



Mississippi Native Plants and Environmental Education

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



Volume 23 Issue 2 The Editors and Staffs of MNPS and MEEA wish you a Happy and Safe Holiday Winter, 2005

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

MNPS Board of Directors

President: Marc Pastorek
Tel: 504-296-8162

Vice-Pres: Joe McGee
19496 Highway 80
Hickory, MS 39332

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

Education Chair:
Dr. John Guyton
jguyton@ext.msstate.edu

Trips Chair: *Your name could go here!*

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

MEEA Board of Directors

President: Matthew Miller
matthew_miller@tnc.org

Past President: Barbara Dorr
b_dorr@bellsouth.net

Secretary: John DeFillipo
lizardking700@yahoo.com

Treasurer: Pam Williams
pamshopwilliams@netscape.net

Newsletter Editors: Peggy & John Guyton, pegguyton@cablone.net
Peggy 228-872-5323, cell 228-324 3136; John work 228-546-1021, cell 228-324-4233

MNP & EE Editors Need a Little Help

We need articles! We get suggestions but what we really need is stories. Have you been on a good field trip lately? Finally found out what that weed, or wildflower is? Is there a plant your family uses that others spray to eliminate? Got an environmental education observation or technique to share? Well, write it down and send it to us at pegguyton@cablone.net. To help you get started we have included a variation of "5 Minutes of Creativity" from John's *Nature Study - The Field Notebook and Nature Journal*.

6 Minutes of Creativity

With just a little practice it is amazing what you can accomplish in just six minutes. Each time you try this you get better and this exercise will help you and your students focus and get to the task at hand. Start by listing the features or characteristics of a plant or some details you want to include in a story you want to write - but make it a quick list no more than a minute. Now, give yourself 5 minutes to write the story. Time is wasting. Do it now, before you finish this newsletter, it can change your life. Sounds like a new diet pill doesn't it? Limit yourself to 1 minute to list the details and 5 minutes to write the article. Don't worry about spelling, don't stop by the Internet for details, skip a space if you just have to look something up but write - the clock is ticking, or purring if you have one of those digital things or a motor driven analog one. After 5 minutes stop. Amazing, isn't it. Do it again. I won't bore you with a story about our daughter, Sue, who came downstairs a few years ago with an essay due the next day... But it must have been terrible being an educator's daughter! Yes, she is much more focused today and can write on demand! Now, go back and edit what you have written, look up the correct spelling of that word, check those details on the Internet and send us the article for the next edition of the MNP & EE!

Want Ads

MNPS needs a Web Page Coordinator and Trip Chairs.

MEEA is calling for nominations for President elect, Secretary and Treasurer. Elections will take place during the annual conference in March.

And That Ain't All Put Mississippi Story Teller Matt Miller's *And That Ain't All* CD in Christmas Stockings this Year. Matt's collection of 9 stories should be ready for Christmas and will cost \$15. Please add \$1 for shipping and handling. Proceeds go into a MEEA teacher minigrant fund. Please make checks payable to MEEA and send to Matt Miller, TNC, 1709 Government St., Ocean Springs, MS 39564.

A Couple Christmas Thoughts

American holly (*Ilex opaca*) is evergreen can be espaliered to a brick wall. Its wood is ivory white and has been used for inlay in cabinet making and marquetry work.

The deciduous holly or possumhaw (*Ilex decidua*) retains its yellow to orange-red berries all winter and is tolerant of a range of soils and is often overlooked as an ornamental possibly because its berries are closer to the stem and not on the ends of long racemes. Birds love the berries!

Dear MEEA Members,

I am excited to announce this latest addition to our means of communicating environmental education news from Mississippi and across the country. As you are aware we are using the electronic NAAEE newsletter and the Clinton Community Nature Center newsletter as two methods of staying in touch. Now through a cooperative agreement between MEEA and the Mississippi Native Plant Society the two organizations have created a joint newsletter. The newsletter will bring articles, educational ideas, news and events of interest to both groups to a combined audience.

Due to the impacts and disruptions caused by hurricane Katrina the MEEA annual conference that was scheduled for October 28-30 has been rescheduled. The new date is March 24-26, 2006. The planned site of the meeting remains Twin Lakes Conference Center near Jackson. Look for upcoming conference announcements from John DeFillipo. As always the conference provides an excellent opportunity to network with other environmental educators, participate in a wide array of workshop sessions, and support MEEA.

