Mississippi Native Plants

Newsletter of The Mississippi Native Plants Society

Volume 36 No. 2 *"Change your thoughts and you change your world."* - Norman Vincent Peale **Winter 2019 - 20**

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

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Red is a Christmas Color and it is Our 2019 Christmas Activity's Color!

We have been Experimenting with using Cochineal (a scale insect) to Dye Cloth as a Possible Camp Activity and Having a Blast!
Peggy & Dr. John Guyton

For most of humans' history scarlet red was known from blood and a very few plants. And it paled in comparison to what was then being used in central America. During a time lost in antiquity Mesoamericans discovered a brilliant red resulting from pinching a scale insect found on prickly pear cactus that yielded a blood-red stain on their fingers and fabric. The tiny creature is a parasitic scale insect known as cochineal.

Cochineal scale insects are harvested from native prickly pear cacti by the poor in countries from Mexico to Peru, that have eked out an existence on meager earnings, forever. The natural dye "carmine" is derived from these scale insects. It was an ancient agricultural product when Europeans discovered it in the new world. Its stability, safety and long-lasting color, that is not affected by heat or light, made it popular and the quest for cochineal spanned several centuries and spawned tales of explorers, adventurers, pirates and alchemist.

Cochineal insects resemble mealybugs with red bodies covered with fluffy white wax secretions that resembles cotton.

For centuries these insects have provided the red color of a very long list of products: lipstick, Jell-O, many candies and drinks, the red of "Red Coat" uniforms and Santa Clause's suit! For the uninitiated and insect phobics, there is an alternative for cochineal used in coloring foods, coal tar sludge! And this is not a bad child-Santa Clause joke!

Dried cochineal is available commercially. An internet search will lead you to sources, and some ship quickly! Christmas is a great time for families to introduce their children to an ancient plant dye!

Dying Cloth with Cochineal Insects by Peggy and John Guyton
Experimenting with dying cloth was a welcome break during our busiest time of the year with conferences, zoo tours, finishing a class and grading students projects, and building our elaborate Christmas gifts for deserving individuals: Gingerbread Houses. Now, on with the story…

Introducing your children, grandchildren, students or campers to dying with Cochineal will give them an ancient skill, and a fascinating introduction to history and agriculture.

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MNPS President's Letter by Eli Polzer

Dear Mississippi Plant Enthusiasts and Friends-

Thanks for welcoming me into the world of MNPS as the new President.

I am quite new to Mississippi, so am continuously learning about its floristic elements, but I've become fascinated with its broad sweep of unique habitats and relic plant communities.
Just last month, I attended the MNPS Noxubee plant walk with our beloved State botanist, Heather Sullivan, and I was entranced by the loveliness of the changing leaves and the brilliant colors of asters and goldenrods nearly hidden in the understory. This state holds so much beauty!

For context, I was born in Kansas and raised in North Carolina, followed by long stints in Louisiana and New York. Botany became a passion during my academic pursuits in forest and wetland ecology, where my research included the restoration of diminishing wetland plant communities (e.g., inland salt marshes, Great Lakes coastal sedge/grass meadows). I now work as a botanist for the U.S. Army Corps of Engineers in Vicksburg, where I am fortunate to travel and botanize throughout Mississippi, Louisiana, and Arkansas. I decided to accept this role because I'm a very inquisitive person with great enthusiasm for the natural world who is equally motivated by interdisciplinary pursuits and building strong community networks.

From what I can tell, in Mississippi we live and breathe a rich culture steeped in a complex history. It naturally follows that our organization should reflect the diversity of our greater human community and its amalgamation of stories and experience. Accordingly, the MNPS occupies a pivotal place in unifying the sometimes disparate provinces and expressions of plant love: academic research; agriculture, horticulture, gardening, and other fashioned landscapes; geography and historical landscape narratives; healing and creative arts; and simple marveling.

With that, I am committed to the broad mission of MNPS and endeavor to build on our current momentum in moving the society forward by developing some new initiatives—subcommittees, student engagement, highlighting botanical champions in our local and regional communities, and developing organizational partnerships. We would love to hear your thoughts and ideas along these lines, which is why we've created the enclosed member survey. The more responses that we receive, the better we can shape MNPS to your interests and talents, so please participate!

