Mississippi Native Plants and Environmental Education

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

Volume 32 Number 1 *I love the lotus because while growing from mud, it is unstained.* - Z. Dunyi **Spring 2014**

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

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

The Fascinating American Lotus Is Blooming, Reminding Me of Meals I Have Yet to Try by John Guyton

Peggy and I were early for a meeting at the Sam D. Hamilton Noxubee National Wildlife Refuge last week, so we took a quick road tour of several of our favorite haunts, pausing to enjoy the lotus (*Nelumbo lutea*).

Lotus was an important food of the Native Americans since the roots, shoots, flowers and seeds are edible. The roots can be peeled and sliced and the air pockets stuffed with a favorite filling. The sliced root will quickly oxidize like a sliced apple, so drop the slices in some lemon water as you cut them. The unfurling leaves can be eaten or used to wrap hobo-like meals and the green seeds can be eaten like peas or dried and used to make flour. The dried seeds can also be popped like popcorn. And, in the spirit of playing with your food, the stems can be used as straws and the leaf folded to make a drinking cup!

The hydrophobic nature of lotus leaves has always fascinated me. It is hard to paddle through lotus without dripping a little water on their leaves. These surfaces would make the most incredible raincoats, umbrellas, and tents! I had always assumed their wax coating was responsible for their hydrophobia, but the reason is much more exciting. Under a microscope we see the leaf is covered with small bumps. The attraction of the water molecules for each other is greater than their attraction to the bumps, so the water forms little beads with their familiar surface tensioned appearance. If we scan even deeper using an electron microscope, we notice even the bumps have bumps, and on these bumps are thousands of nano-sized hairs that further prevent water from wetting the lotus leaf, encouraging or allowing the water's surface tension to coalesce into small beads! This extreme water shedding is referred to as superhydrophobic.

Lotus is not the only hydrophobic plant. Check out broccoli, Brussels sprouts, cabbage, collard greens, elephant's ear, kale, tulip, turnip greens, and water lily. Watch for others during a summer walk in the rain!

In Egypt and India the lotus symbolized the union of the four elements: earth, air, water, and fire. The roots emerge from the earth, it grows in water while its leaves are nourished by the air, and the sun's fire powers the blooms, uniting the elements of the natural world. Lotus' growth from mud and self-cleaning leaves has resulted in its use as a symbol of purity in many cultures.

Can't wait to have a lotus on your patio? Lotuses prefer shallow, still water with a muddy bottom. However, they can easily be grown on the patio. All you need is a bucket full of wet cow manure and they will be perfectly happy.

Greetings Fellow MNPS Members! by Dave Thompson, MNPS President

Hey Friends. Are we having a fun summer? It is such a delight to go exploring around our yard to see what is growing (and even more fun to see if I know what it is…).

Some of the plants I bought at our meeting in November are looking pretty good. My rose mallow is shooting a stalk upwards and its 3 little brothers are looking good as well. The coral honeysuckle has grown and is showing new buds. The honeysuckle replaces a very large tea rose that had grown with abandon on a section of fence. One of my favorites, the spiderwort, has been blooming for a few weeks. All this is said to remind myself that I have learned much, but there is much more to learn.

Our field trip to the Bienville National Forest was a delightful excursion. Although fun and educational, it was also an opportunity for Heather Sullivan to record a rare plant. She discovered it while showing us the beautiful lilies. Thanks a bunch to Heather, who did a great job leading the troops.

Our fall meeting for 2014 will be November 7 and 8 at Roosevelt State Park. The theme will be Rare Plants. We are asking for speakers willing to do a presentation. Have you discovered a rare plant and reported it? It must be a delightful experience to make such an important discovery that contributes to the unique natural heritage of our state.

What's New?

Dave found this website about Monarch Butterflies. These folks sell or give away seeds for milkweed for your area! http://www.livemonarch.com/free-milkweed-seeds.htm

Greetings MEEA and Others by Jennifer Buchanan, MEEA President

Hello fellow educators, plant enthusiasts, and botanists! Summer is upon us, and if you are like me, you are anxiously looking forward to cooler fall temperatures. However, before the fall arrives, we need to take care of some organizational business. If you are a MEEA member in good standing (paid up on your dues), you soon will be receiving an electronic Survey Monkey ballot to vote for our next slate of officers and board members for MEEA. Please read through the introduction of the survey carefully to learn a little about each of the candidates and then make a wise, informed decision. Please complete the survey in a timely manner, so that we can begin notifying the winners as soon as possible. If you are not a member of MEEA but would like to be, sign up now by contacting Peggy Guyton at peggyguyton@gmail.com or 228.324.3136.

