

MISSISSIPPI NATIVE PLANT SOCIETY

10/84

A HORN ISLAND PRIMER

The San Juan, Sangre de Christo, and Beartooth Mts. of the Rockies, the Chihuahuan Desert, the Great Basin, the Blue Ridge, and the Cumberland Plateau are just a few names that characterize prominent landforms in this country. For those that have lived or even visited these regions, the mention of their name will prompt a sharp recollection of distinctive sensations found only in such environments.

The Pascagoula and Pearl River swamp in Mississippi, though much smaller and less well known, is no less an environmental treasure. Even more remarkable are Petit Bois, Horn, East Ship, West Ship and Cat Island. Unfamiliarity with this chain of barrier islands off the Mississippi coast is understandable. Being the most remote and inaccessible natural area in the state, few people have had an opportunity for a visit.

The Mississippi barrier islands are a link in a chain of about 50 islands that stretch from northern Florida westward to northern Mexico. Although they share basic environmental features, each island is distinctive owing to the complex interaction of events responsible for its formation, maintenance, and degradation. Horn Island, situated approximately 10 miles south of the coastline at Pascagoula, is the largest and probably most exemplary of the vegetation in the Mississippi barrier chain.

The Mississippi Native Plant Society field trip to Horn Island on November 3 is an unmistakable opportunity to visit one of the most novel ecosystems in our region. Administered by the U.S. Park Service-Gulf Islands National Seashore, Horn Island, along with Petit Bois Island, are Mississippi's only representative in the U.S. Wilderness System. By an act of Congress in 1978, under the authority of the 1964 Wilderness Act, Horn Island became a legally designated wilderness area. A federally protected wilderness area is defined as an area "where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain". Wilderness area must also be "affected primarily by the forces of nature with the impact of man's work substantially unnoticeable, and has outstanding opportunities for solitude or a primitive and unconfined type of recreation". The special combination of a beautiful wilderness environment with an unusual array of vegetation and plants will provide for a special field trip.

Extensive dune systems are the most obvious habitat on the island. Dune plants must tolerate salt spray, dry sandy soil, and a shifting substrate. Common dune species include sea oata (Uniola paniculata), beach grass (Panicum amarum), Andropogon maritimus (sp. of broomsedge), Ipomea stolonifera (sp. of morning glory), and Iva imbricata (sp. in sunflower family).

Relic dunes and dune ridges are remnants of what were once primary dunes near inlets. Relic dunes are generally sheltered from normal storm surges and winds that affect fore- and rear dune systems. Their relative stability is increased by additional species such as the characteristic sand rosemary (Ceratiola laevis) and prickly pear or cactus (Opuntia compressa).

In contrast to the dry dune habitat are the estuarine marshes and freshwater swamps that meander throughout the island. Needle rush (Juncus roemerianus) and cordgrass (Spartina alterniflora) typify the salt marshes while cat-tail (Typha latifolia) dominates the lagoons and ponds.

Swales or meadows situated between dunes and marsh are indicated by the abundance of sea-myrtle (Baccharis halimifolia). Species found in dunes and marsh often do not grow in these meadows.

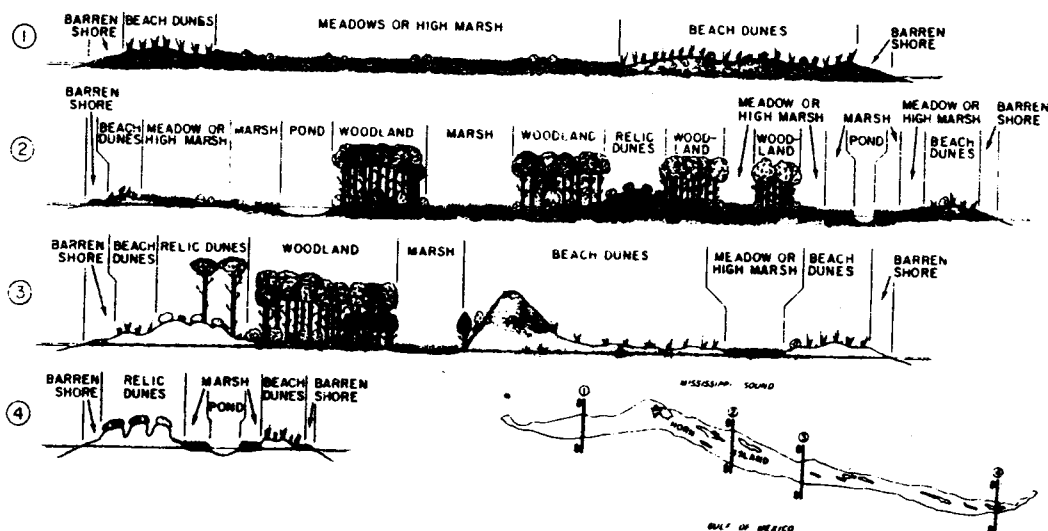
Floodlands consist principally of slash-pine and a few widely scattered live oaks.

