



Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 23 Number 2

Winter 2004

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 site for more program information.

Feb. 5: “Native Plants of Papua, New Guinea,” by George Weiblen, University of Minnesota; **Plant-of-the-month:** Cardinal flower, by Evelyn Moyle.

Mar. 4: “Minnesota’s Scientific and Natural Areas Program,” by Bob Djupstrum, DNR.

April 1: “Genetic Diversity of Native Plants in Minnesota,” by Kristine Moncada; **Plants-of-the-Month:** Bloodroot and Twinleaf, by Shirley Mah Kooyman.

May 6: “Recent Research on Little Bluestem (*Andropogon scoparius*);” **Plant-of-the-Month:** Little Bluestem, both by Mary Meyer.

June 3: “Native Ferns,” by Tom Bittinger; **Annual Plant Sale.**

MNPS Web site

<http://www.stolaf.edu/depts/biology/mnps>
e-mail: MNPS@HotPOP.com

MNPS Listserve

Send a message that includes the word “subscribe” or “unsubscribe” and your name in the body of the message to:
mn-natpl-request@stolaf.edu

Scientific and Natural Areas need support

From the MNPS Board of Directors

Is it becoming harder to find places to photograph your favorite wildflower? Do you enjoy seeing wildflowers in their natural settings? Are other recreational uses destroying your favorite place? Is it becoming more difficult to find good locations for bird watching? If you answered yes to any of these questions, then you may want to take some action.

This year marks the 30th anniversary of the establishment of the first state natural area in Minnesota. The Department of Natural Resources Scientific and Natural Areas (SNA) Program administers state natural areas. These areas include lands for rare and endangered species, outstanding native plant communities, and state significant geological features.

SNAs are the places that Minnesota Native Plant Society members go to photograph elusive orchids, old-growth forests and other unique features. They are the places where we can go to reconnect with nature without being disturbed by ATVs or other recreational vehicles. They protect some of the most sensitive and unique lands in the state, the only public places where many rare plants are found.

Land protection and management of SNAs takes money — public funding — to buy and protect the unique land acquired. This year the Minnesota Legislature will be appropriating money for highways and universities, and purchasing lands for parks and hunting as well as for SNAs. The DNR is only requesting \$500,000 to purchase and develop land for natural areas, yet it is requesting tens of millions to buy other land for intensive recreational use.

2004 is a bonding year, so if you want the most critical lands in the state protected as state natural areas, now is the time to contact your state legislator, preferably by letter. The Legislature reconvenes Feb. 2. Let your representative and state senator know that you use SNAs for photography or as places to view rare and endangered species. Or even if you don’t visit them, tell your legislators that you want these

Continued on page 3

Where did the extra plants go after the June plant sale?

by Dianne Plunkett Latham

The MNPS 2003 June plant sale helped Edina parks as well as our treasury. The sale set a society record. These are the totals for the last five years:

1999 - \$593.35
2000 - \$424.00
2001 - \$360.50
2002 - \$454.75
2003 - \$834.00

I hope that members will bring even more plants next year. I took the 17 flats of extra plants for Edina City Parks and am deeply grateful to the MNPS for them. Last fall we cleared buckthorn from a small portion (about four acres total) in three of our Edina parks. Garlic mustard, burdock and poison ivy lurked on the outskirts of these parks, and not much was left on the forest floor. If not replanted with native plants, cleared areas can become overrun with noxious weeds.

It mattered not that there were large quantities of some plants left over. The two flats of Jack-in-the-pulpits and the two flats of columbines were

better than burdock any day. The seven flats of prairie plants went to Braemar Park. The 10 flats of woodland plants went to Rosland Park. The Edina city horticulturalist was thrilled.

Volunteers from my Kelodale garden club, the League of Women Voters of Edina, plus other concerned residents, planted all 17 flats within a week of receipt. Many children participated, and it was a great way for them to learn about gardening. It was an unexpected windfall that will enable us to show the public what a park should look like — wildflowers instead of noxious weeds.

I took the non-native plants to Vera's community garden on the Minneapolis greenway, where I am also a volunteer. I took the houseplants to a houseplant club, which had a sale at the end of June. All of these organizations thank MNPS for all the wonderful extra plants. I would like to see MNPS continue to support restoration projects by donating their extra plants and seeds from their sales to such projects each year.

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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.

SNAs need help

Continued from page 1

critical places protected for present and future generations. Tell them that you want to see \$10 million appropriated to accelerate the acquisition of new SNAs now, before the land is lost to development. A few years from now, the same land may be even more expensive, because demand for land is growing as our population grows.

If you have questions, call Linda Huhn at 612-374-1435. To find out who your legislator is, go to the state Web site: www.leg.state.mn.us/leg/Districtfinder.asp

Botany Web sites are photo resources

by Dave Crawford

Several botany Web sites contain good photos of native plants of the northeastern United States. The sites include the following.

