



Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 21 Number 1

Fall 2001

Monthly meetings

Minnesota Valley National Wildlife Refuge
Visitor Center, 3815 East 80th St.
Bloomington, MN 55425-1600
952-854-5900

6:30 p.m. — Building east door opens
6:30 p.m. — Refreshments,
information, Room A
7 – 9 p.m. — Program, society business
7:30 p.m. — Building door is locked
9:30 p.m. — Building closes

Programs

The MNPS meets the first Thursday in October, November, December, February, March, April, May and June. Check the web page for additional program information.

Dec. 6

The Art of Botanical Illustration by Vera Wong.

Feb. 7, Speaker to be announced

March 7, Speaker to be announced

Symposium on wetland restoration to be in March

Wetland restoration will be the subject of the society's annual symposium. It will be in March. Jason Husveth, Nancy Sather and Esther McLaughlin are organizing this educational opportunity. Watch the MNPS web site for information on the date, location and presenters.

MNPS Web site

<http://www.stolaf.edu/depts/biology/mnps>

Global warming may be cause of early blooming

Washington, D.C. cherry trees start blooming an average of seven days earlier now than they did in 1970; flowering plants are blooming 4.5 days earlier. Global warming is suspected as the probable cause.

These figures were released by The Smithsonian's National Museum of Natural History in a report on results of a 30-year study of flowering plant species in the Washington metro area. The study, which was conducted by the museum's Department of Botany, showed that the rise in the region's average minimum temperatures is producing earlier flowering in 89 of the 100 common plant species investigated.

Botanical data were collected from 1970 to 2000. Smithsonian scientists Dr. Stanwyn Shetler, Mones Abu-Asab, Paul Peterson and Sylvia Stone Orli examined the data. "This trend of earlier flowering is consistent with what we know about the effects of global warming," Shetler said. "When we compared the records from the Smithsonian study with local, long-term temperature records, we discovered statistically significant correlations. The minimum temperature has been going up over these years, and the early arrival of the cherry blossoms appears to be one of the results."

The two predominant species of Japanese flowering cherries that were planted near the Tidal Basin are the Oriental cherry blossom (*Prunus serrulata*) and the Yoshino cherry blossom (*Prunus yedoensis*). They now reach peak bloom six and seven days earlier than in the 1970s, respectively.

The Yoshino reached peak bloom March 20, 2000, the second earliest date on record. The average date to bloom is April 4. Eleven of the 100 native and naturalized plant species studied showed a reverse trend and are blooming later. The Japanese honeysuckle is blooming an average of 10.4 days later; the Dutchman's-breeches 3.2 days later.

"Over a long period, the species composition of our local flora could change," Shetler said. "Species like the sugar maple that

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Global warming

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require a long cold period may die out in our region. Invasive alien species ... may become more and more of a problem. Weedy species like false- strawberry that can bloom throughout relatively mild winters could spread. ... Persons with allergy problems will experience them earlier.”

The study is continuing. Data are maintained at www.nmnh.si.edu/botany/projects/dcflora.

(This information is from an article in the Fall/Winter issue of “Marilandica,” the newsletter of the Maryland Native Plant Society.)

Field trip is Nov. 10

Jason Husveth will conduct a winter botany identification field trip/walk at the Minnesota Valley National Wildlife Refuge Saturday, Nov. 10, from 9:30 a.m. to 12:30 p.m. During a walk through the river bottoms and bluffs, Jason will show how to identify native flora of the Minnesota River Valley.

The Minnesota Native Plant Society

The Minnesota Native Plant Society is a tax-exempt 501 (c)(3) organization as determined by the U.S. Internal Revenue Service.

Dues for regular members are \$12 per year; students and seniors, \$8; families, \$15; institutions, \$20; donors, \$25. All dues include a newsletter subscription. Four issues are published each year. Make checks out to: Minnesota Native Plant Society. Mail them to: Minnesota Native Plant Society, 220 Biological Sciences Center, 1445 Gortner Ave., St. Paul, MN 55108.

Minnesota Plant Press

The Minnesota Plant Press is the quarterly newsletter of the Minnesota Native Plant Society. Articles are welcomed. Write the editor, Gerry Drewry, at 24090 Northfield Blvd., Hampton, MN 55031; phone her at 651-463-8006; or send an e-mail to: gdrewry@infi.net.

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Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following:

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation and ecosystems.
6. Preservation of special plants, plant communities and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops and field trips.

Minnesota Native Plant Society Membership Directory

October, 2001

This directory is for members' use only. The society will not sell the list or give it to libraries or other organizations.

The Big Blowdown in the context of the history and future of the BWCAW forest

by *Lee E. Frelich*
(Abstract of talk at May 3, 2001
MNPS meeting)

The big blow-down of July 4, 1999, was superimposed on a forested landscape mosaic created by a combination of fire and logging.