The winners of the election will be confirmed at the upcoming MEEA board meeting, that will be held in conjunction with our fall conference entitled ***Experiential Learning Across the Curriculum*** on **October 3–4, 2014,** at the beautiful Lake Tiak-O'Khata Resort located at 213 Smyth Lake Road, Louisville, MS 39339 (www.ltok.com). This year's conference will highlight Green Schools activities and field-based learning experiences featuring GIS.

Early Bird Pre-registration for the conference is going on until August 15th, it only costs $15 dollars to hold your spot, so if you think you are going to join us this fall please register today with Peggy Guyton. It is very important that **you** also make your room reservations by contacting the Lake Tiak-O'Khata Resort early to take advantage of the discounted rate for the block of rooms we have reserved before August 15th. Remember, Conference information can be found at our website, www.eeinmississippi.org or you may go directly to our registration form at www.meeaworkshops2014.weebly.com. Additionally, our Call for Papers and Posters for the conference will be going out shortly. Please check the website periodically for more information. Hope to see you this fall!

Mississippi PLT to Hold Facilitator Training

Mississippi Project Learning Tree (PLT) is offering a FREE workshop designed to train volunteers to assist with, and eventually conduct, PLT educator workshops. All participants will receive a Facilitator's Handbook and a complete set of PLT activity guides and modules. The PLT Facilitator Training Workshop will be held at Roosevelt State Park, Morton, MS, on Nov. 13 and 14 (Thursday and Fri). We will begin at 1:00 p.m. on Thursday and continue until 9 p.m. On Friday we will begin at 8 a.m. and dismiss at 3:00 p.m.

ALL EXPENSES, INCLUDING MATERIALS, HOUSING AND MEALS, WILL BE PAID BY A GRANT FROM THE AMERICAN FOREST FOUNDATION. Those applying for CEU credits (we have applied for 1.4 CEUs) will be required to pay the processing fee to Mississippi College.

Everyone needing more information or desiring to register should contact Harold Anderson at 601-613-5567 or handerson212@gmail.com.

Yucca filamentosa, a Native Food and Fiber Plant, and Its Mutualistic Pollinator, the Yucca Moth (Tegeticula yuccasella) by John Guyton

Yucca is one of those native plants that has found a niche and made itself into an endearing and useful plant that has survived to the present and to some degree escaped undue attention. Its principle use today is in landscaping, but that was not always the case. We were delighted to find two clumps growing in our Ocean Springs yard and brought one stem with us when we moved to Mayhew. We found a family in Mexico in 1991 that harvested and prepared yucca for use in making hats, sandals, bags, and rope. I have used a yucca leaf point for a needle and the attached threads to repair my blue jeans (the repair lasted the life of the jeans). In recent years, I have used yucca roots for demonstrations of the saponins' use as soap. After peeling the bark and pounding it into a fibrous mass, it can be rubbed between the hands with water for a soapy lather that is reported to be excellent for bathing, as a shampoo, and for washing clothes. There are still so many more uses for yucca I have not tried!

In addition to the aforementioned uses, the Catawba, Cherokee, Nanticoke, and other Native Americans used yucca for food, fishing lines, clothing, medicine, and salves and poultices for skin problems such as cuts, scrapes, sunburn and for sprains. The tall inflorescence stalk fibers are said to make a make comfortable cloth. The leaf fibers I used as needle and thread to repair my jeans were once used to pierce and hang meat in smokehouses. Chopped leaves or fruit can be used as a piscicide to stun fish.

The fruit is edible raw or cooked, and can be dried for later use. Flowers can be eaten raw in a salad, dried, or fried. The flower stem can be prepared like asparagus.

Yuccas deserve a corner in night-blooming gardens and will pay for their space with their nocturnal fragrance. New Mexico has recognized it as their state flower.

Yucca and Its Mutualistic Pollinator

C. V. Riley, Missouri's first State Entomologist (1868), Chief of the U.S. Entomological Commission (1876), and Chief Entomologist for the U.S. Department of Agriculture (1878), was the first to realize the obligate mutualism and insect-plant coevolution of *Yucca filamentosa* and the yucca moth (*Tegeticula yuccasella*). I should mention early on that Riley was introduced to the yuccas by George Engelmann, an important early American botanist who was then the authority on yuccas and agaves.

