ON THE FRINGE

NATIVE PLANT SOCIETY OF NORTHEASTERN OHIO

Founding Chapter of
THE OHIO NATIVE PLANT SOCIETY

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FROM THE EDITOR

The Board of the Northeastern Chapter has selected The Ohio Native Plant Society as this year's recipient of what has been an annual grant in the sum of $500. O.N.P.S. will use the grant as seed money to publish the first of what is hoped to be a quarterly journal called "Trillium". Editors of this journal will be Dr. Jean Willis of Otterbein College and Paul Solan. It is contemplated that this journal will be geared for the average person who has an interest in botanical subjects. More on this subject will appear elsewhere in this issue from the executive secretary of ONPS.

On the calendar of events we mail to each member at the beginning of each new year, you will notice that October's event this year was listed as "to be announced". Okay, announcing, Wednesday, October 9th at 7:30pm we will co-host with the Lake County Metro Parks at Lakeland Community College a panel of experts presentation about changes over time in the natural history of Lake County. Local experts on geology, botany and other topics will present their explanation of chronologic natural history of Lake County. The college is located off State Route 306 just South of the interchange with I-90. By press-time I expect to have the room number and building where the event will be held.

Speaking of upcoming programs, Saturday, September 21st at noon at Swine Creek Reservation, Judy Bradt-Barnhart, a naturalist with the Geauga Park District will present a program followed by a field trip focusing on Monarch Butterflies and their host plants: call me for directions if needed.

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Your Board always welcomes any comment from the membership. Please feel free to attend Board meetings and voice your concerns. In consideration of this last offer, please be advised the next Board meeting will occur on Tuesday, September 17, 1991 at 7:00pm at the Chagrin Falls Public Library on Orange Street in Downtown Chagrin Falls.

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Saturday, November 16th at 5:30pm at the Cleveland Museum of Natural History is the annual dinner. This year our speaker, Dr. George H. Beatty from Penn State University will educate and entertain us with a computerized multi-media show on Linnaeus' Travels in Lapland, 1732, Travels which Dr. Beatty and his wife recreated during a 1986 trip. From accounts of those who have seen this show or have heard Dr. Beatty before, we will see excellent slides and hear a dynamic speaker. Hopefully, we will also see the companion show, "Orchids of Gotland". Don't miss this opportunity; Be there, Why not bring a guest too?

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Just in, the October 9th program previously mentioned at Lakeland Community College will be held at the "Center for Performing Arts" room D1095. A shuttle bus will take you from the surface parking area to the building, or take a pleasant short walk. The building is nearby the clock tower.

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Up to My Knees, but in What?

By Perry Peskin

Exploring the wetlands of New Jersey last August was an experience that seemed designed to separate the men from the boys, or in my case, the heavyweights from the lighweights.

Ever since I took fresh-water biology in college and professor would announce, "Tomorrow we will meet in the Grand River," or "in Lower Shaker Lake," I've had mixed feelings about exploring aquatic habitats. It was the use of <u>in</u> instead of <u>at</u> that was partly to blame,

and also the fact that we had to don hipboots, which I found heavy and clumsy. However, the wetlands habitat, whether it be swamp, bog, river, or pond, proved to be the only source of an unusual and highly specialized plant community, and so I adjusted.

For a while I tried wading through the marshes barefoot, but that was before I had first-foot experience with Tearthumb (Polygonum artifolium or P. sagittatum), a hostile creeping vine of the smartweed family, loaded with spiny stems that sliced up my insteps and ankles in short order. From then on, I started wearing canvas shoes and ordinary socks with a dry change in my backpack.

Bogs were especially challenging, not only for the occasional holes in the sphagnum mats (never more than knee-deep, in my experience) but also for the "moat" that surrounded many of them. I remember the first moat I ever waded through, to get to Titus Bog, near Erie, Pennsylvania, a strange "raised bog" on top of a hill. Chilly and the color of strong tea, the water stood waist high and seemed like a tunnel completely

enveloped in dark, swamp-forest vegetation. If there hadn't been 20 of us bog-trotters, all getting soaked at the same time and looking like fugitives in the sewers of Paris, I might have turned back and then would have never known what I had missed: in this case, at least a hundred Arethusa Orchids (Arethusa bulbosa) in full bloom. But those are the chances a plant-hunter takes with wetlands; after all the arduous preliminaries, nothing may be in bloom, or some of the best botanizing of the year may await him.

If any rule holds good for wetlands, it's don't go in alone the first time. Preferably have as a guide someone familiar with the local conditions. For this reason, in August of 1990, I asked Gerry, a young graduate student at Rutgers, who spcialized in aquatic botany and who resided in South Jersey, to give me a few hours of his time to help find some rare New Jersey wetland species. Since I would be on the East Coast in August, this might be a good time to find a rare, federally-listed legume called Sensitive Joint-vetch (Aeschynomene virginica).

