

Volume 25 Number 2

The hum of bees is the voice of the garden – Elizabeth Lawrence

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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Rediscovery of the Florida Harvester Ant in Mainland Mississippi

by Joe A. MacGown and JoVonn G. Hill (Mississippi Entomological Museum)

The Florida harvester ant (*Pogonomyrmex badius*), also known as the southern harvester ant, is known to occur from North Carolina south to Florida and west into Louisiana. Workers of this polymorphic species are relatively large, ranging from approximately 0.64 to 0.95 cm (1/4 to

3/8 inches) and are reddish-brown in color. The largest workers, called major workers, have proportionally huge heads and mandibles, which are used for crushing seeds. Harvester ants have a potent sting that is reported to be the most painful of all ant species in the eastern United States.

Florida harvester ant colonies are typically found in open wooded or grassy habitats with deep fine sand. Their subterranean nests may be 3 m or more in depth and may include over 5000 workers in older colonies. One to several entrance holes may be found at the surface level where the nest is surmounted by a low crater, or mound, which is circular in shape and 30-60 cm in diameter. Craters are often covered with various pieces of soil, scattered seeds and husks, small pieces of charcoal, and other forms



Summer 07

The southern harvester ant, Pogonomyrmex badius (Latreille)

of debris, such as bits of plants, pebbles, and the bodies of dead workers. Due to the adornment of the craters, colonies are distinctive in the landscape and relatively easy to locate if present.

Harvester ants are aptly named because they harvest seeds for food, which they collect from the ground or from plants, and then store in caches within the colony. This predominantly granivorous ant also supplements its diet with various arthropods. Old seed husks and seeds that have started sprouting within the caches are carried by workers from inside the nest to "middens" found externally along the periphery of the craters.

Because of their large size and interesting behavior, this species has been studied extensively by a variety of researchers. Indeed, it is amazing to observe the harvester ant collecting and carrying seeds in and out of the nest. Of equal interest is their habit of littering their craters with charcoal bits. One study proposed that the ants infused the charcoal with chemicals to repel other ants, thereby marking their territory. Another study observed that some ant species that forage in the harvester ant middens are actually attracted to the charcoal. Additionally, it has also been shown that the presence of the charcoal on the crater may increase the ambient temperature of the upper few centimeters of the colony by as much as 2°C, which may in turn increase periods of activity. Many other facets of harvester ant biology have been studied as well, such as foraging patterns and preference, chemical use, and reproductive behavior. *Continued on page 4*

MNPS Welcomes the East Central MS Native Plant Society

I am delighted to inform you that an active core group of native plant enthusiasts have come together as the Board of Directors for the East Central Mississippi Native Plant Society. Three of us are graduates of the 2006 Audubon Naturalist Program in Holly Springs, one is in the program this year, and all of us have been working to some degree on a native plant project at the local public library. We plan to continue working on the native plant project at the library, create an informal inventory of local woodland plants, and launch a rain garden/pathways-greenways corridor project at the newly constructed Boy's and Girl's Club. We will launch the Each One Plant One carpet to canopy greening of Oxford campaign with a community planting day this Fall, 2007, at the public library.

The ECMNPS is led by President Hilary Shughart, Tree Advocate; Vice-President Nita Talmadge, owner Clear Creek Nursery; Secretary/Treasurer Larry Jarrett, founder Natural Resource Initiative; Education Chair Nan Johnson, Medicinal Plant Gardens; Field Trips Chair Jill Humphreys, Organic Gardener; and Dr. Aruna Weerasooriya, Research Scientist/Botanist, Medicinal Plant Gardens, National Center for Natural Products Research.

Discussions are underway for the East Central MS Native Plant Society to facilitate the Fall MNPS conference with a possible tour of Joe and Merrill Willis' Native Plant Trails. Sincerely, Hilary Shughart, President

Dear MNPS members,

What an honor it is for me to be involved with such an active group of plant people! If you missed the field trip to Liberty, Mississippi, my sympathies are with you. We strolled through the Vance Natural Area guided by Mac Alford. It was a lovely sunny day. So it was good that most of our walk was under a tall tree canopy. Mac was raised in Liberty and has a personal connection with the Vance site. He identified lots of plant species and it seemed to me that all who showed up enjoyed seeing the plant diversity before us. He has offered to host another field trip to the Hattiesburg area in mid summer. I hope you all will come to this region of our state and be part of it. Be there or be square!