Many flowering plants depend on insects for pollination and the process is very often extremely interesting. In some instances, a certain flowering plant and insect have co-evolved to meet each other's needs, as is the case with the yucca moth and the night-blooming yucca. Such a relationship, in which both organisms rely on each other for survival, is known as obligate mutualism, and the classic example of obligate mutualism is the relationship between yucca plants and *Tegeticula* moths.

Yucca plants are late spring bloomers with highly modified flowers that reduce the chance for random pollination by other insects or self-pollination as the anthers point away from the stigmatic tube. The yucca plants' ovaries serve as the food source for the moth's offspring, which feed on seed that develop as the result of pollination of the flower by the yucca moth. More specifically, the female moth has both behavioral and morphological adaptations that enable it to pollinate the yucca plant.

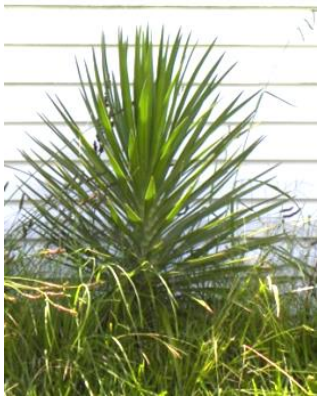
***Tegeticula yuccasella*. Photo by Mississippi Entomological Museum (on Moth Photographers Group website).**

After emerging from their chrysalises, the male and female moths copulate on a yucca flower at night. The female then gathers pollen from a yucca flower using specialized maxillary appendages to scrape pollen from the anthers. She then forms the pollen into a very large pellet using her front legs, holds it tight, and flies to another plant. Upon arrival she checks to make sure another female has not visited that flower, moves about among the stamens to find a suitable position where her abdomen can reach the pistil (immature fruit), inserts her ovipositor, and deposits eggs. She next rapidly climbs to the top of the pistil and thrusts pollen into the stigmatic opening, working her head like a hammer and

using her tongue to force the pollen deep into the tube, both cross-pollinating the yucca flower and ensuring food for her larvae. Late in the summer and after pollination, the flower's creamy white petals fall off while the fruit and moth eggs continue to develop. More seeds are produced than can be consumed by the caterpillar, sustaining the yucca and the moths. After several molts the larvae bore out of the pod, make their way to the ground where they form cocoons to spend the fall, winter, and spring, and emerge as adults just days before the yuccas bloom.

The yucca's Achilles' heel is its mutualistic relationship with a single pollinator, the yucca moth. Yuccas were introduced to the Old World and interestingly did not bloom there. Various reasons were suggested, but the lack of the yucca moth in the Old World was the reason. Those that do bloom are hand pollinated.

Yucca filamentosa is common in south Mississippi and I have seen them blooming in a number of central and south Mississippi counties. The stem I brought to Mayhew easily took root and is growing well. It has yet to bloom, but it should not be long now. I have not collected the yucca moth in this part of the state, but Mississippi Entomological Museum director Dr. Richard Brown has, and Pellmyr found them in Lowndes County, where I live. C. V. Riley reported that the moths were preoccupied, and the light from his lantern did not interfere with their nocturnal activity. Pellmyr reported, "Both sexes are attracted to UV light for about an hour early during the night." I will put a sheet up this summer and watch for their arrival.



Make Yucca Root Soap

Harvest some fresh root. Peel the outer bark and discard. Chop the root into small pieces and mash thoroughly (I use a hammer). Soak it overnight in just enough water to cover. You can now put it in a blender, adding water as necessary, and allow the blades to continue breaking down the woody tissue. This may take 15 to 20 minutes, or longer. You want to break down the fibers as much as possible. Strain the chunks and fiber from the creamy soap. The soap can be poured into a pump dispenser and the chunks tied in a piece of cloth to use for scrubbing anything from hands to soiled clothes. The liquid soap may settle, so you will want to shake it before each use. Do not let the scrub pad get too dry.

Resources

Pellmyr, O. (1999). Systematic revision of the yucca moth in the *Tegeticula yuccasella* complex (Lepidoptera: Prodoxidae) north of Mexico. Systematic Entomology 24: 243–271.