Although the vegetation is more diverse than suggested by the above sketch, this brief description should provide suitable orientation toward the essential features of the island. Over 200 species, many of which are endemic to island and its habitats, occur on Horn Island.

The boat will depart from the dock behind the Buena Vista Hotel in Biloxi at 8 A.M. Bring lunch. Boat fare for members is \$10.00/individuals, \$16.00/families, and \$20.00/families. Cost for non-members is \$15.00 and student non-members is \$10.00. Rooms are available at the Gulf Coast Research Laboratory Dormitory for \$10.00 per person per night. You must provide linen. For a dorm reservation, contact Travis Salley, 202 N. Andrews Ave., Cleveland, MS 38732 (843-2330) before October 25. We encourage advance payment of boat fare to be mailed to Travis. Boat fare will be accepted dockside for those unable to make advanced reservation. If you have a room - so come.

OFFICER NOMINATIONS

The nominating committee has selected the following slate for the 1985 election: Ellis - President, Marita Smith - Vice President, Travis Salley - Sec./Treasurer, and Timme - Editor. Instead of mailing ballots to the membership, the election will be held this year during the upcoming Horn Island field trip. If you have nominations, objections, or comments on the process, please contact Robert Ellis, President.



An illustration of the vegetation on Horn Island from selected cross-sections. Taken from "A Phytosociological Study of Horn and Petit Bois Islands, Mississippi" by Dr. Lionel Eleuterius

THROUGH THE NEW YORK BOTANICAL GARDEN LOOKING GLASS

Wildflowers of the United States, Volume 2, The Southeastern States
By Harold William Rickett

Thanks to the generosity of Peggy and David Rockefeller and others, Dr. Rickett has compiled unprecedented volumes of wildflowers in the United States. Volume two is a two part set of the Southeastern wildflowers. Beautiful, informative and well organized, they are intended for amateur naturalists.

Lovely photographs of wildflowers are the most enticing feature of Rickett's work. Numbered, colored plates individualize each flower and show its relationship to related species. There are six or seven photographs per plate.

The books also give a detailed plant description that is helpful in identification. Flower, fruit, leaf and stem parts are illustrated and labeled. A discussion of flower diversity and flower arrangement on the plant, essential to understanding plant taxonomy, is explained. A glossary is included. Rickett also informs the reader on the Latin binomial naming system, reminding that it is "the only practical means of dealing with the vast and varied plants of the world."

Rather than looking at masses of photographs to identify a plant, a classification system for Southeastern wildflowers is presented. The system is made up of fifteen groups of families. Grouping is based on natural relationships such as sepal and petal number, stamen arrangement and other easily distinguishable characteristics. A dichotomous key guides inquirers to a specific group. Each group is broken down into families. Genus and species are derived from more detailed examination of a plant. Although the key is the most common approach to plant identification, knowing certain characteristics can "short cut" the process. Rickett shares this information along with many other facts. A comprehensive look at his volumes yields a beautiful and wonderfully complete look at the Southeastern wildflowers that will be of great value to those who enjoy studying the flora of this region.

CONFERENCE ON THE USE OF NATIVE PLANTS FOR BEAUTIFICATION PROJECTS

July 26 through July 28, I attended a conference in Cullowhee, N.C. concerning the use of native plants in beautification projects. Presentations covered a wide range of topics from discussion of propagation to methods of working with state highway officials. My over-all impression was that everybody was interested in forming some sort of special interest group that can disseminate information and resources concerning native plants.

Rather than try to recreate the three day event, I will try to give you a feel for what happened by relating my impressions about the presentations and some highlights of conversation that I had with various people at Cullowhee.

