

MISSISSIPPI NATIVE P.L.A.N.T.S

The Newsletter of the Mississippi Native Plant Society, Inc.



Volume 22 • Issue 3

Summer, 2004

The **Mississippi Native Plant Society, Inc.** 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.

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Mississippi Native Plant Society Annual Meeting

When: Saturday June 12, 2004

Where: The Landscape Architecture Facility,
Stone Boulevard (between Ballew Hall and
Forest Resources)
Mississippi State University, Starkville, MS



- 10:30-11:00** **Coffee and Conversation**
Landscape Architecture Facility
- 11:00-11:30** **Gardening with the Woods**
Gail Barton, Instructor of Horticulture,
Meridian Community College
- 11:30-12:00** **Naturally Native**
Steve Strong, Area Director,
Lauderdale County Extension Service
- 12:00-1:00** **Brown Bag Lunch/Plant Swap/Education Exhibits**
Bring your own lunch to enjoy chatting with other native plant enthusiasts, or visit a nearby off-campus eatery. Tables will be available to place your own homegrown native plants to share with others, and be sure to visit the educational exhibit area.
- 1:00-2:00** **The Gestalt Gardener**
Felder Rushing, Mississippi's Garden Ambassador
- 2:00-2:20** **Recognition of MNPS Officers for 2003-2004 and 2004-2005 Officer Elections**, Vic Rudis, USDA Forest Service
- 2:15-3:00** **Tales from a Mississippi Naturalist**
Dr. John Guyton, Education Specialist,
MSU Coastal Research and Extension
- 3:00-3:30** **Carpool to Osborne Prairie**, 16th Section Road, Starkville
- 3:30-5:00** **Osborne Prairie Field Trip**
Dr. Richard Brown, Professor of Entomology, Mississippi State University. Dr. Brown will tour us through this remarkable remnant black prairie to look at plant and insect interactions. Dr. Sidney McDaniel's research of this site revealed 11 critically imperiled plant species, and many other rarities.
- 5:00** **Conclusion**
This program is free and open to the general public.

For more information, contact: Bob Brzuszek at 662-325-7896 or email at rbrzuszek@lalc.msstate.edu.

Visit the MNPS webpage at <http://groups.msn.com/MississippiNativePlantSociety>

EDUCATION CHAIR'S NOTES

by John Guyton, Ed. D.

Let the Coal Blow and the Lichens Go! Lichens and Air Quality Monitoring

Recently I was looking for ways for youth to monitor air quality, and lichens crept into the picture. Lichens might have been the first air quality indicator. By the mid-1800's the lack of mosses and lichens in urban and industrial areas was obvious; and in 1866 Finnish naturalist William Nylander had made the connection between air pollution and the disappearance of lichens.

Lichens are incredibly interesting and have been figuring out how to survive on earth a very long time – over 400 million years. A lichen is actually two organisms, a fungus and an alga, growing symbiotically. Lack of space in this publication won't allow me to go there, but lichen reproduction, where two organisms are involved, would really drive the federal courts and legislature crazy! Lichenologist Trevor Goward, speaking of this relationship said, "Lichens are fungi that have discovered agriculture." The fungus provides physical

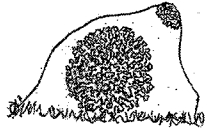
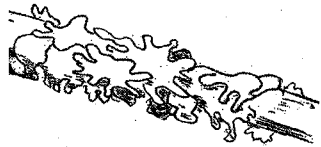
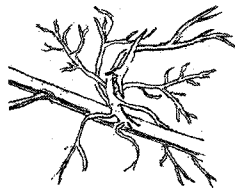
protection and absorbs water; the alga produces carbohydrates and releases oxygen during photosynthesis. Their scientific name is based on the fungal component – the dominant partner. Lichens grow in almost every environment including deserts, tundra, and on bare rock. The 30,000+ species of lichens dominate about 8% of the earth's land area. Lichens absorb most of their nutrients and water from the atmosphere and are therefore highly susceptible to air pollution. They are also very susceptible to sulfur dioxide from burning coal.

Lichens are typically grouped into three forms, each with a different degree of sensitivity to air pollution, and are thus useful as bioindicators. The most primitive, and hardy, are the crustose lichens and the most advanced, and sensitive, are the fruticose. Exceptions exempted. So, generally speaking we have the elements necessary for an elementary monitoring program.

You might wish to set aside several pages in your field notebook for monitoring lichens in an area you visit annually. Select ten trees and quantify the lichens in each category from a point chest high to the ground. If fruticose is missing and crustose and foliose are present in large quantities, the air quality is good. If all three are present air quality is great! Trees could be photographed each year to document growth rates and conditions. See the tables.