It is particularly exciting to me that Dr. Alford is interested in assisting in the start-up of a new chapter of MNPS in the Hattiesburg area. I understand that this chapter's initial objective is to lead a few field trips annually. Take baby steps first!

Our fall meeting is coming together rather smoothly. It will be my first trip to Oxford. I am very much looking forward to meeting attendees and hearing the native plant lectures. My plan is to sneak in a side trip to view some of the architecture of this historic city. Come visit with us the second weekend of October. Our first confirmed speaker for the conference is Sherra Owens. She has agreed to talk about the "teaching gardens" nurtured on her house property. Arrangements for other presentations are presently being worked out. We are just waiting for the speakers to confirm and commit. I hope you are able to come and support those willing to take the time to share their knowledge with us. A field trip is planned after the meeting. One of our members has agreed to bring a stellar native plant for each attendee.

Thanks to the members who have graciously given their valuable time to assist me in my term as president.

Special thanks to those who believe in our efforts. Show your continued support by renewing your MNPS membership. And light a fire under that person you know who has an interest in natives by gifting them with a membership. As with any societal endeavor, money is the grease that spins the wheel. Let's roll! Your trusted servant, Marc G. Pastorek

Hello MEEA Members,

Thank you for the privilege of serving as president of MEEA over the next two years. I'm looking forward to MEEA's future possibilities with our new officers: Cynthia Harrell, president-elect; Matthew Miller, past-president; Angel Rohnke, secretary, and Pam Williams, treasurer. We are energized by the momentum generated at the spring conference at Hugh White State Park. Over 40 current and new members, including 20 teachers, were in attendance. Monarchs and mammals were explored on the ground and our eyes gazed into the night sky to catch a glimpse of Saturn's rings. Thank you to everyone who made the conference a great success!

The primary growth of a forest is the most important – it provides foundation and stability – but the secondary growth leads to longevity and secures the ecosystem for future generations. As MEEA enters into its secondary phase I have chosen the theme

A Natural Succession - Nurture, Growth & Sustain. Nurturing our past is to reflect on our accomplishments and

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 reacquaint ourselves with our mission. Current growth will focus on increasing our membership, rejuvenating the board, launching our website and focusing on the needs and objectives of teachers. Together we can sustain MEEA by promoting environmental education, exploring new paths of growth and encourage a greener way of living.

John DeFillipo, MEEA President

A Hattiesburg Chapter of MNPS Organizational Meeting June 9 & a Botanical Walk

A Hattiesburg area chapter of the MNPS will meet at 9 A.M. on Saturday, June 9, at the Big Creek Landing on Black Creek just west of Brooklyn for an organizational meeting and a botanical walk on the Black Creek Trail with Dr. Mac. MNPS members in the vicinity, or those interested in the botanical walk, are encouraged to participate. Contact Dr. Mac Alford at mac.alford@usm.edu, 601-266-6531 office or 601-447-3733 cell.

Congratulations to Kay Williams, MEEA's Newest Presidential Award Winner

Kay Williams is our newest Presidential Award winner in Science/Math. She will be honored in Washington on May 12. She is so excited and so deserving! The award comes with \$10,000 in cash, and we know she will spend it on an exciting trip!

MEEA Elected New Officers at the Spring Conference

Incoming President John DeFillipo, with the Mississippi Museum of Natural Science has announced the theme of his presidency will be *A Natural Succession / Nurture, Growth & Sustaining of MEEA*. Joining him on the Executive Committee is President Elect Cynthia Harrell of Crows Neck, and Secretary Angel Rohnke also with the Museum. Names are being solicited for the board.