The event was loosely organized on purpose, and I think successfully so. Neither the organizers nor the participants were sure who the audience would be or where their interests would lay. So plenty of time was left for unorganized conversation between participants. In a surprisingly short time, we began finding common interests and goals among us. We all agreed that there is a need for exchange of information, in the broadest context, in the uses of native plants. To that end, Western Carolina University (the host) and The Tennessee Valley Authority (TVA was the major source of support) will publish and distribute to the participants a source book containing the names, addresses, and expertise of everybody who attended and submitted that information. I think this will be a very useful book for the native plant enthusiast as well as the management of industry personnel concerned with the uses of native plants in any context, from beautification to reclamation.

It was a very diverse gathering. There were large numbers of gardeners, gardeners, seedsman, nurseryman and landscapers, botanical garden and arboretum representatives, biologists, and bureaucrats. I haven't seen a head count, but I estimate there were over 250 persons present.

I was most impressed by the biologists who represented TVA. They were knowledgeable botanically and in the byzantine nature of bureaucracies. They have extensive knowledge concerning natural area management and reclamation projects. There were many government biologists present from several state and federal agencies, mostly from the eastern or north central states. They were very interested in finding out what aspects of their jobs were of most interest to the rest of us.

A majority of participants were interested in promoting the use of native plants along highways. There was a considerable amount of detailed discussion of mowing schedules, erosion control, and the inner workings of the civil engineers mind. The consensus was that projects should start small, as at state Welcome Centers, and progressively include more area as expertise is gained in the management of such projects. I was pleasantly surprised by how favorably people regarded the highways of Mississippi. I don't know anything about our highway department but everybody thought they were headed in the right direction. Now if we could just eliminate the litter...

Commercial representatives were a small group trying to find out what gardeners wanted and trying to find ways of promoting the use of natives in landscaping. They were aware of the problem posed by some operations that collect plants from the wild to sell. I spoke to several who are actively involved in propagation efforts (some quite scientifically set up). There were lively discussions about the ethics in withholding that information from the public. Is it a trade secret that, if divulged, will result in the loss of business?

Loss of business is very serious for them as there is such a small market for most native species.

Before I conclude, I must say how proud I was of Travis Salley. He gave a beautiful slide show (most of you are aware of his photographic talent) and an interesting and entertaining presentation. I was asked many times by others, "who is that guy?". They were sure that he was "Somebody".

There is a very large, almost completely disorganized, highly motivated bunch of native plant militants out there. Western Carolina University and The TVA successfully brought us together and started the communication needed to form a larger, perhaps national, organization of people like those that are members of The MNPS. The TVA representatives are going to try to fund a similar event in the future. WCU wants to host it, but other people who were present seem to want that responsibility as well. If another meeting takes place, I hope to attend. I also hope that all of you in our organization will attend. At this stage it is very important for all of us to look at our sister organizations, at our neighboring state officials, and each other to see what we can do as a group for the preservation and use of native plants and their natural environment.

Chris Wells

THE CACTUS OF MISSISSIPPI

The cactus family in Mississippi is represented solely by the genus Opuntia, which is characterized by succulent fleshy or thickened flat or compressed segmented joints furnished with areoles over its surface and bearing tufts of hair or wool, minute barbed spines called glochids, deciduous succulent green leaves, and the presence or absence of spines. The flowers arise singly from the upper and marginal areoles and are characterized by an inferior ovary bearing a hypanthium supporting intergraded sepals and petals and attached at a point called the umbilicus to the ovary. The single style supports a lobed stigma and numerous stamens are also present. Fruits are few to many seeded and often edible. The seeds possess a hard seed coat and are margined by a corky aril.

Being poor competitors except in arid situations due to their great specialization, the Opuntias are scattered throughout the state and may be commonly found growing in habitats which are unsuitable to most other herbs, shrubs, and trees either due to aridity, a porous substrate, or salinity. The Opuntias are typically the first or an early invader into new habitats that offer greatly reduced competition and the environmental factors that favor them over other plants not so equipped to deal with aridity, among other factors. Such suitable habitats are typically badly eroded fields and roadsides, sandbanks, xeric forest clearings or roadsides, shell mounds, beaches, gravel and sand mining operations, and saline soil produced from oil well drilling operations. Owing to the great popularity of the entire cactus family, the Opuntias may be found well removed from these habitats.