One of the after affects of the hurricane season on Mississippi's coastal ecosystem that has conservation organizations and agencies concerned is the heightened threat for exponential expansion of non-native, invasive, plant species. Two pieces of information that brought this potential threat home to me were the impact assessment conducted on The Nature Conservancy's preserves, mitigation lands and easements and a map showing the geographical scope and depth of the storm surge along the Mississippi coast. In the former it was not timber loss, or salt water intrusion, or debris that was cited as the most critical need to be addressed. It was, as stated in the impact assessment, the immediate need to address the control and eradication of invasive species. The storm surge map was an ominous portent to the potential spread of Chinese tallow trees. The map basically served as an overlay of new habitat for this highly invasive species and an indicator of where tallow tree seeds would be dispersed. From an environmental education perspective the opportunity and need to strengthen our ability to get the word out about the features and functions of natural systems is even more important as coastal communities begin the process of planning for the future. The image of the Mississippi Gulf Coast with Live Oaks, marshlands and barrier islands that draws visitors could change to one of a landscape dominated by tallow trees and cogon grass. Let's hope that another victim of this year's hurricane season is not the incredible biodiversity of the Mississippi Gulf Coast.

Best regards, Matthew Miller, MEEA President

Dear MNPS Members

A hardy thank you to all present at the MNPS annual meeting and to the Clinton Community Nature Center for hosting the event. We were treated to a delightful day of plant oriented conversation and our activities fit perfectly with the comfortable surroundings of the nature center. And thanks also to outgoing president Nellie Neal and all of the native plant society officers for their enthusiasm, interest and effort in continuing native plant awareness in our state. And, congratulations to this year's new officers. I am humbled by the society's vote of confidence. I will do my best to carry the torch for the next year. I look at this as an opportunity to learn more about our state and the people who live in it. Hopefully, my term will bring me to parts of the state that I've not been in and enable me to take the time to do the things I love most in my life, soaking in the gift of nature and being with people who have similar inclinations.

A little bit about myself. I am a resident of Henley Field community, Pearl River County, MS. Home of some of the poorest red dirt in the state. I was fortunate enough to stumble upon my present day homestead 24 years ago after marrying Darla, my high school sweetheart. We settled in well and raised 2 seemingly decent boys, now young men, Joel 21 and Cale 17. We started a backyard nursery and gardening business in 1985. Shortly after moving to Henley Field, I had purchased a salvaged section of a 1930s era greenhouse range from a friend. I erected a modified glass building with it and the rest is history! Many exciting turns have been made through the years. One of the most exciting was my introduction to native plants. That introduction was through what my friends call plant people. These folks, and the generosity of their sharing, is the reason for my success in designing native gardens. Through the good and bad we were able to sustain our family through the labors of growing plants for people. I am very grateful.

One of the interesting ideas mentioned at the October meeting was the thought of a society web site. There seemed to be a

desire to make this happen. This idea is quite appealing to me. If there is an interest in conversing on the subject and if there is any member who has the interest in practicing their Adobe or Photoshop web site production skills while assisting with the set up of such a site please call me. There are people in the society including myself who would be glad to do much of the footwork and the production of the information to be transferred to the web site. I would suggest our society promote "conservation through propagation." The propagation of MS natives for home garden use and habitat restoration as a solution for preserving local or regional genetic varieties threatened by urban sprawl. It is up to groups like ours to promote the value of stewardship of our native plant communities. And finally, I want to say to our friends on the coast who were hit hard by the storm, God speed in your cleanup/life repair endeavors. Always best regards, warm wishes, and good luck!

Sincerely, Marc Pastorek, MNPS President

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

MNP&EE is a quarterly publication.

Deadlines for Articles

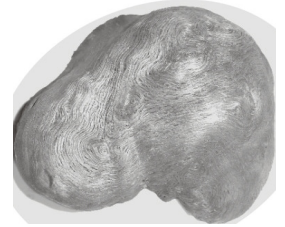
Winter (Dec - Feb) - November 15

Spring (March - May) - February 15

Summer (June - August) - May 15

Fall (Sept - Nov) - August 15

Cicidums (an \$8.00 Word for Galls) by John Guyton, Ed.D.



