

Mississippi Native Plants

The Newsletter of the Mississippi Native Plant Society

Winter 2003

Volume 21 Issue 1



MNPS Members Approve Chapter Formation

Thanks to your response, the members of the MS Native Plant Society overwhelmingly supported the formation of area chapters to our state organization. This will allow better programs and activities across the state, and allow fun native plant networking amongst your neighbors. Thank you for this important vote!

*Bob Brzuszek,
MNPS President*

Gulf Coast Chapter Formed

The Gulf Coast Chapter of the MS Native Plant Society has recently formed. The group meets every fourth Monday of the month at various locations. To join or for more information, contact Dee Dee Dreher, President, at 228-864-2775.

Starkville Chapter Interest

There is interest in a chapter forming in the Starkville area. To find out more, contact Davis Mounger at 662-320-6645, or Dr. Mark Fishbein at 662-325-7577.

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Mississippi Native Plants is the quarterly publication of the Mississippi Native Plant Society.
Winter (Issue 1) December/January/February
Spring (Issue 2) March/April/May
Summer (Issue 3) June/July/August
Fall (Issue 4) September/October/November

Deadlines for the Spring Issue are as follows:

Articles—Jan 15 Calendar of Events—Jan 30

Deadlines for the Summer Issue are as follows:

Articles—Apr 15 Calendar of Events—Apr 30

ARTICLES OF ALL TYPES SUBMITTED TO THE EDITOR ARE WELCOME.

The **Mississippi Native Plant 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

ELECTIVE POSITIONS

PRESIDENT

Bob Brzuszek
Crosby Arboretum
P.O. Box 1639
Picayune, MS 39466
601-799-2311-22 (D)
601-799-2372 (F)
e-Mail: crosbyar@datastar.net

VICE-PRESIDENT

Joseph McGee
19496 Highway 80
Hickory, MS 39332-3133
601-646-5402 (D)

SECRETARY/TREASURER

Debora Mann
114 Auburn Drive
Clinton, MS 39056-4966
601-974-1415 (D)
601-924-4966 (E)
e-Mail: manndli@okra.millsaps.edu

NEWSLETTER EDITOR

Heather Sullivan
2148 Riverside Dr.
Jackson, MS 39202
601-354-7303 (D)
601-354-7227 (F)
e-Mail: heather.sullivan@mmns.state.ms.us

NON-ELECTIVE POSITIONS

EDUCATION CHAIR:

Felder Rushing
1735 Wilson Blvd.
Jackson, MS 39204
601-372-4651 (D)

TRIPS CHAIR:

Marc Pastorek
248 Charles Daughdrill
Carriere, MS 39426
601-799-1808
www.meadowmakers.com

BLOODTHIRSTY BEAUTIES

by Bob Brzuszek

Tucked away in southern Mississippi lies a magical world. Folks here fall asleep to the sound of wind playing through the thin needles of longleaf pine and the endless cadences of the cicada. While much of coastal Mississippi was born from a permanent interaction with water, this is instead a land of fire.

The Piney Woods wraps the edge of the Gulf and Atlantic coasts sixty to one hundred miles inland. Next to Florida, the Gulf Coast is second highest in the amount of lightning strikes in the nation. These frequent powerful surges of energy come from our summer storms and can ignite the groundlayer of dead grasses through the lightning rod qualities of the tall pines. While other states struggle with the concept of fire being natural and necessary for a healthy ecosystem, Mississippi's Native Americans, early settlers, farmers, and timbermen knew this was a good thing (especially for their livelihood) and set fires on a regular basis. The annual use of fire keeps out large shrubs and hardwood trees, transforming the land into a sunny meadow-like quality of pine trees, grasses, and spectacular wildflowers.

In these meadows, often wet from the low flat land and frequent rains, there occurs some of the most unique and beautiful plants found in coastal Mississippi—the carnivorous plants. Unlike many of the world's plants, complacent with capturing the sun's energy for food, these bloodthirsty beauties lure, trap, and digest the bodies of an array of insects. Even Vincent Price would be proud of the ingenious ways these bog plants catch their intended victims.

