyrium filix-femina*), Christmas (*Polystichum acrostichoides*), broad beech (*Thelypteris hexagonoptera*), northern and southern maidenhair (*Adiantum capillus-veneris*), were interspersed with lizard's tail (*Saururus cernuus*), arrow head (*Sagittaria latifolia*), monkey flower (*Mimulus alatus*), blue-flag Irises (*Iris prismatica*) and vines such as climbing hydrangea (*Decumaria barbara*), carrion flower and Jackson vine (*Smilax spp.*), wild yam (*Dioscorea villosa*), virgin's bower (*Clematis virginiana*), wild potato (*Ipomoea pandurata*) and supple jack (*Berchemia scandens*).

The canopy of magnolia (*Magnolia spp.*), cypress (*Taxodium distichum*), black gum (*Nyssa sylvatica*), swamp tupelo (*Nyssa biflora*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), slippery elm (*Ulmus rubra*), winged elm (*Ulmus alata*), black willow (*Salix nigra*), river birch (*Betula nigra*), beech (*Fagus grandifolia*), sweet gum (*Liquidambar styraciflua*), tulip popular (*Liriodendron tulipifera*), oaks (*Quercus*) and sassafras (*Sassafras albidum*) provided the changing colors of fall. Shrubs/small trees along the streams and pools included sweet pepper (*Clethra alnifolia*), cyrilla (*Cyrilla racemiflora*), button bush (*Cephalanthus occidentalis*), blueberries (*Vaccinium spp.*), spice bush (*Lindera benzoin*), service berry (*Amelanchier arborea*), sweet shrub (*Calycanthus floridus*), beauty berry (*Callicarpa americana*), strawberry bush (*Euonymus americanus*), red buckeye (*Aesculus pavia*), Virginia sweet spire (*Itea virginica*) and witch-hazel (*Hamamelis virginiana*). The pond and springs provided natural sources of water near which blue stiff wood asters and silk grass (*Aster spp.*) and golden rods (*Solidago spp.*) were blooming. Button snakeroot (*Eryngium yuccifolium*), powdery thalia (*Thalia dealbata*), pickerel weed (*Pontederia cordata*), St. Andrew's cross (*Hypericum hypericoides*), alumroot (*Heuchera americana*) and sweet cicily (*Osmorhiza longistylis*) were in various stages of growth.

In addition to the flora, the group was intrigued by native rocks with quartz crystals, formed 60 million years ago when the Yucatan Peninsula was struck by a giant meteorite. They also admired a recent acquisition, an 8 foot-long petrified log found locally in a peat bog, and met the dog who churned butter and rocked a cradle.

EE in Mississippi <einmississippi.org> is Becoming an Incredible Resource!

MEEA's Website, EE in Mississippi, is quickly becoming Mississippi's gateway to everything related to environmental education and has become the Mississippi Native Plant Society's no-longer silent partner. MEEA is archiving our newsletters. Plants, and in particular native plants, are but one of the important dimensions in environmental education. MEEA, working with the other states in the EPA Region IV developed articulated web sites using an EPA grant.

Everyone with an interest in EE, and of course native plants can be a "virtual" member of MEEA and access their web site. In fact it is very important that all MEEA and MNPS members make sure the agencies and organizations you represent are described on this site. Mississippi's EE centers are already jumping on and so are a multitude of other schools, agencies and organizations. Go to www.EEinMississippi.org, register (it cost you nothing and makes you an insider), peruse the site, see if your school, agency or organization is present and if not talk to your leader, and fix it! Now, this does not make you a MEEA member - MEEA and MNPS survive on members dues - so if you haven't formally joined one, the other or both go ahead and do that too! Got an upcoming event? Get it on the EEinMississippi calendar! Want to see back issues of the newsletter - yep there are a few on EEinMississippi! Join us on the Internet!

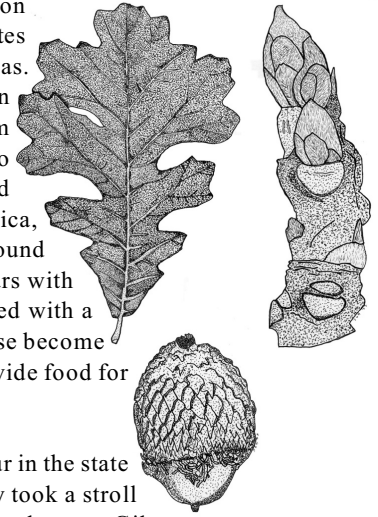
MNPS's Old Web Site

It was good in its day but it is ready for the compost pile. Unfortunately, this site address has attracted some unusual attention and apparently has become a meeting place for singles! Bob says he will relegate it to digital compost as soon as he can figure out what the access code is! Another apparent problem with our old website is that when someone joins it "for free" they were led to believe they were automatically a member of MNPS and unfortunately this is not the case. All they were really a member of was the MNPS web group.

MEEA's website is fast becoming the "go to" site in Mississippi for environmental education. MEEA is achieving this by providing to everyone in Mississippi with an environmental education related mission, space to describe their organization. It also includes an events calendar that we hope all organizations with anything to do with outdoors, conservation or environmental education will be using very soon.