A Force of Nature by Gail Barton Horticulture Instructor, Meridian Community College

Stop – take a deep breath. If you're lucky, you'll inhale the enticing aroma of magnolia flowers. Here in Meridian, we're at the end of the magnolia flowering season. The fragrance is wafting through almost every neighborhood mingling with the last musky remnants of privet and Japanese honeysuckle. Everyone is familiar with our state flower, the southern magnolia. Southern magnolia (*Magnolia grandiflora*) can be found in wooded areas and along creeks and rivers in many areas of the state. It is also frequently planted in landscapes. Two of the southern magnolia's cousins are less commonly used in landscaping but can be seen blooming in natural areas and along roadsides around Mississippi now.

The bigleaf magnolia or cowcumber (*Magnolia macrophylla*) is an understory tree found in steep wooded ravines. Cowcumber has huge leaves averaging a yard long. It also has the largest flowers of the three magnolias. I've seen flowers up to almost a foot wide. Generally these lovely ivory blossoms have some rosy purple markings.

Sweetbay magnolia is usually found in wet areas along the edges of creeks or swamps. Like many other swamp residents, sweetbay adapts well to an average garden soil and can be planted in landscaped areas. The European settlers thought sweetbay had great potential as a landscape plant. In 1688, the sweetbay was the first native American magnolia to be introduced into Europe. Sweetbay has diminutive flowers averaging 3 inches across. The flowers are small but are usually borne in large numbers. All three of these magnolia cousins have intensely fragrant flowers. Sweetbay is especially enticing because it carries a hint of lemon. Early in the morning and in early evening, the magnolia flower scent is especially strong. After work my husband and I often sit on the deck noticing that around 6:30 the scent of the sweetbays moves from the swampy area nearby and fills the air with its intoxicating aroma.

Scientists say that magnolias are among the oldest flowering plants. Cousins of modern magnolias have been preserved in fossils dated at 100 million years old. Magnolias have been around longer than bees and most other flying insects. The only reason any flower releases such a strong scent is in order to beckon a pollinator. During their entire time on this earth, magnolia flowers have been releasing their entires scent to attract beetles.

The magnolia flower is perfectly designed for beetle pollination. It is large, light colored and cup shaped. The beetle that pollinates magnolias is called a pollen beetle or sap beetle. It is tiny – usually less than $\frac{1}{2}$ inch long with a flattened oval body. Sap beetles feed on pollen and magnolia flowers are full of it. Magnolia flowers have no nectar. They attract beetles by emitting fragrant sugary secretions during the cool parts of the day. The strong scent emitted during early evening lures beetles just emerging for a nightly prowl. The beetle responds to the scent, then bumbles around in a flower, feeding on the pollen. During this feast, the beetle becomes covered with the pollen. When she moves on to another flower, the pollen is transferred with her.

I suggest that right now, all good and loyal Mississippians should sit outdoors around 6:30 in the evening to experience this force of nature which is our state flower. As you sit and inhale the delicious aroma, remember that over your head in the magnolia canopy tiny beetles are crawling all over the flowers.

They are bumbling around seeking as much tasty pollen as possible. They are starting a process that will end when the flowers mature into cone-like fruit full of red pulp-covered seed.

MNPS Needs Help With Annual Meeting

Please consider volunteering for one of the following jobs: running the plant swap, hosting the authors' table, making arrangements for coffee and refreshments, or staffing the registration/membership table. We are also planning a silent auction for our fall meeting to make up for shortcomings in dues payments so start collecting items to contribute. We are also looking for a member to manage the silent auction. Please contact Dr. Debora Mann at manndl@millsaps.edu or phone 601-974-1415.

Bob Brzuszek has agreed to serve as nominations chair so please send him suggestions for officers. The positions up for election include President, V. President and Secretary-Treasurer. We are also looking for a web master and for northern and a southern field trip chairs. The best way to contact Bob is by email, bobb@ext.msstate.edu. If you feel particularly lucky try 662-325-7896!

Hold October 13 as the probable date for the MNPS fall meeting. The East Central Mississippi Native Plant Society has offered to host the meeting. Speakers and field trip plans are underway!