Pitcher plants. Our pine savanna wetlands are termed pitcher plant bogs because the taller yellow pitcher plants seem to dominate the landscape. These striking light

green tubes can stand up to two feet in height and thickly populate wetter areas. Yellow pitcher plants lure the abundant grassland insects by means of scent at the top of the leaf tube. When the insect tries walking down the tube to find its meal, it soon finds out it becomes one, and slips down to the murky waters below. Digestive enzymes are released from the plant to absorb the insect's rich body nutrients. Pitcher plants trap a number of nuisance insects, including love bugs and fire ants!

In addition to the yellow pitcher plant, a smaller red species that rarely occurs is parrot's pitcher plant. This one is found close to the ground, and only reaches four inches in height. Parrot's pitcher plants produce beautiful red flower petals in mid-April on a separate flowering structure from the leaves.

Sundews. Lovely in name, sundews resemble small red ruby clusters laying on the ground. These miniature carnivores exhibit glistening droplets at the tips of their brilliant red spatulate leaves. Looks can be deceiving as this shiny drop is actually a type of glue. Visiting insects land on the leaves and find themselves mired to the plant. Hopelessly they give up as the glue slowly changes to a digestive enzyme. After a week or so, the well-fed leaf is ready to eat once again.

Butterworts. These strange, flat-leaved plants produce outstandingly beautiful flowers in late April. Resembling little primrose flowers, butterworts can bloom in yellows, blues, or whites depending upon the species. The leaves are slimy and mucilaginous and bugs get stuck fast. Slowly, the edges of the leaves roll over the insect like a crepe suzette.

Bladderworts. In a bog this carnivore is

so inconspicuous that it is usually only noticed when in flower. Small yellow blooms punctuate the grasses in summer to reveal their presence. If you trace down the flower stem, you will soon discover that bladderworts do not have leaves and must get their food another way—through their roots.

Bladderworts have small round pods on their root systems. On these pods are small trigger hairs connected to a trap door. When a small soil insect accidentally touches one of these hairs, it finds itself sucked through the trap door into the pod. This amazing process makes bladderwort our only actively moving carnivorous plant (Venus fly traps are only found in a small area of North Carolina). All the other insect-trapping plant types just wait for an insect to get stuck.

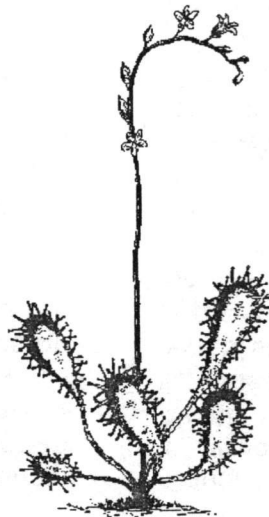
In addition to these strange beastly plants, pitcher plant bogs are chock-full of numerous varieties of wildflowers, orchids, and grasses. As a matter of fact, our pitcher plant bogs have the highest level of biodiversity compared to any other plant community type in our state!

Up to forty species of plants may be easily found in a three foot by three foot area.

Sadly, Mississippi is rapidly losing much of its pitcher plant bog habitat. Development is taking its toll, and people aren't using prescribed fire as much as they have in previous decades. Without the continued use of fire, wetland shrubs and trees soon shade out the bog plants until they completely disappear. Only three percent of the original pitcher plant bogs are left on the entire Gulf Coast.

My favorite times to visit the bogs are in early Spring and late Summer. To see a field of curious pitcher plant flowers in full bloom in early April is a breathtaking sight. To see an entire landscape, horizon to horizon, filled with yellow sunflowers, liatris, bog buttons, balduinias, and a host of other spectacular plants in the month of September is an experience of a lifetime.

For more information on pitcher plant bogs and where to visit them, contact the Mississippi Nature Conservancy at 228-872-8452, or the Crosby Arboretum at 601-799-2311.