An article on galls? Well, I could feel it growing. There is a water oak tree behind our house that has galls on the ends of most limbs and I have recently been introduced to turning galls, or burls, on the lathe.

Growing up I knew of people who ate galls. Dr. Richard Brown and I have discussed doing a session on dyeing with galls for Bug Camp and I have been thinking about experimenting with their astringent properties. Recently on a trip to the Old Cove (Webster County, Mississippi) I noticed conical galls on the bottom of hickory leaves. Finding a copy of Ross Hutchins *Galls and Gall Insects* book (\$8.00) pushed me over the top and much of the content for this article is from his book. With winter approaching and trees shedding their leaves now is a great time to search for galls.

Galls are deformations of meristem (growing) plant tissue caused by insects (over 1450), mites, fungi, viruses, bacteria or nematodes. Galls have been with us a long time and their fossils have been found in Tertiary formations (50 million years ago) and on leaves from the Cretaceous Period when flowering plants were first appearing (over 100 million years ago). Their dependence on oaks seem to be a relatively recent adaptation. Galls are found on many plants including trees, mushrooms (flies), lichens (mites), several grow on algae (nematodes) and ferns are host to at least a dozen (insects). Mosses, fungi and algae are seldom affected. Galls, rich in sugars and protein, serve as food and shelter. As plants become more highly evolved they become useful to more gall forming organisms.

A gall is a castle with its accompaniment of invaders and cooperators. There are legions of arthropods and countless fungi that would coopt and/or consume the larva so many strategies and defenses have co-evolved over the centuries. Strategies have included adding many layers, hardening layers, bitter acidic tannin concentrations, complex life cycles involving several hosts, labyrinthine paths, false chambers, sticky fly paper surfaces, detaching from the tree and overwintering on the ground in twigs, hairy surfaces and spines. The more sophisticated enlist mercenary ants, that will work for honeydew from the moat, to discourage predators.

They have been useful to mankind since before 500 B.C. The Roman naturalist, Pliny (A.D. 23 - 79), reported 23 compounds that incorporated galls used for restoring and dyeing hair, burns, insect stings and gum ailments, etc. Turkish red dye, from the Mideast, was extracted from the mad apple of Sodom. Somali women in Africa used gall ink for tattoos. The US Pharmacopoeia adds hemorrhoid treatment. Galls' tannin has been used as an ink for over a thousand years. The bitter, yellowish tannic acid is soluble in water or alcohol. Powdered gallnuts can be mixed with ferric chloride (copperas), a little gum arabic to add body and water to form a rather important indelible ink. Widely used after the Middle Ages, Leonardo da Vinci's notebooks, drafts of the US Constitution, Bach's compositions and Rembrandt and Van Gogh's drawings used gall inks. Its corrosive properties are responsible for its replacement during the early 20th century. Kurds, Iranians and Iraqis poke holes in oak apples, from red, scarlet or black oak trees, and drink the sweet juice. Galls typically take on the flavor of their host so the Catmint gall, formed by a wasp (*Aylax glechomae*) has a mint taste.

The life cycle of gall insects exhibit a lot of variety. So we will examine the, relative simple, goldenrod moth life cycle. The female lays an egg in a goldenrod stem in the autumn. After overwintering the egg hatches and the caterpillar crawls to a new goldenrod and bores into its stem. At this point the stem begins to enlarge as the result of something secreted by the caterpillar. By midsummer the caterpillar is full size and the gall has a characteristic spindle shape and is about 3/4 inch in diameter. A fly that also develops in the goldenrod stem produces a more spherical shaped gall. Before entering the pupal stage it bores a hole through the gall near the top and covers it with silk. As a moth it will have no teeth and could not chew its way out, so the creation of what will become an escape hatch must have another function. The goldenrod fly cuts a similar hole leaving a little plant tissue it will, later, jackhammer through using an inflating and deflating a bladder on its head. The moth emerges from the pupa stage during the autumn and pushes through the escape hatch, flies away, mates and lays eggs.