Notes on the Ethel Vance Field Trip by Gail Barton, Field Trip Chair

On Saturday, May 5, a small but earnest group of 12 plant enthusiasts met at the Ethel S. Vance Natural Area near Liberty, Mississippi. Our group included: Mac Alford – Hattiesburg, Earl Alford – Liberty, John & Eileen Atkins – Hattiesburg, Gail Barton – Meridian, Jim Berry – Braxton, Bob & Sandra Gamble - Stephens, Arkansas, Debbie Mann – Clinton, Joe & Joy Miller – Meridian and Marc Pastorek - Carriere.

Field trip leader Mac Alford gave a brief history of the site which was donated to the city of Liberty by a local nature lover, Mrs. Ethel Vance. As Mac stated prior to the field trip, the Vance Natural Area consists of three major plant communities: bottomland hardwood, open wetland from beaver impoundment, and mixed hardwood on gravel outcrops overlooking the West Fork Amite River. The gravel outcrops are home to hickories, oaks, cucumber trees, paw-paws, and 5 species of hollies. There is a rich understory of species including buckeye, oak-leaf hydrangea, trillium, and violets.

We were amazed by the unique gravel/sandstone rocks and boulders that were scattered around the upland area where we began our trek. Indian Pink was in bloom atop several of them. Liberty had been blessed with four inches of rain the day before. As we walked down to the lower elevations, we encountered a scenic free running creek with many gravel washes.

Below is a partial listing of the plants that our group paused to examine.

Red Buckeye (Aesculus pavia) American Groundnut (Apios americana) Dutchman's pipe (Aristolochia serpentaria) * White Milkweed (Asclepias variegata) Paw Paw (Asimina triloba) Hydrangea Vine (Decumaria barbara) * Coral Bean (Erythrina herbacea) Hedgehyssop (Gratiola floridana) Witch Hazel (Hamamelis virginiana) Oakleaf Hydrangea (Hydrangea quercifolia) * Carolina holly (Ilex ambigua) – the male champion is located in Vance Natural Area Stinkbush (Illicium floridanum) Cucumber Tree (Magnolia acuminata) Hempvine (Mikania cordifolia) * Twin Berry (Mitchella repens) Yellow Passionflower (Passiflora lutea) Lopseed (Phryma leptostachya) * Ground Cherry (Physalis virginiana) Candyroot (Polygala mariana) Hog plum (Prunus mexicana) Carolina Buckthorn (Rhamnus caroliniana) Palmetto (Sabal minor) Starvine (Schisandra glabra) * Scullcap (Scutellaria integrifolia) * Bear's claw (Smallanthus [Polymnia] uvedalia)
Sarsparilla Vine (Smilax pumila)
* Bur Reed (Sparganium americanum)
* Indian pink (Spigelia marilandica) in bloom
* Silky Camellia (Stewartia malacodendron).
Horse Sugar (Symplocos tinctoria)
Stinking Wake-robin (Trillium foetidissimum)
* Tree Huckleberry (Vacccinium arboreum)
* Possumhaw Viburnum (Viburnum nudum)
Walter's Violet (Viola walteri)

The site was beautiful and Mac is an excellent field trip leader. As advertised, the silky camellia was in full bloom and provided many photo ops for the participants. The plants that were in bloom are marked in the list with *. We saw several rare plants from the Mississippi Heritage Tracking List including Hedgehyssop, Hempvine, Starvine, Silky Camellia and Stinking Trillium.

We were fortunate to be joined by Mac's father, Mr. Earl Alford, who was formerly the county forester for Amite County. Mr. Alford told us some interesting stories about the natural history of the area. All of us enjoyed smelling the roots of candyroot so much that Mac knew we must be hungry. The field trip was adjourned just in time for lunch.

Rediscovery of the Florida Harvester Ant in Mainland Mississippi Cont. from page 1

Historically, the Florida harvester was known to occur in 14 counties in Mississippi. With the exception of Horn Island on the Gulf Coast, all collections of this species in Mississippi were before 1934 and mostly predated the arrival of the imported fire ants into the state. It was thought that the harvesters had been extirpated from mainland Mississippi by competition from the fire ants and especially the severe control measures directed toward the fire ants that also greatly affected the harvester ants. Apparently supporting this theory was the fact that extensive collecting of ants by the Mississippi Entomological Museum (MEM) throughout the state during the last six years, which included many habitats that should have been suitable for harvester ants, did not result in the finding of this species. However, recent collections on 10 December 2006 at a relic sandhill habitat in Smith County have resulted in the rediscovery of this species on the mainland of Mississippi.