Rarest Plants of Mississippi

Ronald Wieland

Parks official departmental web site at www.mdwfp.com/museum/html/heritage/heritage.asp. Some species have been added to a Watch List because additional information is needed to establish their Conservation Rank. However, they are also suspected to be quite rare. Often species on the Watch List will have a rank of S3S4 to indicate that they may or may not be of special concern. NatureServe (www.natureserve.org), a collaborator with the Mississippi Natural Heritage Program, helps to generate global ranks by assigning responsibility to scientists most knowledgeable of the species. The global rank is then shared with heritage programs within the Heritage Network. Amateur botanists such as those trained through the Master Naturalist Program are welcome to report new populations of species found on the tracking and watch lists. Rare plant survey forms can be obtained by contacting the Mississippi Natural Heritage Program office at the Museum of Natural Science. As with any scientific endeavor, a specimen should be collected to verify its identification and a map of the population should be provided with the completed survey form.

Ranks greatly improve the ability to complete conservation plans by prioritizing the effort and/or need to conserve or protect the most imperiled species or the habitats that contain them. Three hundred-eighty plants are of special concern in Mississippi, yet only four are listed as threatened or endangered under the Endangered Species Act: *Schwalbea americana* (chaffseed), *Isoetes louisianensis* (Louisiana quillwort), *Lindera melissifolia* (southern spicebush or pondberry), and *Apios americana* (groundnut or Price's potato bean). Another species *Platanthera integrilabia* (white fringelless orchid) is listed as a candidate species, meaning that it could be listed in the future. Only recently a new population of the white fringelless orchid was reported for Mississippi (MNP Volume 20 Issues 1&2). All other populations have apparently been destroyed. It was questioned

For the past twenty five years and counting, staff with the Mississippi Natural Heritage Program have been inventorying and documenting plants of special concern in the state. Special concern has been chosen as the term for describing species on the Programs plant tracking list, while the terms threatened or endangered are usually reserved for species listed by the U.S. Fish and Wildlife Service under the authority of the Endangered Species Act (ESA). Special concern species are those that are imperiled or rare within the boundaries defining the state of Mississippi.

Methods have been devised to categorize the conservation priority of a species. This rating is now called conservation rank. The higher the rank the more imperiled a species is and the higher the priority the species should receive in conservation projects. The range in which the conservation rank is applied should also be considered. A rank applied to the whole range of the species is called its Global Rank. A rank applied to the species' range within a state or province is called its State Rank, technically regarded as the Sub-nation Rank. The highest rank a species can obtain is a rank of one. A global rank of one (G1), means few populations, usually less than six, have been encountered and documented across the whole (global) range of the species. A state rank of one (S1), means less than six populations have been documented within the state. Global ranks carry more importance because they refer to the species' conservation status world wide. For example, Mississippi has many S1 species, i.e. those critically imperiled within Mississippi, but has only a few G1 species, critically imperiled range wide.

Ranks range from one to five. Those ranked with a value of one are critically imperiled; two, imperiled; three, rare or uncommon; four, apparently secure; and five, demonstrably secure. Species with ranks of S1, S2, or S3 are listed on the Program's Tracking List. You can find which plants are listed in your county by going to the Mississippi Department of Wildlife, Fisheries and

whether the species should be considered historic to Mississippi, but by the new discovery, Mississippi was granted a reprieve. Once listed under ESA, provisions are developed to protect and enhance the species to insure its long term viability. Listing is often beneficial for the species because it enables additional studies and recovery plans to be developed to help protect the species from further decline. Because of mandates by the ESA, monitoring studies for the Louisiana quillwort are being conducted by the Camp Shelby Field Office of The Nature Conservancy. A major project has been initiated at the Agriculture Research Service Mid-South Area, Stoneville, Mississippi, to study pondberry genetics, ecology and restoration. Many other species require attention if we expect them to remain a part of our biological community.

If no occurrences are known from a state, even though the species once occurred there, the species is considered extirpated, and is given a rank of SX. The decision to list the species as extirpated is based on the time since the species was last seen and the amount of effort conducted to find the species. Two species extirpated from Mississippi are *Trichomanes membranaceum* (scale-edge brittle fern) and *Amsonia ludoviciana* (Louisiana bluestar) (MNPS Volume 20 Issues 1&2). Historic species are those that have been identified to occur in the state but have not been seen in many years. A period of twenty years is often the limit for species ranked 'historic.' Plants considered historic to the state are *Schwalbea americana* (chaffseed), *Arabis lyrata* (lyrate rockcress), *Physalis arenicola* (a groundcherry), and *Elyonurus tripsacoides* (Pan American balsamscale), among a few others.