Great diversity exist among the Opuntias as they are freely played upon by genetic and environmental factors. Cultivated plants often lack the characteristics of the plants found in natural habitat. Plants in shade may be totally spineless while those in full sun may have vicious spine armament. Hybrid swarms are the rule rather than the exception. Owing to these factors, botanists have in the past created far too many species and have given species status to hybrids. However, taxonomic study of the Opuntias is most difficult with all factors taken in consideration along with the very short flowering periods. I am then forced to give broad species descriptions so as to take in most of the possibilities that may be keyed. No single description can be taken as truth entirely if one is to taxonomically complete the task of discerning Mississippi's Opuntias.

ts prostrate or spreading; joints mostly small, 2.5 cm. up to 16 cm. long; spines wanting or 1 to 4 per areole, mature spines white, brown, or gray.

Joints freely disarticulating; spines mostly 2 to 4 per areole 1. O. pusilla

Joints not freely disarticulating, or disarticulating but with spines not more than 1 per areole 2. O. humifusa

ts erect, bushy or spreading but never prostrate; joints mostly large, . up to 40cm. long; spines wanting or 1 to 10 per areole, often strong occasionally tortuous, mature spines yellow to yellow brown, occasionally e.

Joints with spines mostly over 2.5 cm. long or wanting; stigma lobes white; fruit red to purple, 4 to 7.5 cm. long, pear shaped to subglobose, constricted at base; seeds large, 4.5 to 6.0 mm in diameter; plants of outer coastal plain, frequently cultivated 3. O. stricta

Joints with spines mostly under 2.5 cm. long or usually wanting; stigma lobes green; fruit red to purple, pyriform to oblong, 3.5 to 6 cm. long, not constricted at base; seeds small, 3 to 4 mm. in diameter; cultivated plants, less frequently escaped from cultivation 4. O. lindheimeri

O. pusilla - Plants of outer coastal plain in Mississippi. From North Carolina, Florida into West Indies into Mississippi. Old gravel and sand beaches, sandy woods near coast.

O. humifusa - a variable hybrid possessing the characteristics of O. 1 but with obovoid to ovate joints; often forming spreading manifestly tiny mats. Most plants in our area are actually O. 1a., but colonies are often mixed between the species and the hybrid.

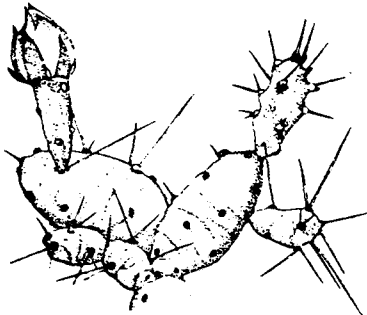
O. humifusa var. humifusa - joints with spines wanting or abundant on upper surface, 1 per areole. Joints not glaucous or only slightly so. Plants with many spines usually have orange to red glochids. Plants of central and east-S. into Canada, throughout Mississippi. Eroded fields, dry roadsides, wetlands in clearings, sandhills, less frequently outer coastal plain.

O. humifusa var. austrina - joints with 1 stiff pungent spine from most of the areoles, never wanting, always abundant. Joints glaucous, blue-green, roots tuberiferous. Plants of outer coastal plain of Mississippi and New Jersey to Florida to Mississippi. Sandhills, beaches, sandy open woods near coast.

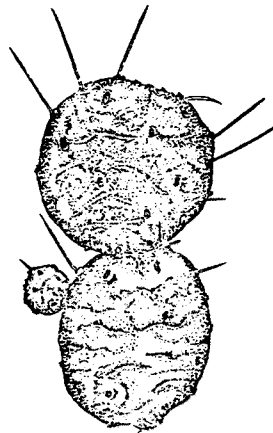
O. pusilla - hybrids with the characters of O. humifusa var. austrina, but with fewer, oblong to oblanceolate joints. Joints freely disarticulating or disarticulating from only young joints.

3. O. stricta - - most plants in our area are hybrids between two varieties, O. stricta var. stricta and O. stricta var. dillenii. True species are found in tropical Florida, West Indies, and along the western coast of northern South America. In Mississippi, plants occur in cultivation, on shell mounds, beaches, coastal ha-mocks, and sand dunes.
4. O. lindheimeri - very variable plants with many varieties and hybrids. Often confused with O. stricta where the ranges overlap in coastal Texas and Louisiana. Mostly cultivated plants, occasionally escaping in Mississippi. Plants are native to western coastal Louisiana and inner southern Texas.