From its description, I knew this plant would win no beauty prize. The northernmost of a tropical genus of 100 or so species, it grows stiffly upright to 8 feet, its stem branching occasionally, producing compound leaves of many leaflets and a few flowers in each leaf axil. The green pods look jointed. The many small leaflets resemble those of vetch and are sensitive to an outside stimulus; like those of the famous Sensitive Plant (Mimosa pudica), they fold up when touched. This behavior accounts for the Greek name of the genus, Aeschynomene (pronouced ESK-a NOM-i-nee), which means ashamed. The flowers themselves are large, like those of beans, but of a pale yellow, with red streaks on the petals. At a distance the vetch looks a bit like a bushy specimen of Partridge Pea (Cassia fasciculata), a weedy legume covering large areas of sandy, disturbed ground in New Jersey, but since the vetch is a halophyte, or salt-tolerant plant, its only habitat is the banks of tidal rivers and inlets.

At one time the joint-vetch was found along the East Coast from southern New Jersey to North Carolina.

In recent years the Virginia and North Carolina populations have held their own, but locations farther north have fast disappeared. Only 11 sites in all are left along the Atlantic seaboard, including just 2 in New Jersey. One of these is along the Manumuskin River, a wide, slow-moving tidal stream flowing into the Maurice and thence into the Delaware. After I met Gerry the morning of August 8 near the village of Cumberland, our first goal was a railroad track reaching deep into the tidal marsh. Walking along the track, we noticed as soon as the river came into view that, unfortunately, the tide was in and our plants would be partly under water.

"No problem," Gerry said. "We'll come back in six hours and look at some good wet spots in the meantime." I looked down at my canvas shoes. They would be getting plenty of use today.

In the first wet spot, a remnant of a farmer's field along a roadside, a rich assortment of wetland plants was growing in the muddy soil, the most outstanding of which was the White-Fringed Orchid (Platanthera blephariglottis), just going out of bloom.

A nearby cemetery revealed an unfamiliar legume with small yellow blossoms, the Pencil Flower (Stylosanthes biflora). Then we were off to Hirst Pond, a Nature Conservancy preserve near Egg Harbor City in the Pine Barrens. Named after botanists Frank and Robert Hirst, this vernal pond is supposed to dry out in the summer, allowing an unusual assortment of plants to take over, including the unique Hirst's Panic Grass (Panicum hirstii), discovered in 1959 by Frank Hirst. This species has an oddly limited distribution: 2 ponds in New Jersey and 1 in Georgia. Unfortunately the grass appears only in dry years, and, as anyone could see, the pond, even in August, was still quite extensive, of at least several acres, and definitely wet.

Before anyone could say, "Canvas shoes," Gerry had stepped into the midcalf-deep water, and I followed, a bit hesitant on wading into a strange pond. However, the muddy bottom was firm, and the water temperature warm. Actually Hirst Pond was one of the pleasanter bodies of water I had walked through in a long time: no mosquitoes, the air warm and still, the sunlight soft and without glare, perfect for photography, and carpets of beautiful aquatics in bloom.

The Yellow-eyed Grasses (Xyris difformis, torta, and the giant species smalliana, in their own family)looked like flowering reeds, with their heads of yellow, three-petaled flowers shaped something like a ship's propeller. Nearby were gold-flowered carnivorous plants, the Fibrous Bladderwort (Utricularia fibrosa), which was doing all its dirty work underwater, catching tiny crustaceans in bladderlike structures (perhaps modified leaves) and digesting them. In addition, we saw scattered mats of a smaller related plant with violet and white petals, the Purple Bladderwort (U. purpurea), a Pine Barrens species that seems to be declining in New Jersey in recent years.

For me the prize discovery was Floating Heart (Nymphoides cordata), an aquatic gentian, sometimes placed with the Buck Bean in a separate family, and a plant I had been searching for unsuccessfully for years. Very rare in the North, including New Jersey, it superficially resembles a water lily but is much smaller, with heartshaped leaves, all of different sizes and overlain with brown splotches and markings. The flowers, small and white, resemble those of gentians and

and poke up irregularly among the leaves. One wonders how a delicate plant like this can compete with big, coarse aquatics like spatterdocks or water smartweeds, but apparently in the environment of vernal pond none of the big aquatics can get started. Perhaps Gerry, who plans to specialize in the study of the Floating Heart, will find the answer.

After lunch it was time to return to Cumberland and try the banks of the Manumuskin once more. Shortly after leaving the railroad tracks, and passing through a zone of alders, we found ourselves in the open on a vast mudflat with the river bank about 100 yards away. I should have had some foreboding when I noticed that instead of cattails, the dominant plant was Wild Rice (Zizania aquatica).