Thanks everyone!

I look forward to meeting you in the field!
Best, Eli

Editor's Notes

We had a lot of wonderful presentations during the annual conference this year and I would certainly enjoy publishing an article by each presenter!

We have an outstanding new group of officers and President Eli and Vice President Beau have started fast and are generating some great ideas that follow.

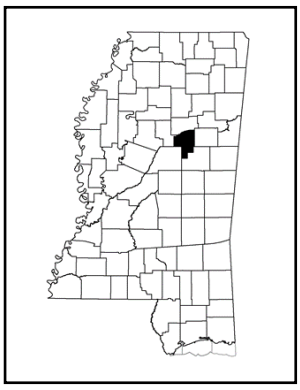
1. Eli has proposed a set of charismatic flora 3 x 5 cards to introduce MNPS and is seeking ideas for photographs of Mississippi native flora to include. High quality photos from MNPS members would be great!

2. Vice President Beau has mentioned an interest in compiling an updated list of MS growers and landscape-oriented folks, and this would make a great handout to accompany the 3x5 MNPS Introduction cards.

3. Eli asked if there is a list of plant-oriented educational programs in the state? Assuming not beyond an Extension pub, let's compile one including other institutions, professors, researchers, with their areas of research and service. (send these to Eli and Peggy; Peggy will start a list on our website). Eli continues, this is particularly important as we consider how to integrate more students in our organization. Deb Mann offered this link as a start:
https://extension.msstate.edu/sites/default/files/publications/publications/p2348.pdf

4. There was also a lot of discussion of the river activities so I have included a short article on these.

Looking Back on a Modern Flora, by Kevin Philley



Choctaw County is that peculiar shape you see near Mississippi's center while watching the weather. Its original form in 1833 was mostly square and uninteresting by comparison, but much larger. Larger than any contemporary county. Through the years its boundaries were restructured, clipped, folded, unfolded, and folded again in a curious exercise of cartographic origami. Parts of its former extent are now modern-day Webster County, half of Montgomery County, and the southeast corner of Grenada County. To compensate for these damages, the state whittled away a portion of Winston County to form the panhandle. By 1875, the end result was mostly a collection of hilly terrain, with little prime farmland. Most of the extensive floodplains and fertile bottomlands were now beyond its borders. European settlers had arrived in the 1830s and attempted to make use of the hills anyway. Forests were eventually stripped away, and its hillsides were terraced for crops or converted to pasture. This pattern remained in place until the mid-1900s. Small-scale agriculture in the region has since dwindled, and forests dominate the landscape again.

The county was once covered by broadleaf hardwoods, chiefly oaks, with shortleaf pine (*Pinus echinata*) on upper slopes and ridges. Counties to the south of Choctaw begin the transition to the pine-dominated regions of southern Mississippi but you wouldn't guess this while passing through today. Loblolly pine stands of various heights and ages now spread across the hills and retired agricultural lands, replacing the sturdy post oak (*Quercus stellata*) and black oak (*Q. velutina*). The distinctive silhouette of Blackjack oak (*Quercus marilandica*) can still be spotted here and there but has mostly disappeared from the dry upper slope forests. The American chestnut (*Castanea dentata*) was once a common tree but now lives like a recluse in scattered coves, a shadow of its former self thanks to chestnut blight (*Cryphonectria parasitica*) that arrived here in the early 1900s. Shortleaf pine is still common, but its abundance appears to be decreasing thanks to a preference for faster growing tree species and decades of aggressive fire-suppression.

The Noxubee Hills and the Ironstone Hills are two of the most distinct landscape features in the county and give the impression of being somewhere slightly farther north, with their high ridges and mesic cove forests containing plants more familiar to those of Appalachia. The Ackerman Unit of the Tombigbee National Forest straddles some of this rugged terrain and might offer a glimpse of what much of the region once looked like. A few nearby summits offer panoramic views of the hilly terrain as it levels off into the distant Flatwoods and Black Prairie regions to the east.