Riley, C. V. (1892). The yucca moth and yucca pollination. Missouri Botanical Garden Annual Report. http://www.jstor.org/stable/2992075.

Sheppard, C.A., and R.A. Oliver. (2004). Yucca moths and yucca plants: Discovery of "the most wonderful case of fertilisation." American Entomologist 50(1): 32–46. Available online at http://entomology.wsu.edu/wp-content/uploads/2012/02/yucca2.pdf.

Snell, R. (2006). COSEWIC assessment and status report on the five-spotted bogus yucca moth (*Prodoxus quinquepunctellus*) in Canada. http://individual.utoronto.ca/snellr/COSEWICBogusYuccaMoth.pdf.

An MNPS-Mississippi Museum of Natural Science Herbarium Project by Heather Sullivan

At the annual meeting of the Mississippi Native Plant Society in November 2013, I proposed an exciting joint venture between the society and the Mississippi Museum of Natural Science (MMNS) Herbarium in which the society members could assist the state herbarium by either collecting plant specimens or by allowing me access to their properties to collect specimens. The proposal was approved by the members present at the meeting.

An herbarium is a collection of preserved plants stored, catalogued, and arranged systematically for study by professionals and amateurs from many walks of life. An herbarium is also a cross between a museum of priceless artifacts and a warehouse of birth certificates for plants, acting as a source of information about plants—where they are found, what chemicals they have in them, when they flower, what they look like, etc. The state herbarium is housed at the Mississippi Museum of Natural Science in Jackson, MS, and is open to the public by appointment. Two herbarium collections are available for research: MMNS Herbarium (>33,000 specimens) and Stoneville Weed Science Laboratory Herbarium (>18,000 specimens).

Why is an herbarium important? Mike Palmer from Oklahoma State University best answered this question in an email to the Society of Herbarium Curators in which he stated: "Asking who uses an herbarium is kind of like asking who uses census data. In the U.S., anyone who votes, who pays taxes, or who receives benefits is a user of census data. Similarly, anyone who uses a Latin name for a plant is, indirectly, an herbarium user. When I use a name, I know and

appreciate that (in most cases) the name can be tied to a type specimen in an herbarium somewhere. And I NEED to know that, even if I don't need to know where it is."

Though the MMNS Herbarium has been growing rapidly for the past 9 years, most counties are still not well represented with specimens. By my calculations, 19 counties are listed as critically undercollected. Only 7 counties are well represented in the state herbarium: Grenada, Harrison, Hinds, Jackson, Lauderdale, Scott, and Tishomingo. These seven counties were either the subject of a graduate student's thesis or other similar intense research projects. The highest priority counties in need of specimens, each with fewer than 100 plants represented in the collection, include: Benton, Calhoun, Coahoma, Holmes, Humphreys, Issaquena, Itawamba, Jefferson, Jefferson Davis, Leflore, Lincoln, Marshall, Montgomery, Neshoba, Pike, Quitman, Sunflower, Walthall, and Union.

MNPS is a statewide organization with members widely distributed through the state. It occurred to me that MNPS members could either make plant specimens (trained by the state botanist) or might have access to lands from which the state botanist could collect plant specimens. I can provide plant presses and collection notebooks for MNPS members who wish to contribute to the state herbarium. What does the Society gain through the project? Members will learn about the importance of natural science collections, techniques to creating plant specimens, and the native flora of their area. Please contact me at heather.sullivan@mmns.state.ms.us if you are interested in either of the aforementioned avenues to contribute to the project.

Central Region Field Trips by Heather Sullivan

One of the greatest pleasures of leading field trips is to see the wonder in people's eyes when they encounter truly spectacular sights like Easter lilies (*Zephyranthes atamasco*). On April 12 central region Native Plant Society members went on their annual Easter (Atamasco) lilies field trip on Bienville National Forest. We had an excellent group for this outing: some who had been on past visits and many who were new to the site. Hundreds of these lilies grow in the understory of the bottomland hardwood forest. The flowers of the Atamasco lilies are very large and showy. (Gail Barton included a plant list for this site in the Summer 2012 newletter (Volume 30, No. 2), so I will not reiterate those now).

When you see massive displays of flowers like those in the Quaterliah Creek bottomland, it is difficult to believe that these plants are a tracked rare species in Mississippi. However, these lilies occur in a narrow band in Mississippi associated with the Jackson Prairie belt, which arches from Wayne County at the state line with Alabama west toward Jackson through central Mississippi. We did see the vegetation of the Turk's cap lily (*Lilium superbum*) scattered in with the Easter lilies; this is also a tracked species in the state, but it has a much broader distribution than the Easter lilies.