Other gall insects have complicated life cycles. The eggs of the cynipid wasp develop into very different wasps from their parents, with different habits and producing a different gall from which they emerged. They resemble their grandparents. The oak hedgehog gall wasp (*Acraspis erinacei*) produces a spiny gall on white oak leaves. Each gall contains 2 to 8 wasp larvae that will become females that deposit their eggs in oak buds without being fertilized around November. By May the eggs hatch forming galls on the bud scales. The wasp that emerge from these galls are both sexes and have larger wings than their parents. They mate, the female deposits her eggs in oak leaves...

Hutchins often wondered if we would one day be able to inject or spray trees with chemicals to stimulate the production of nutritious made-to-order fruit. With genetic techniques today it is not such a farfetched idea. We could produce fruit with a hard protective shell, predetermined flavor, proteins, carbohydrates, vitamins, minerals and color. All we have to do is figure out what gall insects have known for millions of years.

A Beginners Gall Guide

Host/Gall Name	Description	Vector
Ash Ash flower	Swollen, distorted flower pedicles; green, later brown	mites
Bald cypress Cypress flower	Attractive small white flower like galls	wasps (<i>Itonida anthici</i>)
Blackberry bushes Spiny rose Knot Regal rose	Spherical and long slender spines pastel shades of red to pink Irregular swellings on stems Attractive 1/8" diameter "crowns"	Diplolepis bicolor wasps wasps (<i>Diplolepis gracilis</i>)
Cedar/Apple Cedar Apple Rust	Cedar galls (golf ball sized) spines expand into a gelatinous mass after a rain; rust colored spots on apple leaves	wind spread fungus from cedar to apple and later back to cedar
Cottonwood	Leaf stems slit in side that resembles a mouth	aphids (<i>Pemphigus populitransversus</i>)
Dodder (<i>Cuscuta</i>)	Small gourd-shaped galls	beetle larvae (<i>Smicronyx sculpticollis</i>)
Dogwood	Swelling of smaller twigs; twigs drop to the ground in fall and red larva of flies overwinter in twig	midge fly (<i>Mycondiplosis alternata</i>)
Elm	3/8" tall finger like galls	aphids
Goldenrod Spindle Spherical stem Tiny spindle shaped Flower	Elongated spindle shaped Sphere shape gall; attractive fly Has red marks Cylindrical small hairy on flowers	moth (<i>Gnorimoschema</i>) fly in fruit fly family (Trypetidae) midge fly (<i>Rhopalomyia clarkei</i>) (<i>R. Anthophila</i>)
Grape Phylloxera	1/10" irregular wartlike leaf top and bottom	aphid
Hackberry (<i>Celtis</i>) Twig Top shaped Button Spiny Nipple Flask	Globular may contain several larvae Funnel with elongated tube or top shaped on leaves Resemble jumping buttons 3/8 jumping gall 1/4" dia. nipple-shaped on leaf bottom 1/10" conical, slightly ribbed flask-shaped leaf gall	midge fly (<i>Cecidomyia</i>) midge fly (<i>Phytophaga</i>) plant lice in the Psyllidae family Psyllidae family Psyllid Psyllid
Hickory Seed & other Phylloxera	Elongated funnel, tubes, dunce caps, fence post or goblet shaped; <1/4" tall To 3/8" leaf blisters, globular or gourd shaped	midge flies (<i>Caryomyia</i>) aphids
Honey Locust Pod	Swollen, globular leaflets; orange larvae	midge
Linden or basswood (<i>Tilia</i>)	1/4" tall finger like galls on upper surface of leaves	mites (Eriophyes)
Maples Maple leaf spot	Yellow red margined eye spots on leaves	larval midge flies