I began my obsession with plants here in the county, wandering through the woods and fields at my grandmother's property trying to learn the identity of every tree and shrub that I found. Little did I know, this would eventually morph into a floristic survey. The flora began in the fall of 2009 as I started graduate school at Mississippi College with nothing more than a handful of collections. Somehow, I convinced myself that I could do this, not fully understanding the level of work and detail involved. The winter months were spent scanning over maps, aerial photographs, soil surveys, and any other information I could get my hands on. Locations on the maps with place names that had any botanical inclination whatsoever got circled. Physical features that stood out such as steep north-facing slopes, swamps, springs…circled. I tracked down parcel owners to get permission to access their land, with mixed results of course. Many were willing and highly interested in the project. Others were reluctant or never returned my calls.

By the time March arrived I was eager to get going. But it turns out spring was a few weeks late that year, at least in north-central Mississippi. When the green-up finally came, I was making a collecting trip almost every other weekend. At the start, everything is new. The collecting bags overflow and the presses swell with the days haul. The real work is later during the processing and identifying. Grabbing and bagging is the easy part!

Eventually there comes a time when new things are more difficult to come by. You have to walk farther, look harder, and circle back and check something just one more time. This is when collecting becomes something more akin to hunting. As hunting turns into finding, at least for some things, an addiction creeps in. "Let's keep going and see what's around the bend, or on the next ridge, or just down this road", is what you start telling yourself, at times leaving nothing more than a hint of fading light on the horizon as you make your way out of the woods. The occasions when all of this paid off felt like a rush. A high that few could appreciate though. Excitement over a plant? Who can you share this with?

After several years of field efforts, the returns from survey trips were abysmal. Days of work would result in one or two species at best. Others would result in nothing at all. Just as I had convinced myself to undertake this massive effort, I had to convince myself to "call it" so to speak. With a total of 950 species, it was a respectable effort, and made an important contribution to what we know about Mississippi's plants. The knowledge and experience that I gained and the memories are priceless. I have gotten to know some amazing people, made life-long friends, and advanced my career in ways that would not have been possible otherwise.
There are a few plants that still haunt me. Bigleaf magnolia (Magnolia macrophylla) happens to be one of them. It is known from the surrounding counties and at many sites that I have seen myself, yet I could only find it planted as an ornamental in Ackerman. I searched and searched some more. I went back to the maps, hoping for something to reveal itself to me. No luck. Just dead ends. This scenario played out for several other species that by all accounts "should" be there. Sometimes I still think about where they might be.

The flora appeared in the July issue of the Journal of the Botanical Research Institute of Texas. You can check it out here
http://www.brit.org/jbrit-current-issue
Kevin Philley is a Research Biologist at the U.S. Army Corps of Engineers – Engineer Research and Development Center in Vicksburg, MS. He conducts habitat surveys, vegetation classifications, and wetland research throughout the U.S.

Proposed River Nature Trail Signage Project, by John Guyton

I was surprised and delighted at the interest in "Educational River Signage." We have had two wonderful naturalists spend time on the Pearl and Pascagoula Rivers in Mississippi. The earliest was William Bartram, the first "Naturalist Spokesperson" for the United States whose book, Bartram's Travels chronicled his time on the lower Pearl River. Ross Hutchins, a more recent entomologist/ naturalist, spent his leisure time on the lower Pascagoula River and produced many books including Island of Adventure that described the fauna and flora of the Pascagoula River basin.

In Bartram's Travels, Bartram's mention of plants he found on Pearl Island, in the Pearl River, inspired me to propose and see-through the creation of a Bartram's Trail at the MSU Crosby Arboretum. This seemed appropriate since the arboretum features native plants of the Pearl River drainage area. Bob Brzuszek and I explored the Pearl River by boat in search of Pearl Island and unsuccessfully requested permission from the owners to botanize on their property. Bob was instrumental in getting a Bartram's Trail constructed at the Crosby Arboretum.

While living on the Mississippi Gulf Coast we became acutely aware of the need for a guide to coastal plants and Hutchins Island of Adventure provided not only the material needed to produce a plant guide but a check list of trees, animals, fish, etc., all the material for the needed guide.