In spite of going to this site nearly every year for the past fifteen years, this year I noticed another rare plant, southern meadow-rue (*Thalictrum debile*), which is a candidate species for the endangered species list. It has scattered occurrences in the prairie regions of the state. On our way into the lily site, Jennifer Hefner spotted a population of wild hyacinths (*Camassia scilloides*) on the roadside. This is another state rare species, with scattered populations through the prairie zones of the state. All in all, we had a glorious day with great fellowship. Hope to see some of you all next year!

Our May outing with Central Mississippi Audubon Society to the Loess Bluff Experimental Forest on May 10 was also well attended. It had been several years since the native plant society had visited this site. The forest is a hardwood-dominated forest, with towering cherrybark oak, American beech, and white ash dominating the canopy, over a groundcover of ferns and scattered wildflowers. The following is a short list of some of the species that we paid particular attention to during the trip.

Ferns

Northern Maidenhair Fern – *Adiantum pedatum*
Winter Grape Fern – *Botrychium biternatum*
Rattlesnake Fern – *Botrychium virginianum*
Lowland Bladder Fern – *Cystopteris protrusa*
Japanese Climbing Fern – *Lygodium japonicum* [NOT NATIVE]
Torres' Fern – *Macrothelypteris torresiana* [NOT NATIVE]
Sensitive Fern – *Onoclea sensibilis*
Broad Beech Fern – *Phegopteris hexagonoptera*
Christmas Fern – *Polystichum acrostichoides*
St. John's Shield Fern – *Thelypteris hispidula* var. *versicolor*
Southern Shield Fern – *Thelypteris kunthii*

Wildflowers, grasses and vines

Hog Peanut – *Amphicarpaea bracteata*
Virginia Snakeroot or Birthwort – *Aristolochia serpentaria*
Supplejack – *Berchemia scandens*
Wild Comfrey – *Cynoglossum virginianum*
Climbing Hydrangea – *Decumaria barbara*
Wood Nettle – *Laportea canadensis*
Southern Stoneseed – *Lithospermum tuberosum*
Nepal Grass – *Microstegium vimineum* [NOT NATIVE]
Largeseed Forget-me-not – *Myosotis macrosperma*
Basket Grass – *Oplismenus setarius*
Mayapple – *Podophyllum peltatum*
Sweet Little Betsy – *Trillium cuneatum*

Stinging Nettle – *Urtica dioica*
Wood Violet – *Viola palmata*
Walter's Violet – *Viola walteri*

Shrubs and small trees

Switchcane – *Arundinaria gigantea*
Pawpaw – *Asimina triloba*
American Beautyberry – *Callicarpa americana*
Blue-beech, American hornbeam or musclewood – *Carpinus caroliniana*
Flowering Dogwood – *Cornus florida*
Strawberry Bush – *Euonymus americanus*
Witchhazel – *Hamamelis virginiana*
American Holly – *Ilex opaca*
Spicebush – *Lindera benzoin*
Eastern Hophornbeam – *Ostrya virginiana*

Trees

Southern Sugar Maple – *Acer floridanum*
American Beech – *Fagus grandifolia*
White Ash – *Fraxinus americana*
Sweetgum – *Liquidambar styraciflua*
Tuliptree – *Liriodendron tulipifera*
Cucumber Magnolia – *Magnolia acuminata*
Southern Magnolia – *Magnolia grandiflora*
Sycamore – *Platanus occidentalis*
White Oak – *Quercus alba*
Chinkapin Oak – *Quercus muehlenbergii*
Cherrybark Oak – *Quercus pagoda*

Mississippi Native Plant Society Field Trips

August 2, 2014

HILLSIDE BOG WILDFLOWER WALK 10:00 a.m. to Noon

Enjoy a special field trip to Hillside Bog with Dr. Wayne Morris, Department of Biological & Environmental Sciences at Troy University, Troy, AL. Dr. Morris worked for the Crosby Arboretum during the summer of 1986 as a Mississippi State University graduate student of Dr. Sidney McDaniel, MSU Professor of Botany, and assisted in conducting inventories of the plant species growing at the Arboretum and its associated natural areas as a basis for the future exhibits.
For more information, please contact Patricia Drackett at the Crosby Arboretum (drackett@ext.msstate.edu).