Oak	Oak Apple	Conspicuous and attractive resembling apples; 1-2" dia. on twigs, leaves or leaf buds; thin walled filled with fibers radiating out from the center; larva resembles a small grub; bright green or mottled; may form above and below leaves	tiny wasp of Cynipidae family (<i>Amphibolips</i>)
	Spiny vase	Small vase w red or yellow spines in clusters on post oak	wasp (<i>Xanthoteras</i>)
	Vase	Unusual vase shapes	wasps (<i>Andricus</i>)
	A Scarlet Oak gall	Red barrels w white cap	wasp
	Hedgehog	1/4" round or oblong covered with short spines on top and bottom of white oak leaves containing 2 - 8 larval wasps; green in spring to brown by autumn	wasp (<i>Acraspis erinacei</i>)
	Wool sower	Spherical gall covered with pink or white "wool" on white oak twigs	wasp (<i>Callirhytes seminator</i>)
	Jumping galls on willow oak	Tiny, ribbed, ellipsoidal; hop about like jumping beans	cynipid wasps (<i>Trisoleniella saltatus</i>);
	Scarlet and western valley	1/2" diameter marble like on twigs; very hard	(<i>Neuroterus saltitarius</i>)
	Bullet	Many forms and colors	wasps (<i>Disholcaspis</i>)
	Twig	Scrub pin and other oaks; a twig gall w spines	wasps Cynipidae family
	Horned Oak	A 1 1/2" dia. twig gall with projections	wasps (<i>Plagiotrochus cornigerus</i>)
	Fig	Globular irregular 1-3" dia.; leaf to twig life cycle	wasps (<i>Disholcaspis spongiosa</i>)
	Gouty oak	1/4" tall on water oak twigs; tops with fluted sides	wasps (<i>Plagiotrochus punctatus</i>)
	Fluted oak	In clusters at leaf base; 1/4"	wasp (<i>Callirhytes difficilis</i>)
	Knobby oak	Fur covered 1/2" balls	wasps (<i>Andricus rugatus</i>)
Hairy oak	1/8" button like on white oak leaves resemble sequins	wasps	
Oak spangles	Soft and fleshy on deformed scarlet oak and other leaves; up to 1" dia.; hollow cavity containing white	midge flies (<i>Cecidomyia</i>)	
Roly-poly	Sphere containing larval in ball; rattle like pea in a pod	wasps (<i>Andricus palustris</i>)	
Vein	1/4" long shrimp tail gall on red oak leaves	midges (<i>Cecidomyia</i>)	
Wooly fold	1" long enlargement of veins	midges (<i>Cecidomyia</i>)	
Peach	1/8" pink spheres covered with fine hair	wasps (<i>Cynips dimorphus</i>)	
Bud	3/8" resemble clusters of bud scales	wasp (<i>Andricus foliatus</i>)	
Pines	Swelling at base of needles	midge flies (<i>Contarinia</i>)	
Poplars	Leaf stem Others	Swelling of petiole or leaf stem aphids midge flies, beetles, mites	
Sage brush	Bladder	Soft fleshy swellings on the leaves	midge fly (<i>Diarthronomyia occidentalis</i>)
Spruce	Cooley spruce	2 1/2" tall pineapple-like on new growth tips; green until fall, then brown	aphids
	Eastern spruce	swelling at base of new growth	aphids
Sumac (<i>Rhus</i>)	Red pouch	Pastel shades of red; thin walled	aphids (<i>Melaphis rhois</i>)
Willow	Pine cone	Resembles 1" dia. pinecone on tip of twig	midge (<i>Rhabdophaga strobiloides</i>)
	Blister	Cluster of small leaf galls on top	midge
	Others		sawflies and leaf-eating wasps
Witch-hazel & pecan	Cone	Branches, twigs first generation (fall) then upper surface of leaves spring; in autumn winged aphids move on to birch trees for several generations	aphids or plant lice (<i>Hormaphis hamamelidis</i>)
	Spiny	On witch-hazel twig buds then on birch	aphid (<i>Hamamelistes spinosus</i>)

Coastal Live Oak Damaged by Katrina Destined for Charles Morgan Repairs

The “Knees” of the *Morgan*

By Harold Anderson

Hi, I'm Harold, and I'm a sailaholic. I've been in love with sailing vessels since I was a “wee lad.” Don't ask my why. As with most aberrations, there is no explanation. They are beautiful, graceful, exciting creatures (yes, they are alive). They are mankind's greatest creation, and I love them.

I can't do math. You see, when Mrs. Anderson was teaching long division to her fourth grade class at Stone Deavors Elementary School in Laurel, I wasn't there. I was in the maintop of the storm-tossed *Bonhomme Richard* furling sail while John Paul Jones shouted orders from the deck, so I got left behind in math, never to catch up. You've got to get your priorities straight.