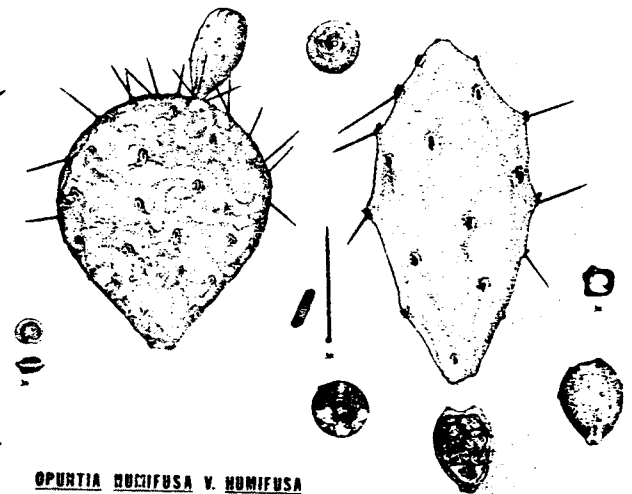
Barry Snow



Opuntia pusilla Haworth

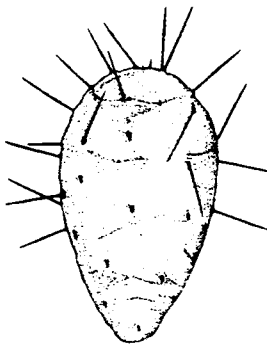


Opuntia humifusa Raf.

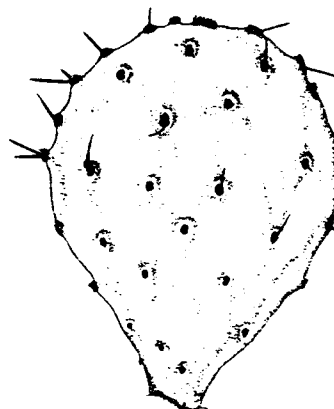


OPUNTIA HUMIFUSA V. HUMIFUSA

Opuntia stricta Haworth



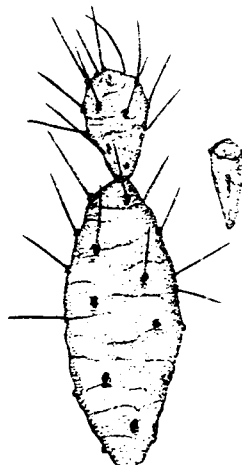
Opuntia humifusa Raf. variety
austrina (Small) L.Benson



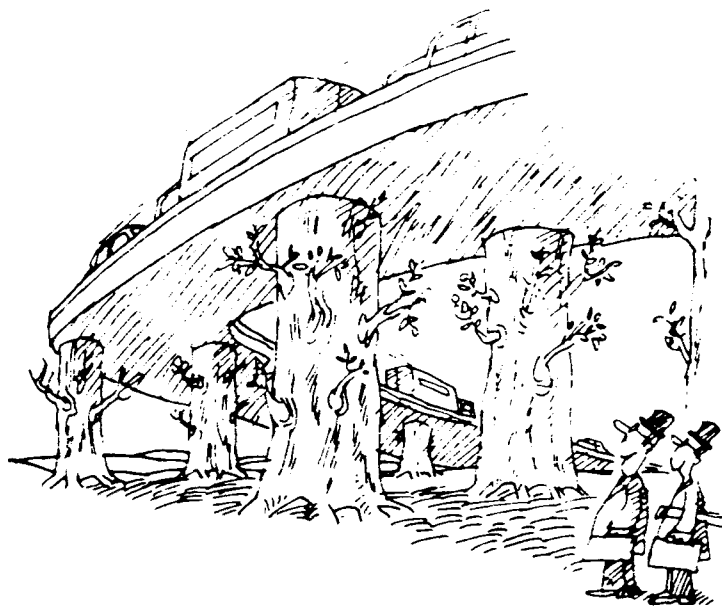
Opuntia stricta Haworth



Opuntia lindheimeri Engelm.



O. humifusa v. austrina x O. pusilla hyb.



*"As you see, we've preserved as much of
the centuries-old forests as possible."*

MISSISSIPPI NATIVE PLANT SOCIETY
1. Jefferson St.
Baton Rouge, MS 39202