August 16, 2014

We will go to Clarkco State Park, near Quitman. Meet at the lodge building (where the road splits and before you cross the lake) at 9 a.m. Admission is $3.00 per car. There will be an opportunity to see some of the fall orchids in bloom.

September 13, 2014

We will take a trip to the Mississippi Delta! We will explore the Sweetgum Research Natural Area, with its towering sweetgum trees and dwarf palmettos. Meet at 9 a.m. south of Yazoo City at the intersection of Hwy 16 and 49 (Dollar Tree parking lot to the NE of the intersection). May involve tall poison ivy, mosquitos, etc. Fun!

Members should contact Heather Sullivan (Heather.Sullivan@mmns.state.ms.us or 601-576 6000) to reserve spots on the trips and if they require more information. MEEA members are welcome!

You can get updated field trip information, between newsletters, on the MNPS website at: www.mississippinativeplantsociety.org.

A Reflection on Linnaeus' Contributions to the Field of Botany, and Biology in General

by John Guyton

Ninth grade biology's most significant focus was on nomenclature, but my mind was elsewhere. I learned to use a compound microscope to examine Leeuwenhoek's animalcules in pond water and had my curiosity stimulated by red blood cells rupturing in distilled water before I could read and write. By the third grade I had dissected insects, so I was ready for guidance and structure in *my* investigations. We dissected a live frog in Mrs. Eckhardt's eighth grade science class and I was so looking forward to ninth grade biology. What a huge let down! I had no appreciation for the names of things I had never seen, nor any appreciation for the contributions of Carl Linnaeus (1707–1778). That would have to wait…

As a voracious reader, I am thankful for an extensive library. Most recently, I looked for inspiration in Liberty Hyde Bailey's *How Plants Get Their Names* (1933) and found his chapter on Linnaeus refreshing. It bears retelling, so let's reflect on the time before the structure of botany was firmly established. For young readers, I hope to provide you with a glimpse of the sometimes slow, deliberate refining process of science. Bailey was a botanist, taxonomist, horticulturalist, world traveler, and writer. He started the *Cornell Nature-Study Bulletin** and served as Dean at Cornell

University, creating new departments, an experiment station, an arboretum, and a personal herbarium of over 140,000 specimens. Now, a review of his thoughts on Linnaeus.

Linnaeus was born in 1707 in southern Sweden. His father Nils Ingermarson had taken a Latin surname upon entering the university on his way to becoming a scholar and churchman. The custom in those days was for the learned to choose a Latin name or Latinize their patronymic. He selected Linnaeus for a sacred tree that grew on his farm. His cousins selected "Lindelius" and "Tiliander" (Tilia was Latin for the lindens) from the same tree as surnames. This specific stately tree was regarded as sacred by the neighbors who would not so much as remove a twig. Those that fell were stacked at its base. Incidentally, this tree survived until 1823. Linnaeus was shortened to "Linné by the people of his community and Linnaeus wrote, "Linnaeus and Linné are the same to me; one is Latin the other Swedish." He used Linnaeus in his Latin books and later in life when he was made a noble it was as Sir Carl von Linné (a Knight of the Order of the Polar Star [1753]). He even used Carolus Linnaeus Smolander (*L.* with provenance or nation, Smolander).

Botany was not an area of natural science at the time and existed only within other areas such as medicine. The three kingdoms of his time included plants, animals, and minerals. Linnaeus was a field naturalist and his chosen profession was medicine, believing he was not qualified for church work. His most significant contributions were in biological science. He became a university professor and trained students from all over the world as naturalists who then roamed the world, returning specimens: "Thunberg went to the Cape of Good Hope and Japan, Kalm to North America, Loefling to Spain and South America, and Forskal to Egypt and Arabia." Bailey wrote Linnaeus's “knowledge was comprehensive so his enthusiasm was unbound, and his influence on his students was commanding."

Linnaeus's principle interest was botany and he was most interested in plants' natural history and distribution. A huge amount of information had accumulated, in Latin, about plants over the centuries but it lacked structure and an adequate naming plan, or taxonomy. The field was without form and structure. Aristotle believed creatures were arranged in a scale of perfection rising from plants to man, or a *scala naturae*. A binomial system based on morphology of groups with similar appearances had been advanced.