The W. L. Giles Bur Oak Preserve by JoVonn G. Hill

Bur oaks (*Quercus macrocarpa*) are rare trees in Mississippi, are on the Natural Heritage Program's State Special Plants Tracking List, and are given a state ranking of S2, meaning that they are imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making them vulnerable to extirpation. An examination of range maps provided by most tree guides show bur oak, occurring from the northeastern United States west to Saskatchewan, Canada and southward along the 100th parallel to the black land prairies of Texas. However, like many other plants of the Great Plains, they also occur in the Black Belt Prairie region of Mississippi and Alabama. In most of their range, bur oaks occur on a variety of sites ranging from moist bottomlands to xeric hillsides, but typically on limestone soils. In Mississippi bur oaks seem to be limited in their distribution, thus far being found on mesic sites in the Black Belt Prairie region and in Lafayette County. They are also one of the most drought and cold hardy oaks in North America, occurring farther north than any other oak species. Bur oaks are slow growing trees that mature at around 30-35 years of age; however, after that they may continue producing acorns for the next 200-300 years with large crops produced every 2-3 years. The acorns are large (2-5 cm long, 0.8-3.8 cm wide), rounded with a beak, and are almost totally encompassed by the cap which has overlapping scales that towards the base become fringe-like. The acorns, which mature in one year, are considered somewhat sweet and edible and provide food for a variety of wildlife.



Officially, bur oaks were not reported from Mississippi until 2002. Yet they have been known to occur in the state since 1961 when on a Sunday afternoon former MSU President William Lincoln Giles and his family took a stroll through MSU's south experiment farm. During their stroll they came upon a beautiful grove of bur oak trees. Giles picked some branches with the tree's distinctive acorns and had them on his desk. At the time Giles was vice president of agriculture and forestry. A forester visiting his office asked where he had gotten the branches. When Giles told him the forester was quite amazed, as at that time bur oaks had not been reported in Mississippi. Shortly afterward the foresters fenced in the area and called it the W. L. Giles Burr Oak Preserve.

The above information came from an interview with Giles a couple of years before his death and is found on the MSU webpage (<http://www.giles.msstate.edu/gilesbio/>) and constitutes all the information known about this site. On 7 November 2007, JoVonn Hill and Terry Schiefer went out to see if this site still existed. A small fenced-in patch of forest bordering a creek contained at least 10 bur oaks, several of which were mature, and one was quite large. Other trees in the fenced-in area were American ash (*Fraxinus americana*), water oak (*Quercus nigra*), chinkapin oak (*Quercus muehlenbergii*), Sugarberry (*Celtis laevigata*), Mulberry (*Morus rubra*), and Osage orange (*Maclura pomifera*). The understory consisted of a thick growth of Chinese privet (*Ligustrum sinense*), which made exploring rather difficult. Several days later the manager of MSU's experimental farm was contacted. The site we found was indeed the preserve and based on his knowledge the site has not had not been managed since it was fenced, and has been left to let nature take its course. The site enjoys no formal protection – only word of mouth passed down from manager to manager. He also said that removal of the fence and the introduction of cattle had been contemplated. Currently, I (JGH) am making plans to survey plants and select groups of insects found within the site and then submit a management proposal to the manager of South Farm for the removal of the privet, placement of a sign marking the site, and an informative webpage on the MSU web site. Letters of support for the preservation of this site to be submitted with the proposal would be appreciated. Please send the letters via email or postal mail to: JoVonn Hill, Mississippi Entomological Museum, Box 9775, MSU, MS 39762 or jgh4@entomology.msstate.edu.

Project BudBurst by Dr. Debora Mann

Phenology is the study of the timing of seasonal biological events such as the opening of leaf or flower buds, the emergence of insects, or the migration of birds. Phenological records can provide useful information for scientists investigating climate change. Project Budburst, a collaborative effort of several educational and scientific organizations, was designed to involve the public in the collection of data on the timing of flower and leafing of native plant species throughout the United States. The Project's Web site (www.budburst.org) includes descriptions and photographs of targeted species, information for students and teachers, as well as instructions for recording and submitting your own observations, beginning in January 2008. This sounds like just the sort of thing that would interest the native plant enthusiasts and environmental educators of MNPS and MEEA. What would make these phenological observations even more interesting would be records of past years' budburst. **Do any of you keep records on the dates of first flowering or leafing in your area, or do you know of others who may have kept such records?** If you would be willing to share this information, please contact Debora Mann: Biology Dept., Millsaps College, 1701 N. State St, Jackson, MS 39210-0001; 601-974-1415; mannndl@millsaps.edu. We would like to make these records available to any of our MNPS and MEEA members or others who are interested in Project Budburst.

Following Up...

During the October 27 MNPS meeting there was a discussion about writing a letter to the new Toyota plant that is being built near Tupelo. The consensus of our group was that the letter should urge Toyota to preserve as much of the Pontotoc Hills natural area as possible. Since the meeting, Sherra Owen has continued to work with Toyota decision makers. She will assist in drafting the letter during the next few weeks.

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

Coastal Plains Chapter MNPS: Meets every 4th Monday at various locations near Gulfport. For more information contact president, Edie Dreher at 228-864-2775 or mail to 100 24th St., Gulfport, MS 39507.
Starkville Area Chapter: For meeting times and information, contact Bob Brzuszek at rbrzuszek@jalc.msstate.edu or phone 662-325-7896.
NE MS Native Plant Society Chapter: contact Margaret Gratz at 662-844-5640 or gratz@redmagnet.com

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:** _____

- | | | |
|--|---|---------------------------------|
| Membership Category | Committee Interests: | 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, contact President John DeFillipo or check the calendar on eeinMississippi.org

MEEA has a Web Site! Check out EEinMississippi.org.
The Mississippi Native Plant and Environmental Education newsletter is now on line!

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