The age of crustose lichens on tombstones can be estimated by noting the dates on the markers and the rate of growth deduced from there. Lichens are quick to begin colonizing new surfaces. The age of tree twig sections, and their accompaniment of lichens, can be determined by counting the annual circles of leaf scars on the twig.

After several years' data has been collected, a graph showing the quantity of or growth rate for each could be constructed. The slope of the growth rate could be compared to rainfall or the pH of the rainfall. The location of the lichens in relation to an urban area, or better, a coal burning power plant considering the prevailing wind direction might prove interesting.

LICHEN FORM & EXAMPLES	SENSITIVITY TO AIR POLLUTION	CHARACTERISTICS	ILLUSTRATION
Crustose Map, Bark Barnacle, Dust	Least sensitive Air quality poor	Crust-like, entire body tightly adhered to substrate	
Foliose Hanging Leaf, Lungwort	Intermediately sensitive Air quality good	Flat leaf-like or has distinct lobes, typically grey or green, bilaterally symmetric, partially attached to substrate by rhizines	
Fruticose British Soldiers, Old Man's Beard, Reindeer Moss	Most sensitive Air quality very good	Miniature shrub, hair or strap like with free-standing branching tubes – well developed 3-D form, firmly attached to substrate	

LICHEN MONITORING

Tally the number of colonies of each category of lichen and suggest possible causes for observations in the Notes column.

Date:		Location:		Monitor:	Notes
Tree # Type Tree	Crustose	Foliose	Fruticose		

Attention: Young People, Teachers and Parents – All Who Are Interested in Entomology

Mississippi State Entomology Department Presents:

Entomology Camp #1: June 20-24, Plymouth Bluff, Columbus, MS

Entomology Camp #2: July 18-22, Tombigbee State Park, Tupelo, MS

This camp is for adults and youth (over age 10) who want to learn about insects from experts. The camp will be taught by professors from the Entomology Department at Mississippi State, and will be educational and fun!

- Learn how to collect, identify, and preserve insects!
- Learn about unique critters you've never seen, yet they live all around you!
- Make an insect collection with help from the experts!



Adults are encouraged to enroll for the camp! Out of state campers are also welcome! Enrollment is

limited and will be on a first-come basis.

Mail individual applications along with \$50.00 deposit to reserve your place to:

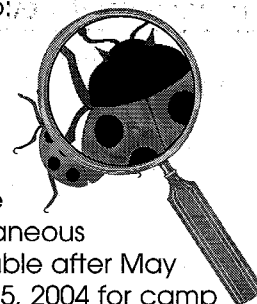
Entomology Camp
MSU Entomology Department
Box 9775

Mississippi State, MS 39762

Five-day Entomology Camp costs: \$150 .00. Charges include room/board, T-shirt and miscellaneous supplies – deposit is not refundable after May 1, 2004 for camp #1 and June 15, 2004 for camp #2, deposit is applied to camp costs.

Contact Dr Mike Williams at 662-325-2986 or by e-mail: mwilliams@entomology.msstate.edu

Online application forms can be downloaded from http://msucares.com/4h_Youth/4hentomology/index.html



Are Bug Zappers Helpful or Harmful?

Information collected by Michael Williams, MSU-ES

Editor's Note: *While sitting on my porch one evening watching the first fireflies of the year, I noticed I was seeing and hearing something new in my across-the-road neighbor's yard. A bug zapper. As I sat there, I saw the dark shapes of the fireflies flying toward the light and it made me wonder how many beneficial or innocuous bugs the zapper claimed. While I was contemplating this, I heard the infuriating thing buzz incessantly for what was about 7 full seconds and then got worried about the brown bats in the area! The following article is the result of these worries. And no, there's nothing about zappers claiming brown bats, but read on and be as amazed as I was at the truth.*

Insect electrocutor light traps, also known as "bug zappers" have been extensively marketed for the past several years with claims they can provide relief from the annoyance of biting mosquitoes and other pests in your backyard. Their effectiveness has been widely doubted and a few studies have shown they are very poor at killing mosquito females (the sex that bites). Timothy Frick and Douglas Tallamy, University of Delaware, published a study in the *Entomological News* (107(2): 77-82) showing that only 0.22% of the insects zapped during an entire summer were biting flies (mosquitoes and biting gnats).

Most of the insects killed in zappers are harmless, nonbiting aquatic insects. A number of beneficial insect species are also killed. To add to the difficulty, there

is even some evidence that the zappers may be harmful to people, especially if used close to food. So if the "buzzap" is a welcome sound, think about some of the consequences.