The initial rediscovery of the ants was made by Lucas Majure, a biology graduate student at Mississippi State University, who was surveying the state for cactus (*Opuntia* spp.). We accompanied Majure on a subsequent trip to the area the following week and were able to find three more healthy colonies. While we were there we made observations of the ants, identified vegetation in the immediate area, and collected seeds and charcoal bits from the colonies. Seeds and plants were identified by Majure, and the charcoal pieces were identified by Jennifer Seltzer, a graduate student in Archaeology, at MSU.

The finding of the harvester ants in Smith County shows that although these ants are now apparently scarcer in Mississippi than they once were, they still occur in the state. Major factors for the survival of the harvester ant in Mississippi appear to be the existence of relatively open habitat, possibly maintained by burning; well drained soil with deep fine sand; and the availability of food resources including seeds from various plants (especially grasses). This species, which is susceptible to pesticides and is integrally tied to habitat, may be a good indicator species of healthy sandhill ecosystems in central and south Mississippi.

MNPS Returns to the Old Cove by Bob Brzuszek, Trip Coordinator

Getting together with a bunch of native plant enthusiasts is always a fun event. Sharing a woodland walk with knowledgeable native plant nuts is an unforgettable journey. And a great journey it was one fine spring day at Weyerhaueser's Old Cove and Shelton Mountain conservation lands. Weyerhaueser foresters Ricky Hedgwood and Tom Hughes proved to be outstanding field guides who knew those lands like the backs of their hands. Wisely anticipating that a few of us grey hairs would have a tough time getting up the steep creek banks, Ricky carried a six foot aluminum ladder on his back throughout the hike. Under a magnificent canopy of dogwoods and redbuds in full bloom, trip participants scattered across the land inspecting every emerging leaf and bud. Squeals echoed through the woods on a regular basis from all directions, each time starting with !" (fill in your own blank). And what a wealth of plants we saw "Oooh, look a



in those old woods, from Gail Barton's favorite spring ephemerals like mayapple, Margaret Gratz's woodland wildflowers such as blue phlox and dwarf iris opening their first buds, and Sherra Owen's sharp eye for beech drops, fairy wands, and pussy toes. A real treat was being introduced to a rare colony of maple-leaf viburnum (Viburnum acerifolium) growing in a sheltered vale. I've heard Old Cove described as being Mississippi's grand canyon, and the smoothly scoured high creek banks certainly gave a scaled down model version. After a brief home-packed lunch, Ricky and Tom took us to three more areas around Shelton Mountain that offered some spectacular ridges with steeply sloping hillsides, culminating in a leisurely walk through a moist beech-magnolia woodland. There, after a fun full day of woods-tromping, we plopped like turtles sunning on a fallen log. It was also there after losing my plant notebook for the umpteenth time, I was finally asked how old I was or if I needed a mother-but a horticulturist never reveals his age.

Participants included: Ricky Hegwood, Tom Hughes, Sherra Owen, Gail Barton, Margaret Gratz, Bob Brzuszek, Florence and Larry Box, Lanta Craig, Jennifer and Lamar Heffner, Melanie Jennings, Debora Mann, Dicye Murphy, William and Stanthia Oakley, Elizabeth Ogletree, Carol Rives, Marion Sansing, Tim and Erin Shauwecker and family and Hilary Shughart.