While working on this article, I should not have been surprised when I discovered Alabama has a Bartram's Canoe Trail! He spent much more time in Alabama and not so much in Mississippi.

Potential signage for Bartram River Trail: *Plants William Bartram Mentioned Finding on Pearl Island in the Pearl River Drainage Basin, by John Guyton*

Pearl Island probably does not refer to the present Pearl River island at the mouth of the Pearl River, since that island consists wholly of a salt marsh. The site of Mr. Rumsey's plantation, where Bartram recovered from what some have speculated was scarlet fever and he then used as home base while exploring the area, was probably bordered on the east by the west Pearl River, on the south by The Rigolets, Salt Bayou on the north and Lake Pontchartrain on the west (Prevost Island on the Rigolets quadrangle). Bartram spent between 4 to 5 weeks exploring this area, departing around the end of October 1775. Bartram deferred identification and naming most of the plants he collected to the European collectors to whom he was sending them.

Trees
Live Oaks (mentions oaks (plural) but did not give additional details) *Quercus virginiana*
Southern Magnolia (*Magnolia grandiflora* L.)
Red Bay Laurus Borbonia - (*Persea borbonia)*?
Olea Americana - devil-wood (*Osmanthus americana* [L.] Gray)
American beech Fagus sylvatica - (*F. grandifolia* Ehrh?)
Laurus Sassafras - (*Sassafras albidum* [Nutt.] Nees)
Quercus hemispherica - Darlington oak (*Q. hemisphaerica* Bartr. Ex Willd.)
Telea - either basswood (*Tilia* spp.) or wafer ash (*Ptelea trifoliata* L.)
Liquid Amber - styraciflua - sweet gum (*L. styraciflua*)
Morus - red mulberry (*M. rubra* L.)

Gleidtsia - either honey locus (*G. triacanthos* L.) or more likely water locus (*G.aquatica*)
Callicarpa - French mulberry (*C. americana* L.) Cultivated by the ancients. alesia - silverbell tree (*Halesia* spp.)

Shrubs
Rhamnus or Rhamnus frangula - buckthorn and Sideroxilon or Sideroxilon or Sideroxilum buckthorn (*Bumelia* spp.)
Myrica - wax myrtle (*Myrica cerifera* L.)
Zanthoxilion - Hercules' club or toothache tree (Zanthoxilon or Zanthoxilum) clava Herculis (*Xanthoxylum clava-herculis* L.)
Juniperus Americana - southern red cedar nomen nudum (J. silicicola [Small] Bailey)
Lycium (Lysium) salsum Christmas berry (*L. carolinianum*)
Croton - a genus of Euphorbiaceae comprising the crotons
Stillingia - queen's delight (probably *S. sylvatica* L.)
Mimosa virgata (virgatia) - sensitive briar? (*probably D. illinoensis*)

Playing with Your Food, Ooblick! by Dr. John Guyton

If you have some down time during Christmas holiday and are unfamiliar with Ooblick you are in for some fun. Ooblick, is not a swear work! **Ooblick is a non-Newtonian fluid or a suspension** (neither a liquid nor a solid but has properties of both) that mimics a solid and a liquid. Add a cup of water to two cups of cornstarch in a bowl and stir until you have a paste. You can even add food coloring. If it is too thin add more cornstarch. It performs as a solid *when* under pressure while squeezing a handful in your hand and when you relax your grip it should drip through your fingers! Hit it with a hammer in a metal bowl and it will not splash, …if you have the correct amounts of water and cornstarch.

And that ain't all. Every young scientist needs cornstarch in their tool kit, or magic bag. Electricity is also fun to play with. As a refresher, when you rub an inflated balloon on your shirt or pants the balloon will develop a positive charge on its surface. You can now stick the balloon to the wall until you need it. Make some ooblik with cornstarch and cooking oil. Using a wooden spoon (an insulator) dip a spoon full of ooblick allowing some to slowly dribble as you bring it close to the balloon an assistant has pulled from the wall and recharged. The ooblick will thicken and a drip clinging to the spoon will be noticeably attracted to the balloon.