Kansas State researchers have shown that the zappers may signal the potential for a shower of microorganisms onto the area around the zapper. Insects caught in the zapper literally explode causing viruses and bacteria to become airborne. The K-State researchers reported an increase in allergic reactions around zappers, as well. Alberto Broce, KSU Entomologist, indicated that people are more often bitten by mosquitoes in the vicinity of the traps than away from them. Lights from the traps tend to draw mosquitoes from large distances, but once in the vicinity of the traps nearby humans or animals become much more attractive.

Many entomologists have jokingly suggested that zappers make great gifts to neighbors. A thoughtful gift of a zapper would work really well to reduce the pests in your own yard.

Many manufacturers are moving away from the electric grids. Newer traps often generate carbon dioxide and other attractants for biting insects.

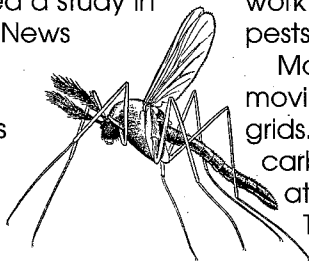
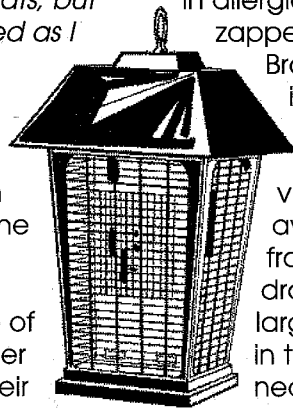
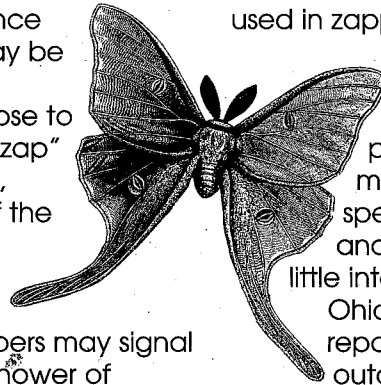
There are different kinds of lights. Those found regularly in the home are mostly incandescent, producing little ultraviolet light but mostly visible light. Fluorescent lights that emit higher levels of UV, called black light or blue light, are most often

used in zappers. Other lights such as mercury vapor globes produce even more UV and are particularly attractive to moths and beetles. Many species of mosquitoes and biting midges have little interest in light.

Ohio State researchers report strategically placed outdoor lighting can concentrate unwanted insects elsewhere. Mercury vapor lamps 150 to 200 feet away from buildings can divert nuisance insects away from high-traffic areas. By replacing a 100-watt mercury vapor light (ultraviolet energy) with a 50-watt high pressure sodium vapor light, insect concentrations are effectively reduced.

Ultrasonic pest repellers are worthless in controlling insects. These devices generate ultra high frequency sound waves (ultra sound) that is claimed to be disruptive to the living, mating and survival of pests. Research indicates that this sound, inaudible to the human ear and most insects, will not penetrate walls. In fact, the sound is high only at the source of output, falling off sharply beyond 15 feet and gone completely in 30 feet. Some studies have revealed that mosquitoes bite more frequently when the machine was turned on than when it was turned off. There is no difference in pest movement whether the machine is plugged in or unplugged from an electric source. Also, many insects cannot even hear the sound.

Information for this article was gleaned from KSU, OSU, University of Delaware Internet sources.



The Cold Tub

by Gail Barton

For me, the woods behind my house is a peaceful place of great beauty.

Most of the trees are not particularly old. There are no rare species.

The texts describe such places simply as mesic woodlands.

The power of that place in my life comes from its familiarity.

I have fabricated a series of trails that take me from my back door into those woods. The path

has been beaten down by my own feet. It has been reinforced by my Craftsman mower. It has been modified to pass a stately stand of wild honeysuckle azaleas.

It gently curves to showcase a handsome huckleberry. No crane-fly orchids or Carolina lilies were harmed in the making of this trail.

The path leads past a thick stand of partridge berry. I duck under the low boughs of a dogwood into a clearing. In the center of the clearing, a gracefully curved claw-footed bathtub holds court.

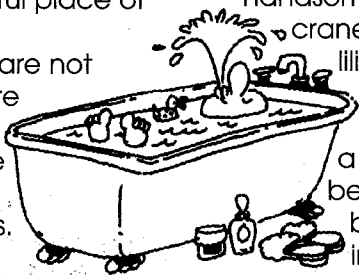
When visitors ask, I tell them that it is functional – a good place to

wash the dogs or to hose down my ankles when I've strayed into poison ivy. Or I tell them that the cold tub is a part of my history, a remnant from my college days.