In presettlement times (1600-1900), the Boundary Waters Canoe Area Wilderness forest had two major natural disturbance regimes. First were stands of even-aged jack pine forest, sometimes mixed with black spruce and aspen, that originated after major severe crown fires. These fires were similar in intensity to the Yellowstone fires of 1988, with 50- to 100-foot flame lengths and sizes from 100,000 to 400,000 acres. Jack pine and black spruce are adapted for massive reproduction after such fires, which occurred with an average interval of 50 years at a given point on the ground. Occasionally, two fires would burn an area within 10 years, and the conifers would not be old enough to bear seeds. In this case, aspen, with its long-distance seed dispersal, would invade after the second fire.

The second disturbance regime consisted of surface fire at 20- to 50-year intervals in white and red pine forests concentrated on islands, peninsulas, and areas with large lakes that broke the flow of major crown fires across the landscape. The surface fires killed few of the big pines and allowed them to reproduce by eliminating competition from shade-tolerant

conifers such as fir that invade and replace pines in the absence of fire. A few very small areas virtually never burned, and these little pockets along rocky lakeshores contained the ancient white cedars that can live 1000 years or more.

Between 1890 and 1970, about half of the BWCAW was logged. Virtually all of the logged areas have been reforested with aspen and paper birch. The portion of the forest that was not logged was also affected by humans through the fire exclusion, by fragmenting the flow of fire across the landscape surrounding the wilderness, and direct fire suppression. This allowed fir and spruce to begin replacing the pines.

The big blow-down is about evenly split between second-growth aspen forest and primary forest still dominated by jack, red and white pines. In both areas the initial impact of the blow-down has been to accelerate succession, by removing the upper canopy of fire-dependent pines, or the post-logging aspen, and releasing shade-tolerant conifer seedlings and saplings of balsam fir, spruce, and cedar. Fires, either prescribed or wild, are sure to occur in much of the blow-down. Wild fires would be very intense and likely consume the seeds of the pines and other conifers, which are now on the ground, and regenerate the forest to aspen and birch. Prescribed fires will be moderately intense, but will still convert most of the burned areas to aspen. With the mitigation procedures that the Forest Service

has agreed to, prescribed fires should allow some of the groves of pines and ancient cedars that did not blow down—principally confined to lakeshore areas—to survive. This will save the seed source and potential for future recovery of the forest.

The overall pattern of succession in the BWCAW over the last hundred years has been replacement of pines by aspen after logging and by spruce and fir due to fire exclusion. In the blow-down, these two conversions will continue, because fires will convert more pine forests to aspen, and those parts of the blow-down that do not burn will succeed rapidly to spruce and fir.

Prairie research grants are offered

Prairie Biotic Research, Inc. is a new, nonprofit organization whose purpose is to foster basic biotic research in prairies. One way they do this is through a small grants program. They are especially interested in supporting independent researchers — individuals lacking institutional support — but anyone may apply. Projects may be underway, being planned, or the results being prepared for publication. “Our expectation is that (recipients) will publish (their) findings and/or present them to people who share our interest at a prairie conference or similar forum,” said Andrew Williams. “We’ll consider prairie projects from anywhere in the USA, dealing with any taxa.”

Two \$1,000 grants will be awarded in 2002. The deadline for receipt of applications is Jan. 15. To request an application form, e-mail: prairiebioticresearch@hotmail.com, or write to Prairie Biotic Research, Inc., P.O. Box 5424, Madison, WI 53705.

Michael P. Anderson, Rebecca A. Christoffel, Andrew H. Williams and Daniel K. Young are listed as organizers of Prairie Biotic Research, Inc.

Ruth Phipps is honored

Ruth Phipps, a long-time member of the MNPS, was honored at the October meeting. Ruth joined at the second meeting and served as treasurer for at least eight years. After that, she prepared name tags for meetings, and helped with symposiums and at meetings.

MNPS receives grant to inform anglers of earthworm damage

by *Ethan Perry*

Current research at the Natural Resources Research Institute (NRRI) in Duluth has revealed that European species of earthworms are invading some Minnesota hardwood forests, decimating the diversity of wildflowers. New earthworm populations are established when people transport them, usually by dumping unused fish bait.

The Minnesota Native Plant Society has received a grant from the Minnesota Department of Natural Resources’ Environmental Partnership Program to slow the spread of this threat to native plant communities. The project aims to slow the invasion by informing people, particularly anglers, of the problem and promoting efforts to prevent new infestations. We will be producing printed materials (e.g., posters) for educational events and to reach an audience that extends beyond our membership.

Proposed Spirit Mountain golf course is a concern

The MNPS Conservation Committee alerts members to a controversial Spirit Mountain golf course proposal.

Spirit Mountain, a sacred Anishinabe site, contains a trout stream and one of the largest remaining tracts of old growth northern hardwood forest in Duluth.