Just before Linnaeus's time, the classification systems of John Ray 1627–1805) and Joseph Tournefort (1656–1708) were in common use. Ray's natural system of classification was based on overall morphology (flowers, seeds, fruits, and roots) and his division of flowering plants into monocots and dicots was an inspiration for Linnaeus. Joseph Tournefort's system of the classification of genera was based on the structure of the flower and fruit. He used a single Latin name for the genus, followed by a few descriptive words for the species. Linnaeus began with the accumulation of centuries of plant information and, utilizing the extensive work of his predecessors, built an infinitely expandable system. While pre-Linnaeus plants did not have succinct accepted names, his binomial nomenclature has enabled the scientists of the world to communicate about plants and animals with ease and clarity.

Bailey described this system as "one of the best inventions of men," stating "It is efficient; it is beautiful in its simplicity." Linnaeus was a "systematist in Natural history." Bailey calls systematics the "oldest of the biological sciences" and "still new and commanding." "The subject is as fresh and compelling as when Linnaeus tramped the fields of Lapland or strode the fields of Sweden." Carl von Linné provided botany with a structure on which to grow and is the father of modern taxonomy.

*If you are unfamiliar with the *Cornell Nature-Study Bulletin*, next time you are on campus stop by my office and I will let you peruse several volumes. They are outstanding!

Silent Auctions

Silent auctions are vital fundraisers for both the Mississippi Native Plant Society and the Mississippi Environmental Education Alliance. MNPS uses auction funds to support their website, and MEEA uses these funds and funds from the sale of a CD featuring the stories of Matthew Miller, *And That Ain't All*, to fund their mini-grant program.

So, now is a good time to find a big box and start collecting things for both organizations’ silent auctions! One person's discards can become another's treasures—and a way to support either MEEA or MNPS.

Native plant aficionados' conference nurseries are incredible! Some of these plants become door prizes, some are given as gifts to speakers, and some are sold in the silent auction. Having taken many home over the years, I can attest to the excellent start they received before they were gifted to MNPS! One of my favorite conference activities is perusing the nursery and deciding what I will add to my yard next!

Mississippi Native Plant Society Application

The organization dedicated to the study and appreciation of native wildflowers, grasses, shrubs and trees. Join Today!

New member____ Renewing ____ (note any changes below)

Name_____

Address_____

PO or Street Address City Zip Code

Email_____ Phone_____

☐ Individual or Family $10 ☐ Student $7.50 ☐ Sustaining $15

☐ Contributing $35 ☐ Life $125

Newsletter preference ☐ Email or ☐ Regular mail (USPS)

Return form to Dr. Debora Mann, 114 Auburn Dr., Clinton, MS 39056-6002

Mississippi Environmental Education Alliance Application

The state affiliate of the NAAEE

Name_____ _____New _____ Renewing

Organization_____

Address_____

PO or Street Address City Zip Code

Email _____ Phone _____

☐ Individual $15 ☐ Student $5 ☐ Family $25 ☐ Institution or Business $50

☐ Life $150 ☐ Patron >$150

Committee interest: ☐ Strategic Planning, ☐ NCLI, ☐ Conference, ☐ Awards

☐ Communication, ☐ Climate Change, ☐ MEEA Board

Return application with check to MEEA, c/o Peggy Guyton, PO Box 43, Mayhew, MS 39753

MS Native Plant Society

mississippinativeplantsociety.org

Coastal Plains MNPS meets every 4th Monday in Gulfport. Contact President Edie Dreher at 228-864-2775 or mail to 100 24th St., Gulfport, MS 39507.

Join MNPS, MEEA or both!

MS Environmental Education Alliance

eeinmississippi.org

The Mississippi Environmental Education Alliance conducts an annual fall conference and occasional workshops.

MNP&EE

Mississippi Native Plants & Environmental Education is the quarterly newsletter of the Mississippi Native Plant Society & the Mississippi Environmental Education Alliance.

Deadlines for Articles:

Winter – November 10

Spring – February 10

Summer – May 10

Fall - August 10

MEEA October 3–4
Lake Tiak-O'Khata

SAVE the 2014 Conference Dates

MNPS November 7–8
Roosevelt State Park

The MISSISIPPI NATIVE PLANT SOCIETY
c/o Dr. Debora Mann
Millsaps College
Box 150307
Jackson, MS 39210
RETURN SERVICE REQUESTED

MS Native Plant Society & Mississippi Environmental Education Alliance