Plant List from Old Cove/Shelton Mountain Field Trip March 24, 2007 recorded by Bob Brzuszek SHRUBS Lady fern COMMON NAME SCIENTIFIC NAME

TREES

Scarlet oak Quercus coccinea Red Cedar Juniperus virginiana Redbud Cercis canadensis American beech Fagus grandifolia Loblolly pine Pinus taeda Shortleaf pine Pinus echinata Liriodendron tulipifera Yellow poplar Sweetgum Liquidambar styraciflua Red oak Quercus falcata White oak Quercus alba Shagbark hickory Carya ovata Pignut hickory Carya glabra Persimmon Diospyros virginiana Magnolia macrophylla Bigleaf magnolia Devil's walking stick Aralia spinosa American holly Ilex opaca Black cherry Prunus serotina Fraxinus pennsylvanica Green ash Dogwood Cornus florida Hop hornbeam Ostrya virginiana Sassafras Sassafras albidum Witch hazel Hamamelis virginiana Black oak Quercus velutina Shumard oak Quercus shumardii Red maple Acer rubrum Crataegus marshallii Parsley hawthorn Silverbell Halesia diptera Cow oak Quercus michauxii Sycamore Platanus occidentalis

Serviceberry Oakleaf hydrangea Wahoo Pink native azalea

Beautyberry Maple leaf viburnum Tree huckleberry Elliott's blueberry Carolina buckthorn Snowbell Deerberry

HERBACEOUS

Cinnamon fern Mayapple Bracken fern Rattlesnake fern Broad beech fern Christmas fem

Wood fem Violet Resurrection fern

Dwarf iris Cane Lizards tail Devil's bit

Amelanchier arborea Hydrangea quercifolia Euonymus americanus Rhododendron canescens Callicarpa americana Viburnum acerifolium Vaccinium arboreum Vaccinium elliottii Rhamnus caroliniana Stvrax grandifolia Vaccinium stamineum

Osmunda cinnamomea Podophyllum peltatum Pteridium aquilinum Botrychium virginianum Phegopteris hexagonoptera Polvstichum acrostichoides Thelypteris kunthii Viola palmata Polypodium polypodioides Iris cristata Arundinaria gigantea Saururus cernuus Chamaelirium luteum

Dewberry St. Peter's wort Bellwort Solomon's seal Pennywort Blue vetch Crane fly orchid Beech drops Fairy wand Pussy toes False foxglove Blue phlox Violet wood sorrel Silkgrass Bottle gentian

VINES

Partridge berry Muscadine Crossvine Greenbriar Poison ivy Virginia creeper

Climbing hydrangea Schisandra Carolina jasmine

Athyrium filix-femina Rubus trivialis Hypericum stans Uvularia grandiflora Polygonatum biflorum Obolaria virginica Vicia sp. Tipularia discolor False Solomon's seal Smilacina racemosa Epifagus virginiana Chamaelirium luteum Antennaria solitaria Agalinis spp. Phlox divaricata Oxalis spp. Silphium spp. Gentiana clausa

> Mitchella repens Vitis rotundifolia Bignonia capreolata Smilax laurifolia Toxicodendron radicans Parthenocissus quinquefolia Decumaria barbara Schisandra glabra Gelsemium sempervirens

Alert : MNPS & MEEA, We Need Your Help Immediately

If your membership has expired, please take a moment and send in your dues. Both organizations need your dues. Please send your \$10 dues to the organization you subscribe to, or join both. Registration forms for MEEA and MNPS are on the cover, or back page.

Marion Sansing recognized as National Volunteer of the Year

At the awards ceremony in conjunction with the 2007 Refuge Friends "Beyond the Boundaries" workshop in Washington, DC the National Wildlife Refuge Association and the National Fish and Wildlife Foundation presented Marion Sansing with the Volunteer of the Year Award.

As spokesperson for the Friends of Noxubee and outdoor recreation planner for the Refuge, Marion Sansing has been an inspiration to Refuge staff and fellow volunteers. She partnered with Mississippi State University to develop a Native plant garden for the Visitor Center; procured print, radio, and even billboard advertisements to attract visitors to the Refuge; oversaw all the publicity and implementation of the Noxubee Refuge Photography contest; partnered with the Wild Turkey Federation to host "Women in the Outdoors," and is forever on the prowl for new friends, volunteers and speakers at friends events. That said, we couldn't resist including the text of her acceptance speech below. There is certainly a mission for us in her message.