Gerry led the way, and gamely I tried to follow, but I had a hard time keeping up. Although Gerry's footprints hardly made a dent in the black mud, I would go in up to my knees. And then what a struggle to pull myself out! Since only one leg was caught in the mud at

one time, I would push hard with the other leg, try to grab the nearest holdfast, in this case, a stalk of Wild Rice, and with much groaning hoist myself out. As I reached out for the Wild Rice, the old phrase "grasping at straws" took on new meaning.

Apparently my being 25 pounds heavier than Gerry made all the difference. Since he moved lightly and quickly, he hardly distrubed the thin crust of mud on top. It was only a heavier, slower klutz like myself, following in his footprints, that would sink into the softer mud underneath.

Time passed, and I didn't seem to be making much headway. At several points I was sure I had lost a canvas shoe, but they must have been tied on extra tight that day. In the distance, like a proud father trying to encourage an infant taking his first steps, Gerry was saying things like, "We're just 20 feet from the river bank," and "I can see the joint-vetch right now," and finally "I'm standing next to the joint-vetch at this very moment." Hauling myself out of the last mudhole, I reached the bank of the Manumuskin and stood

on surprisingly solid ground next to a colony of one of the rarest plants in the East. Tired but proud, I had conquered another wetland.

The story should end here, but the natural world is full of anticlimaxes. After photographing the rare legume, which was about 2 to 3 feet in height, in bloom and also in fruit, I stroked the leaves. They didn't fold. Did I come all this way only to find an insensitive joint-vetch? "Apparently they aren't sensitive all the time," Gerry sugggested.

On the tedious trip back across the mudflat, despite all the stops and starts, I was regaled by Gerry's accounts of the different groups he had shepherded acrossthe mud, including one large gentleman from the Sierra Club, whom it took two people to pull out. I could see that I hadn't been the only one. Walking back to our cars parked by the railroad track, I felt genuinely sorry to see such a successful day end. I thanked Gerry, said good-bye, and drove back to my motel, where, exhausted, I draped my mud-soaked khakis on the carpet in my room, probably to the consternation of the housekeeping staff later on.

In two days they were dry. I had expected to see curls of dried black mud all over the pants and the carpet as well, but except for a few streaks, the pants were covered with fine sand. I went outside, gave the pants a few good shakes, and they were just as clean as before. "Strange," I thought. "What happened to all that mud? And where did the sand come from? Is there mud that is really sand? Is there sand that looks like mud?"

I began to get the picture. That mud had been really tenacious but not thick nor lumpy nor gooey. Could it be that the sandy mud, or the muddy sand, was neither of the above but something else like . . . Well, like ... quicksand?

Shades of all the Green Hornet serials I had seen as a boy at Saturday double-feature matinees! The hero, who was always dressed impeccably in dark suit, white shirt, necktie, and felt hat, had a positive genius for getting himself mired in quicksand at least once in every 10-installment series. But the following Saturday he always got free.

Back home I combed the literature on quicksand, but there are surpringly few facts on it. It's composed os and grains round in shape rather than angular, and they are saturated with water. Often it is found on riverbanks. Being caught in it is not so dangerous as often pictured. If the ground nearest the river bank were really quicksand, the twice-daily tides could have brought in a thin film of black muck to cover the sand and nourish the wild rice, and the whole area would look like a mudflat.

Despite what I had to go through, I'm glad I saw the Sensitive Joint-vetch while it still exists in the estuaries feeding into Delaware Bay. No one knows exactly what stress is diminishing its habitat, but I'm positive of one thing--it's not trampling, not along the sandy banks of the muddy Manumuskin.

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Perry Peskin is a retired teacher keeping very active as a volunteer at the Cleveland Museum of Natural History, member of the Kirtland Bird Club, leader for Spring bird walks at Shaker Lakes and writer on botanical and paleobotanical topics for several magazines.

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Letter to the Editor

From Genevieve Miller

"Many thanks for reprinting my article on poison ivy. I notice that you did not acknowledge the source, and I wonder if you could put a brief note in the next issue indicating where it was orginally published. This is a convention that is strictly followed in the publishing world. The acknowledgement is usually put at the end of a reprinted article and reads as follows: "Reprinted from Arboretum Leaves, The Holden Arboretum, Spring, 1972, 14: 8-10 with the kind permission of the Editor."

A similar note should follow my article on sassafras, which was published in the Bull. Cleveland Med. Lib., 1959, 6 3-7.

You're doing a great job with **On the Fringe."**

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THE HOLDEN ARBORETUM

NEW RELEASE

Nature lovers unite and enter the Holden Arboretum Volunteer Guide program. Help us educate and interest children of all ages in the wonders of the natural world. Our "classrooms" are the out of doors - woodlands, fields, & ponds. A specially designed training course will provide the necessary skills for leading a variety of educational programs. The classes begin with the easiest (such as exploring the natural world) and build to the more advanced (such as the evolution of plants).