Walter Mitty was a realist compared to me. Did I mention that I love sailing vessels? Give me about four seconds to look at a printed page. If the word “sail” is on it, I can point it out. Is it any wonder that, while scanning the paper, my eye was immediately drawn to a small article explaining that the State of Mississippi was donating live oak crotches from trees toppled by “Katrina” to the Mystic Seaport Museum to be used in repairing the Whale Ship *Charles W. Morgan*?

I have a special affection for the *Morgan*. I saw a picture of her on the cover of Readers' Digest when I was a kid (and that, dear friends, has been a *long* time ago.) Visiting Mystic Seaport and the *Morgan* was one of my life's ambitions. While serving in the U.S. Navy in Norfolk, Virginia in 1972, I died and went to heaven, or was it Mystic Seaport – I get the two confused. There, moored to a dock, in all her splendor, sat the most beautiful thing I had ever beheld: The *Charles W. Morgan*, in the flesh. I was transposed. I could hear the shouts of the crew and smell rendering whale blubber and feel the “flung spume” on my face! Actually it was a fourth grade class on a field trip, coal smoke from a pot-bellied heater in the care-takers shack, and mist that bedevils New England much of the springtime. Whatever. Did I mention that I love sailing vessels?

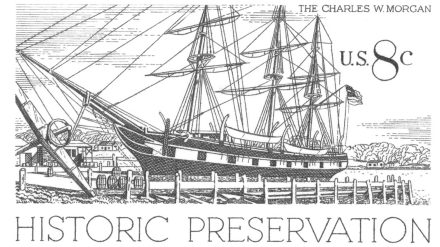
Actually, I was there at a fortuitous time, for the *Morgan* was being rebuilt from the water-line up. She was being re-planked with longleaf pine from Honduras. Boards of the size and quality needed were not available in the US. Carpenters were securing the boards with “treenails” (pronounced “trunnels.”). These are pegs of locust wood with a split on the outboard end. They are driven into holes, and a wedge is driven into the split end, thus spreading the peg and ensuring a tight fit. Shipwrights used treenails instead of nails or screws because they would not rust or corrode, and once they were wet, would swell to ensure a water-tight seal and would not “back out,” over time, as nails are inclined.

When I saw the *Morgan*, she was not afloat; she was sitting on a bed of sand in shallow water to give the appearance of floating. Since then, she has been lifted from the water, and her bottom examined – and found to be in remarkably good shape – and re-floated. She is scheduled for renovation. Here's where the live oak crotches come in: Live oak crotches are essential in making the “knees” of wooden sailing ships.

An explanation: The graceful, rounded shape of a sailing ship, while beautiful, is functional. It is that shape that permits the ship to sail against the wind, and permits it to “heel” when on points of sailing known as a “tack” or a “reach” (the wind comes from over the side or bow), rather than capsizing. Knees are the curved timbers that attach the keel to the ribs. Knees take an enormous amount of stress. The failure of a knee could doom a ship. Knees cut from a straight timber are weak, because the straight grain will, at some point, run across the timber, rather than the length of it, thereby producing a weak point, prone to splitting.

But the crotch of a live oak tree is perfect because it is a natural arch, with the grain flowing around the curve. (If you doubt the split resistance of crotch wood, just ask a firewood cutter who has tried to split it). Live oak has other advantages. It is rot resistant and very hard and strong. I know. I am an amateur woodworker, and I have tried to work some of it. On the hardness scale, it falls between steel and diamond.

Which brings me to another ship and hallowed place: The USS Constitution (“Old Ironsides”) and the Boston Naval Shipyard Museum. I was fortunate enough to visit her in the late '80's (the details of that visit is an interesting story, but I don't have room to relay it here - ask me about it sometime). The dry-dock and shipyard are actually used to maintain the “Constitution,” but there were artifacts on display, including live oak knees in various stages of completion and the tools used to shape them. The knees were roughly shaped with an adz, and then smoothed with a plane. Having worked with that wood, I have great respect for the skill of those shipwrights!



The Constitution is the oldest active-duty ship in the world. She is still on duty with the U.S. Navy, designated a "Museum Ship," and is manned by a full-time crew. The ship is haunted. I once served with a man whose previous duty station was the U.S.S. Constitution. He can tell tales that will make your hair stand on end. The ship is always lighted, for those big, brave sailormen refuse to sleep with the lights out!