Plants critically imperiled rangewide (G1) that presently occur in Mississippi are *Agalinis pseudaphylla* (Shinner's false foxglove), *Carex impressinervia* (ravine sedge), *Crataegus ashei* (Ashe's hawthorn), and *Rhynchospora crinipes* (hairy-peduncled beaksedge). Other imperiled plants of the state (G2) include seventeen species such as *Calopogon multiflorus* (many-flowered grasspink), not seen for over twenty years. *Clematis beadlei* (leather flower), *Desmodium ochroleucum* (cream ticktrefoil), *Pteroglossaspis ecristata* (giant orchid), *Lindera subcoriacea* (bog spicebush), *Lobelia boykinii* (Boykin's lobelia),

Silene ovata (Blue Ridge catchfly), and *Thalictrum debile* (southern meadowrue) are also critically imperiled plants. Special habitats such as wetlands especially bogs, fire-maintained wet savannas, and calcareous habitats, including prairies and rich mesic hardwood forest habitats support these imperiled plants.

Imperilment can often be attributed to the disappearance of suitable habitat through land conversion, urbanization, road construction, and other developments. Plants considered imperiled statewide, including some of those mentioned above, total almost 300 species. This represents over 10% of the native flora of the state. Although some may move to a lower status as new populations are discovered, others will be added as populations that were previously documented are later found to be destroyed.

The degree of accuracy of these data is often limited by the time and effort put into field surveys and amount of monitoring of the populations once they are located in the field. Some species may be considered rare but once a concerted effort is made to find populations of the species, many more populations are encountered. The conservation rank of the species is subsequently lowered to reflect the new findings. Some subjectivity is necessary in ranking species for several reasons. Finding all populations of the listed species is a major challenge and would require *all the kings men and all the kings horses*. Many plants are inconspicuous and difficult to identify or are ephemeral and only observable for a short period each year. Trilliums are only identifiable for perhaps a week each year. Many species of the Cyperaceae family take considerable botanical expertise to identify and are available for only a short period usually in the spring. Defining what constitutes a population of species and documenting populations in the field is also difficult and tedious. To characterize the population, the number of individual plants needs to be determined and the area over which the plants are found needs to be accurately mapped. The accurate field surveys are important in defining the rarity of the species for ranking purposes. Often however, all that is available is a herbarium specimen and its label that contains limited information about the abundance and habitat of the species. Botanists

have identified interesting but obscure collections of *Calopogon multiflorus* (many-flowered grasspink) from the Ocean Spring rail stop that were made in the 1800's.

The quality of habitat is an additional step to consider when ranking a species. It is necessary to incorporate the quality of the populations under consideration relative to all other known populations. For example, if one knows of twenty populations of a certain herb and if all were occurrences in areas vulnerable to development, then even twenty populations would not be considered sufficient to conserve the species. In such cases the vulnerability of the populations is incorporated into the determination of conservation ranks. As you would imagine, defining a population for many animal species is even more challenging because of their often inconspicuous and secretive nature and mobility. Thankful as botanists, mobility is one feature we don't have to worry about.

A friend of mine while working his way through college worked at a cereal plant in Michigan. When I asked him what he did, he claimed he was a raisin counter. If raisins were rare, could he be considered a conservation biologist? Well, technically not because the raisin is not a viable creature at the point he sees them. Conservation biologists are the accountants of the biological world. They also help to recover the plants and animals once they are imperiled. Conservation biologists must first attempt to determine numbers of individuals/populations before they can classify a species as imperiled or rare.