The Duluth City Council is considering a development plan that would replace a large portion of the forest with a golf course. The Minnesota DNR has not reviewed the proposal.

According to the Isaac Walton League, DNR field people have raised concerns about the future of the trout stream and forest if the golf course is built. The league wants the DNR field analysis to be the basis for any environmental review instead of the developer’s environmental assessment worksheet.

Links to additional information are available on the MNPS website, www.stolaf.edu/depts./biology/mnps.

Anyone interested in helping with this project (including artists and designers) is asked to contact Ethan Perry at etperry@hotmail.com. We’re gearing up to begin the work this winter.

For more information on the damage that non-native earthworms are causing, visit NRRI’s website: <http://www.nrri.umn.edu/worms>

What field trips would members prefer?

Jason Husveth, chair of the field trip committee, will distribute a questionnaire at the December meeting to determine what types of field trips members would prefer.

The questionnaire will list potential trips throughout Minnesota. Some would require an overnight stay. Suggested sites include Scientific and Natural Areas, state parks, the University of Minnesota Herbarium and the Como Conservatory. Members interested in leading field trips or with ideas for trips should contact Jason. (See page 2 for phone number and addresses.)

Plant Lore

by Thor Kommedahl

What is wild licorice?

Wild licorice is a shrubby perennial in the legume family and is called *Glycyrrhiza lepidota*.

How did it get its name?

Glycyrrhiza means sweet root in Greek, and *lepidota* means scaly, referring to minute brown scales (glands) on young leaflets. It is called wild licorice because its close relative *G. glabra*, which grows in Europe, is the commercial source of licorice in the confectionary industry.

Where does wild licorice grow?

Wild licorice is most abundant on prairies and meadows in most counties of the western half of Minnesota, and in locations from Ontario to Texas.

What is the plant like?

It is a woody plant with compound leaves of 15-19 leaflets each that are dotted with glands. Its white flowers lead to oblong fruits covered with curved prickles. This shrub can be up to three feet tall.

What was licorice used for?

Sioux Indians were said to chew fresh roots to treat toothache. Lewis and Clark reported they roasted roots in the embers, separated the ligament in the root center, and chewed the rest, commenting that it tasted like sweet potato. It is a laxative and is estrogenic. Its derivatives have been used to reduce or cure ulcers.

Does wild licorice have any commercial use today?

Not in official medicine. The mucilage content of wild licorice makes it useful as a soothing cough remedy, but it is not used commercially. Wild licorice can raise blood pressure if ingested.

Whither goes the Minnesota Native Plant Society?

by Joel Dunnette, MNPS president

MNPS has many good purposes for existing. In the next few months I would like to discuss with you some of these purposes. Each of us can do only so much, so we are each likely to have particular interest in a few of these topics. Even all together, we will likely need to focus more on some aspects than on others.

Public interest in native plants is increasing. You can see it in various organizations springing up around the area. Some recent examples are Great River Greening, Prairie Enthusiasts, and the Wild Ones. Other organizations such as TNC and MN DNR and MN Audubon, with interests in native plants, have existed for longer. Each group has its own particular focus and area of overlap with MNPS. And sometimes, differences with MNPS.

My question today is "How should MNPS interact with these groups to further our interests as well as cooperate to further our shared interests?" One approach could be to essentially go our own way and try ourselves to cover all the purposes stated in the box on page two of this newsletter. I suspect this would be the easiest approach, but probably not the most effective in conserving native plants.

The approach I advocate is to work with each group that shares interests with us, to find where we can share our enthusiasm, knowledge and actions to greater effect than the sum of the individual groups. This will take effort. Cooperation takes energy and patience and often compromise. But the end effect

should be better for native plants. And that is our main goal.

So, what should we be doing? That depends on the interest and energy and abilities of our members. We have no paid staff — only volunteers. And we don't have piles of money. So what we do and what we accomplish depends on me and you. What do you want to see done? And what are you willing to do? There is a world of opportunities and growing public interest.

For myself, I will be leading meetings of MNPS, advising local groups and individuals on establishing and maintaining areas of native plants, giving a few programs on planting prairie, controlling invasive species on local areas, and planting some more areas of my own. A total of a few dozens of hours per year.

My efforts are not much in the big picture. But taken together with yours, I think we can really make a difference for native plants, and share our enjoyment in the accomplishments.

Climate changes threaten partridge pea

(From the University of Minnesota E-News, Oct. 11, 2001)

The partridge pea (*Chamaecrista fasciculata*) could face severe reduction in numbers if climate conditions in the Midwest change to the extremes predicted for the next 25 to 35 years, according to a study published in the Oct. 5 issue of the journal *Science*. The study's principal investigator, Julie R. Etterson, a former doctoral student at the University of Minnesota who conducted the study, is now a postdoctoral research associate in biology at the University of Virginia.

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