A few facts about the *Morgan*: She was an enormously successful ship. She was built in 1841 at a cost of \$52,000. Over her 80-year whaling career (yes, you read that right, 80 years – she was retired in 1921) she grossed over \$1,400,000. On her very first voyage, she made more than her cost of construction. Sailing from New Bedford, Massachusetts, and later from San Francisco, she ranged the world's oceans hunting whales in a series of voyages that lasted from three to five years. She has been featured in three movies. After her retirement, the ship passed through the hands of several well-meaning but inadequately funded preservation groups, before finally finding a permanent home with the Mystic Seaport Museum in 1941.

The Charles W. Morgan is a 111 feet length overall, with a beam of 27.7 feet, and a depth of 13.4 feet. Her mainmast measures 110 feet. She carries 13,000 square feet of sail. She is rigged as a double-topsail bark, and sailed with a full compliment of 26 men.

Rediscover Environmental Education MEEA and the Ivory-billed Woodpecker

Mississippi Environmental Education Alliance 2005 Conference March 24 - 26, 2006 Twin Lakes Conference Center, Florence, MS
Rediscover environmental education through the eyes of the Ivory-billed Woodpecker and educators from Arkansas, Indiana and Mississippi. If you are a first timer or have been with MEEA for years, join us at beautiful Twin Lakes Conference Center for an unforgettable experience.

Lee Moore - The Arkansas Nature Conservancy rediscovery of the Ivory-billed Woodpecker

David Oberst – Monarchs Migration and Discovery

Lashanda Colbert – MS Dept of Ed. Science specialist Information and overview of science curriculum

\$ 50.00 Registration Grant offered to ten teachers (first time attendance only)

Environmental Education Courses: Project Learning Tree, Project Wild, Waste in Place C.E.U. credits available

Field trips: High and low ropes, Rock climbing, Canoeing, Hayless hay ride, Bonfire

For conference information contact: John DeFillipo, MS Museum of Natural Science, 4391 South Frontage Rd., Columbus, MS 39701

Tel. 662-241-6917 or Lizardking700@yahoo.com

There is Still Life on the Mississippi River

John Ruskey, of Quapaw Canoe Company fame, is a Mississippi River guide and operates his company out of Clarksdale, MS. So if you have a few days and need an adventure give him a call at 662.627.4070 or drop by his Internet site at john@island63.com. John offers a variety of trips on the Sunflower and Mississippi rivers including artists and stargazers floats. Ruskey prefers watercolor and he offers week-long sandbar artists' retreats.

John plays guitar and was attracted to Mississippi by the sounds of John Lee Hooker and Muddy Waters. For a while he served as the curator of the Delta Blues Museum before being pulled into the Mississippi River by its alluring current.

"The Mighty Quapaws" is an after-school apprenticeship program for Clarksdale youth and teaches skills include swimming, dugout canoe making, paddle construction, and river guiding. River guides are required to read *Life on the Mississippi* by Mark Twain

Error in Last Newsletter

Old Ironsides planking, that deflected cannonballs giving it its moniker, was white oak and its framework was live oak. Thanks Harold. Note readers, criticize an article and get invited to write one - see Harold's article on "*The Knees of the Morgan*."

MNPS & MEEA Members Speak Out

When my maid was a little girl her mother brewed a tea from Mullen leaves which she made the children drink as a tonic. – Carolyn Jones, Greenwood Mississippi

A Christmas Project

Examine your fire wood and if you have a piece that contained mistletoe take it to a woodworker and ask them to cut some planks out of it so you can examine the yellow-greenish mistletoe roots. You might enjoy making this into a plaque to hang on the wall over a door to secure year-round kisses! Or does it have to be the leaves and berries?

MS Native Plant's Society Membership Application or Renewal Form

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

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

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

Gulf Coast Chapter MNPS: Meets every 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@lalc.msstate.edu or phone 662-325-7896.

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

Mississippi Environmental Education Alliance Membership Application

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

Join MNPS, MEEA or Both!

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

Don't miss the Mississippi Environmental Education Conference, coming up March 24 - 26, 2006 at Twin-Lakes in Florence

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