I feel humbled and honored and I am very happy to be here with you today to receive this award. No one can accomplish alone the task spoken of today in my connection. It is, therefore, with profound thanks that I accept this award on behalf of all volunteers working in conservation. I would have achieved little without the great support from the Friends of Noxubee Refuge, the communities surrounding the Refuge, MSU, especially the Refuge staff and last but not least the wonderful support and understanding from my husband Henry and my son Sidney.

Assistant Secretary Scarlett, thank you for your kind words and for being here today. I hope that we can send the message of importance of our natural resources with you today. We all work and speak for a world that has no money for campaign contributions, that does not march and protest, but one that suffers quietly. Our natural world is our only true future and we are its advocates. We not only have a great love for it, but we also understand the importance of its well-being. So much of it has been destroyed and put in an imbalance that we have to work hard to stop its demise, try to repair and recover what ever we can, but that requires funds, funds that are being cut. Volunteers can only do so much and I think that our federal government relies on us too much—or does not recognize the importance of this issue.

We all know that we are at war and that there is great cost involved, but we are not asking for much. We have to educate future generations on the importance of our natural world and how to take good care of it; otherwise, all is in vain.

What will we tell our great-grandchildren, when they ask us whether we made every effort to preserve our natural world for them and future generations? I grew up in Germany, where my generation asked our grandparents what they did to help the Jews in the 1930s and 40s, what they did during the Kristalnacht. I believe that the biggest challenge humankind faces in this century is conservation.

I pray for all of us, that together we succeed in building a better world by conveying our love and understanding of nature, and that in doing so we may make this world a better place for our and future generations of all sentient beings, habitats and resources. I would like to end with a quote from the much-loved father of conservation, Aldo Leopold: "We shall never achieve harmony with land, any more than we shall achieve absolute justice or liberty for people. In these higher aspirations, the important thing is not to achieve but to strive."

I thank you sincerely and will do everything I can in my future work to bring nearer to realization what I expect of myself.

The Tbilisi Declaration Part 1 by John Guyton, Ed. D., MSU Wildlife and Fisheries and Matthew Miller, Manager, Northeast Mississippi Conservation Program, The Nature Conservancy

Sometimes we need to review our history to figure out where we are going. At our most recent MEEA board meeting we realized it was time for a little refresher course on the history of EE. So over the next several newsletters we will be taking a look back over the past four decades of environmental education's history.

In the field of environmental education ,two early salient events, The Belgrade Charter (1976) and Tbilisi Declaration (1978), first put in writing on the world's stage the values, goals and direction that would become the basis for what environmental education is and what it should accomplish.

The Belgrade Charter was adopted by a United Nations conference and provided the first widely accepted goal statement for environmental education:

"The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones."

Two years later, the world's first intergovernmental conference on environmental education, organized by the United Nations Education, Scientific, and Cultural Organization (UNESCO) in cooperation with the UN Environment Programme (UNEP) was convened in Tbilisi, Georgia (USSR). The Tbilisi Declaration was adopted unanimously by the delegates. It constitutes the framework, principles and guidelines for EE at all levels: local, national, and international in preserving and improving the world's environment. Many of us in the field intuitively liked the declaration and have subconsciously internalized and systemically applied its tenets.

The Conference endorsed the following goals for environmental education:

- 1. to foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas;
- 2. to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment;
- 3. to create new patterns of behavior of individuals, groups, and society as a whole towards the environment.

Further, they stressed, environmental education objectives should be developed in the following categories: *Awareness* – to help social groups and individuals acquire an awareness and sensitivity to the total environment and its allied problems.

Knowledge – to help social groups and individuals gain a variety of experiences in, and acquire a basic understanding of, the environment and its associated problems.

Attitudes – to help social groups and individuals acquire a set of values and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection.

Skills – to help social groups and individuals acquire the skills for identifying and solving environmental problems. *Participation* – to provide social groups and individuals with an opportunity to be actively involved at all levels in working toward resolution of environmental problems.

Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivations, commitments, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones. (UNESCO, 1978). To be continued...