Considerable effort has been invested to document populations of rare species of Mississippi. However, inventory is only a part of the challenge of ensuring the long term viability of the rarest of Mississippi's flora. Certainly more effort is needed in inventory and monitoring but conserving habitat seems to be of greater importance. Through the inventory process by the Heritage Program, over 350 sites that contain significant populations of special concern species in Mississippi have been identified. Protecting these areas would go along way to insuring the long term viability of many of these rare plants. Conservation sites are established to delineate habitats that contain the best remnant populations of the most

imperiled species, the highest concentration of species of special concern, or exemplary ecological communities. If conservation sites are found on private lands, the landowner needs to be made aware of their presence. Those found on public lands should be conserved by promoting a management scheme that sustains the natural community and its component parts. In many parts of Mississippi, this would involve the reintroduction of fire into the ecosystem. These lands that have high intrinsic value can be designated as natural areas, wildlife management areas, hunting preserves, low impact outdoor recreation sites, buffer zones or areas for other such non-consumptive uses. Many species may not be seriously affected by logging if it is done in concert with certain guidelines provided by the conservation biology community. However, the conversion of natural forest into pine plantations usually leads to a demise of rare species found there. Theoretically, maintaining the structure and composition of the forest community that supports the rare plants is usually the most desirable scheme for sustaining them. Conserving the plant community within which a rare species is found will generally protect the species itself.



Native Plant Happenings

Attracting Birds to Your Garden

Wednesday, December 18

Noon to 1 p.m.

Clinton Community Nature Center,
Clinton, Mississippi 601-926-1104

Terri Jacobson, U.S. Fish and Wildlife Service, will share simple gardening activities to attract birds to your yard and garden. *Free admission.*

Native Winter Tree Identification

Sunday, January 5

2 p.m. to 3 p.m.

The Crosby Arboretum,
Picayune, Mississippi 601-799-2311

Join us on a walk through the winter woods to be able to identify deciduous trees in the landscape. *Free admission.*

Pitcher Plant Bog Rescue

Wednesday, January 15

1 p.m. to 3 p.m.

The Crosby Arboretum,
Picayune, Mississippi 601-799-2311

Roll up your shirt sleeves and help us rescue plants from a threatened pitcher plant bog! Bring your shovels and boots to help dig plants from a development site and learn the working and wonders of the bog. *Free admission.*

Propagating Plants with Cuttings and Crafts

Wednesday, January 15

Noon to 1 p.m.

Clinton Community Nature Center,
Clinton, Mississippi 601-926-1104

Donna Beliech, MSU Extension Service, will discuss and demonstrate grafting and cuttings as a mechanism to propagate plants. *Free admission.*

Naturalist Hike

Sunday, January 18

2 p.m. to 3 p.m.

Mississippi Museum of Natural Science,
Jackson, Mississippi 601-354-7303

Join a Museum naturalist on a hike through our deciduous forest and cypress swamp, learning winter characteristics of native plants and animals.

Mississippi Arbor Day Celebration

Saturday, February 1

9 a.m. to 1 p.m.

The Crosby Arboretum,
Picayune, Mississippi 601-799-2311

Celebrate Mississippi's Arbor Day by helping to plant trees. We will teach you how to properly plant trees and why they are selected for certain plant communities. Wear old clothes and please bring your shovels. *Free admission.*

Mississippi Arbor Day Native Plant Sale

Saturday, February 15

10 a.m. to 3 p.m.

The Crosby Arboretum,
Picayune, Mississippi 601-799-2311

Winter is the best time for planting native trees and shrubs into the landscape. We will have a great selection of hard to find native plants for sale. *Free admission.*

Pruning Perennials

Wednesday, February 19

Noon to 1 p.m.

Clinton Community Nature Center,
Clinton, Mississippi 601-926-1104

Marilyn Dillard, local Master Gardener, will discuss pruning with a special emphasis on roses. Bring your shears. *Free admission.*

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 \$15.00
 Contributing \$35.00
 Life \$125.00
 Check here if you do not want your name
to appear on a Membership List.

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Return this form and check made payable to:

MNPS
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114 Auburn Drive
Clinton, MS 39056-6002

Mississippi Native Plant Society

Bob Brzuszek
Crosby Arboretum
P.O. Box 1639, Picayune, MS 39466
601-799-2311-22 (D)
e-Mail: crosbyar@datastar.net

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