To qualifty for our program, you must be willing to learn and keep on learning, be physically active, have an enthusiastic approach to people and children, and gain personal satisfaction from accomplishing challenging, but rewarding work.

The Holden Arboretum, a 3,100 acre living museum of trees, is located at 9500 Sperry Rd. in Kirtland Ohio. Our training course for volunteer guides will begin on Monday September 9 and continue September 12, 16, 19, 23, and 26. For information about this and other excellent volunteer opportunities, please call Kathy Mahovlic at 946-4400 or 256-1110 ext. 210.

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EXOTIC PESTS OF AMERICAN FORESTS

By Matthew Fogelson & Faith T. Campbell

Natural Resources Defense Council

U.S. forests face multiple threats; one threat, little appreciated so far, is destruction of numerous tree species by exotic (introducd, or alien) insects and diseases.

Insects and diseases brought to the U.S. on imported logs and nursery stock have already decimated the American chestnut and America elm. Other trees are similarly threatened today. When alien insects and diseases are introduced, native trees do not have time to develop an immunity and entire species of trees can be virtually eliminated. In addition, natural factors may not effectively control the exotics as they do native "pest".

The ecological cost of destruction by exotic pests in terms of lost biodiversity in the forest ecosystem cannot be adequately measured. Trees whose fruits and nuts provided forest creatures with basic food needs are in jeopardy of dying out. Denuded forests no longer provide ample cover for many forest dwellers or sufficient nesting area for many birds. Miles and miles of dead and dying forest are an eyesore. The true economic cost of destruction by all forest pests has not been calculated. Lost timber revenue alone amounts to $2 billion annually.

It is estimated that 33% of all current forest losses in the United States are caused by forest pests. Twenty-seven percent of all these pests are exotic.

The impacts of introduced "pests" falls on forests already affected by fragmentation, reductions in numbers of certain neotropical migrant birds (most of which eat invertebrates), the impacts of pollution on plants and aquatic organisms, and introduced herbaceous plants and aquatic organisms. Global warming is expected to further stress forest ecosystems.

We have begun identifying alien tree pest species and the damage already done or expected. A preliminary list is presented on the reverse. Those interested should write to Faith Campbell to ask for Matt's 21-page paper providing details and sources.

We are also soliciting additional information on threatened tree species about which we may have not yet have learned, measurements of extend of loss or damage (or states where damage has occurred), efforts to develop control methods, etc.

Grave Threat to Species' Viability Throughout Al or Most of its Range

butternut canker -- butternut, or white walnut; nuts are important wildlife food; butternut does not sprout from roots; efforts to identify resistant trees may be hampered by loggers' eagerness to obtain valuable wood before tree dies

dogwood anthracnose -- both eastern and western dogwoods (not certainly exotic in orgin)
dogwoods are extremely important sources of wildlife food and builders of soil

hemlock woolly adelgid -- eastern hemlock
damage to ecology of streams and their narrow valleys feared where hemlock is killed

Loss of Healty Mature Individuals In Most of Range

beech bark disease -- American beech; kills mature trees, stunts immature trees and reduces nut production

balsam woolly adelgid -- Fraser fir of southeastern mountains; tree community is associated with rare or endemic invertebrates and bryophytes

Broad Damage, but Impact Less Certain:

gypsy moth, especially oaks and other hardwoods environmental damage increased by earlier or current loss of other trees providing "hard mast" -- American chestnut and butternut)

white pine blister rust -- attacks most 5-needle pines in both east and west; seeds are important wildlife food, especially for grizzly bear and Clark's nutcracker

pest damage in association with other threats:

pear thrip -- sugar maple

future threats:

over 100 organisms associated with coniferous species in Siberia, which might enter country if imports o' Siberian logs are approved

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Dated Material - Do Not Delay

ADDRESS CORRECTION REQUESTED

Memberships are **DUE FOR RENEWAL** on JANUARY 1, 1991. Please continue to support your Society and renew at the **highest** possible category. Those of you who send us Sustaining and Patron memberships are enabling us to go on with our worthwhile projects. An active membership just about pays for the newsletter costs. However, economics aside, we need **EACH** of your memberships and each year we get stronger and better. The 1991 Program and Field Trips schedule will be worthwhile.

Please enroll me as a member of the Native Plant Society of Northeastern Ohio

( ) ACTIVE.....$10.00 ( ) SUSTAINING.....$25.00
( ) FAMILY.....$15.00 ( ) PATRON.....$50.00

Membership runs from January through December and is not pro-rated.
Make checks payable to Native Plant Society of Northeastern Ohio, 17670 Farmington Road, W. Farmington, OH 44491

Name:_____Phone_____

Address_____

City/State _____Zip_____