The truth is that the cold tub is my favorite place to settle in and ponder the woods. I seek it out on sweltering summer afternoons. I'm usually sweaty and filthy from some sort of yard work. For a minute the cold water takes my breath away. I imagine I'm in a mountain stream. I ease back and begin to study the canopy.

The sunlight filters through the trees and reflects off the water. A wood thrush sings.

I continue my aquatic meditation until the water is tepid.



Requiem for a Lawnmower: Gardening in a Warmer, Drier World

A Book Review by Lorrie Otto

Sally & Andy Wasowski and Taylor Trade Books are pleased to announce that the Updated and Expanded 2nd Edition of our Requiem for a Lawnmower: Gardening in a Warmer, Drier World is now available!

Our first view from outer space was of a glorious green-blue planet so special that we wept. Today the astronauts' cameras show brown-beige consuming our earth. We look with horror and shame.

Our oceans are in terrible trouble with large dead spots caused by pesticides and fertilizers. Clean water is becoming scarce. The earth is indeed becoming warmer and drier. And individuals as well as corporations can certainly be blamed for environmental mismanagement of the land.

Sally and Andy Wasowski are landscaping naturalists who can help the public address the warning of the WARMING! *Requiem for a Lawnmower* is such

a satisfying title for their latest book. And, as its subtitle indicates, this new edition reflects our environmental concerns.

Written with wit and wisdom, *Requiem* escorts us into a world of common sense gardening and respect for our endangered habitats. Sally and Andy offer us a way to go with our thoughts and our energy. *Requiem* can inspire homeowners to create beautiful, healthy and diverse landscapes that are also environmentally responsible.

Of course, neither national nor local governments will help us; politicians are too locked in with lawn-care companies. Only our conscience can give us strength and support. Being a patriotic person is a bit more than just flying an American flag; we can do better. Can we really justify the use of power equipment that adds to the ozone threat, the warming of the earth and the squandering of fossil fuels?



As I write, the May migration is in full force, yet I hear no songbirds. Power mowers, blowers, clippers, edgers, spreaders, sweepers, shredders and chippers blast all the subtle and happy sounds of Spring out of my life. And now I read

in the news that the new John Deere rider-mower is out with even more horsepower and creature comforts: lumbar support, cruise control, automatic transmission, power ports for plugging in cell phones and CD players!

Please God, let the Wasowskis win this one!

And for a more detailed look at the authors and their books, visit their web site: botanicalmissionaries.com.

Lorrie Otto is a nationally respected environmental activist and a founder of *The Wild Ones*, an organization dedicated to promoting natural landscapes. It has over 3,000 members in 40 chapters in the U.S. and Canada. *Newsweek* magazine called her "the high priestess" of the natural landscaping movement. In 1998, Lorrie was awarded the "Connie," the National Wildlife Federation's Conservation Achievement Award.

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. Members receive **MISSISSIPPI NATIVE PLANTS**, a publication that addresses scientific and gardening issues relevant to the recognition, enjoyment, and conservation of our native plants and natural habitats.

Join Today!

- _____ **New Member** _____ **Renewal**
- _____ Student: \$7.50
- _____ Individual or Family: \$10.00
- _____ Sustaining: \$15
- _____ Contributing: \$35.00
- _____ Life: \$125.00
- _____ Check here if you do NOT want your name to appear on a Membership List.

Name _____

County _____

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Please return this form with check to:
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 c/o Dr. Debora Mann
 114 Auburn Drive • Clinton, MS 39056-6002

MISSISSIPPI NATIVE PLANTS is the quarterly publication of the **Mississippi Native Plant Society, Inc.**

Issue 1—Winter: Dec/Jan/Feb
 Issue 2—Spring: March/Ap/May
 Issue 3—Summer: June/Jly/Aug
 Issue 4—Fall: Sept/Oct/Nov

Deadlines for all* copy are:
 Winter – October 15th
 Spring – January 15th
 Summer – April 15th
 Fall – July 15th

*Final deadline for Events is the 30th of the month listed.

Any interested parties may send articles, photos, drawings, etc. to the editor with the knowledge that materials may not be returned.
 All are welcomed.

• **Gulf Coast Chapter:** 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@alc.msstate.edu or phone 662-325-7896.

Visit the MNPS, Inc. web site at: groups.msn.com/mississippinativeplantsociety

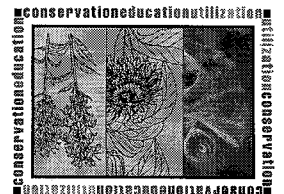
DON'T FORGET!

Mississippi Native Plant Society Annual Meeting

• Saturday June 12, 2004 • Starting at 10:30 a.m. • MSU, Starkville, MS

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