Native Plant Biodiversity, Soil and Water Conservation, and Buffering at Library Wildlife Gardens by Hilary Shughart

The East Central Native Plant Society's garden project at the Lafayette County and Oxford Public Library has demonstrated the process of converting a privet thicket into a backyard wildlife habitat garden. Six dump-truck loads of privet were pulled and are being replaced with a layering of suitable native woodland plants. Now a young paw paw patch is accompanied by oakleaf hydrangea, chokeberries, elderberry, native azaleas, crested iris, Christmas fern, columbine, Indian pinks, and many others, with more yet to come (www.nrims.org conservation portal and forthcoming powerpoint).

The rain garden showcases such plants as copper iris, buttonbush, soft rush, cattail and woolgrass, thriving in a slight depression which retains rain water. This creates a new habitat composed of native plants accustomed to full sun, clay soil and seasonal flooding. Water is now percolating back to the water table rather than burdening the city's overwhelmed storm sewer system (water conservation) (www.bbg.org for rain gardens).

Rain no longer deposits soil onto the sidewalk (erosion control). Where exotic plants were washed away, we now boast a thriving native plant community. If you are planning a rain garden, don't forget to call before you dig, and please consult an arborist or Extension Service Publication # 2339, Preserving Trees in Construction Sites. It is critical that you never cut the structural root plate of a tree, and that you not disturb a large percentage of the critical root zone. A tree with a 40-inch diameter has a critical root zone radius of 50 feet. The structural root plate grows to a radius of ten feet when the stem diameter is two feet.

Clear-cutting for adjacent condo construction has provided the opportunity to create a biodiverse landscape buffer from scratch. We hope to have convinced the developer to coordinate with our native plant selection to maximize the aesthetic, ecologic and economic value of the buffer. In this way we can plan a 20'x60' biodiverse native plant buffer rather than both parties planning a 10'x60' buffer, with the condos providing a non-native back-drop of Leyland cypress and crepe myrtles.

The following excellent Extension Service publications are available at www.msucares.com: Establishing a Backyard Wildlife Habitat #2402; Preservation of Trees #2339; Native Shrubs for Mississippi Landscapes #2334

"In this age of video games and mobile phones, there must still be a place for knots, tree houses and stories of incredible courage." Conn and Hal Iggulden, The Dangerous Book for Boys - Harper Collins 2006

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!				Coastal Plains Chapter MNPS: Meets every 4 th Monday at various locations near Gulfport. For more information contact president, Edie Dreher at 228-864-2775 or mail to 100 24 th St.,
New Member Student: \$7.50 Individual or Family Sustaining: \$15.00 Contributing: \$35.00 Life: \$125.00 Please return this form wit Auburn Drive, Clinton, MS	Renewal Name County : \$10.00 Address Telephone email h check to: MNPS c/o S 39056-6002	Dr. Debora	Mann, 114	Gulfport, MS 39507. Starkville Area Chapter: Contact Bob Brzuszek at rbrzuszek@lalc.msstate.edu or phone 662-325-7896. NE MS Native Plant Society Chapter: contact Margaret Gratz at 662-844-5640 or gratz@redmagnet.com East Central MS Native Plant Society Contact Hilary Shughart, President, 662-816- 3459 or shughart@watervalley.net Visit the MNPS Web site at: groups.msn.com/mississippinativeplantsociety
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Membership Category Individual (\$10.00) Student (\$5.00) Family (\$25.00) Institution/Business (\$50) Life (\$150.00) Patron (\$150 - \$1,000+)	Committee Interests: Strategic Planning Nomination Conference Awards Communications MEEA Board Return this application,	with your chu to MEEA, C/ MS Museum 4391 South I Columbus, M	eck or money order, O John DeFillipo, of Natural Science, Frontage Rd., 1S 39701	education meet the new EE standards required for NCATE accreditation. For information on upcoming activities watch the newsletter or contact President John DeFillipo

Watch for exciting details on fall meetings/conferences in the next newsletter: Save October 13 for the MNPS Fall meeting in Oxford. MEEA is looking at the first two weekends in November for their Conference to be held in Hattiesburg

MISSISSIPPI NATIVE PLANT SOCIETY c/o Dr. Debora Mann Millsaps College 1701 N. State St. Jackson, MS 39210-0001