The Web site for the Connecticut Botanical Society has many very good photos of northeastern U.S. plants: <http://www.ct-botanical-society.org/galleries/galleryindex.html>

The University of Wisconsin has a great botany photo Web site: <http://botit.botany.wisc> This is an address change from the old Virtual Foliage web site.

In Minnesota's own Sherburne County, the Sherburne National Wildlife Refuge Web site has a plant list page with links to photos of many of the plants: <http://midwest.fws.gov/Sherburne/Plant.HTM>

Do you know of other such sites? Send your recommendations to Dave Crawford at grownativeplants@hotmail.com



Minnesota's state flower, the showy lady's-slipper (*Cypripedium reginae*) grows in some of the state's Scientific and Natural Areas. It is the largest and most beautiful northern orchid. The long-lived plants take about 15 years from seed germination to flowering. *Photo by Jason Husveth.*

Scott Milburn replaces Dan Mielke on board of directors

Scott Milburn was appointed to the MNPS Board of Directors at the board's Dec. 4 meeting. He replaces Dan Mielke, who resigned because his new position is demanding all of his active time. Dan plans to continue, on a more limited basis, his restoration efforts and will continue to search for and identify wildflowers on his land and his uncle's land. He has led several field trips on this land.

Scott is from Arlington Heights, Ill. He holds degrees from Iowa State University (B.S. in Botany) and from the University of Mississippi (M.S. in Biological Sciences). His graduate work focused on evaluating the effects of wintertime flooding on agricultural soils in the Mississippi Delta. "More specifically, the research examined the existing nitrogen budget in the soil and how wintertime flooding affected the total nitrogen budget," he said. His graduate work is included in a recent collaborative effort entitled *Achieving Sustainable Freshwater Systems*, published by Island Press.

"Towards the end of graduate school, I decided that my true interest was not wetland biogeochemistry, but rather plants," Milburn said. "From that point on, I have been focusing much of my time and effort towards the subject of botany, or more specifically, sedges. I started my professional career in Chicago for Hey and Associates, where I was able to learn the flora of the region. I spent about a year and a half working there and decided to move to Minnesota in pursuit of more botanical diversity." Milburn now works with Jason Husveth at Critical Connections Ecological Services.

Old-growth forests are a source of biological materials for restoration

by Lee E. Frelich, University of Minnesota Department of Forest Resources. He presented this information to The Minnesota Native Plant Society on Nov. 6, 2003.

Old-growth remnants are a treasure trove of unique biological resources. Many tree populations that have adapted to unusual site conditions exist and would be good sources for new horticultural varieties of trees that could withstand city conditions.

Examples include paper birch growing on rocky south slopes near the southern edge of its range, and sugar maples growing on rock or on flood plains. There are also numerous examples in Minnesota of trees in old growth that can do things not generally known or expected of a species, such as black ash four feet in diameter, red maple, five feet, cottonwood seven feet in diameter, and so-called short-lived species like jack pine and cottonwood living to age 150-200.

Some of these features occur in the metro area in remnants such as Wood-Rill, Wolsfeld Woods, and Riley Creek Conservation Area. They also occur right on city streets. American elms, for example, were obtained from natural seed sources 100 years ago. Now the natural populations have been through several generations without living a full life span, due to infection by Dutch elm disease by age 30. But those older elms in the city have been protected from elm disease and still represent the original genetic structure of native elm populations.

Ancient populations also exist in the city in the same locations that they have been for thousands of

years. The inner city of Minneapolis, for example, has many bur oaks that were present before the city existed. Since the area was oak savanna for several thousand years, these are remnants of ancient populations that are adapted to local climate and soils. Even if the individual trees are not ancient, the populations often are.

There is also much to be gained from old growth that could be useful for management and restoration of commercial forests. High-grading is the practice of taking the best trees (tallest trees of best growth form), and leaving poor individuals as well as less desirable species to regenerate the next forest. High-grading has been and still is a common harvesting practice, and it will eventually lead to degradation of the quality and volume of timber produced. Old-growth remnants contain trees that have only undergone natural selection via natural disturbance and competition with other trees.

Two of the most important scientific values of old-growth forests are as a control for the commercial forest landscape and for lessons we can learn from them, such as resilience after disturbance. Silviculture, the science of growing trees, is a long-term experiment that will last thousands of years. Like all experiments, controls are necessary. Forest ecosystems did not evolve to produce commercial crops, and we do not and will not know for some time how much harvesting is ultimately sustainable. Old-growth remnants that experience only natural disturbance can be used for periodic comparison with second growth to make sure that slow decline in productivity, too slow to

be noticed by one generation of foresters, does not occur.

Resilience to rather severe natural disturbances is a very special feature of old-growth forests. Near-boreal forests of jack pine and black spruce on the Canadian Shield bedrock in northern Minnesota can burn right down to the bedrock and bounce back to dense forest within a few years, but often become brushy after harvest. Someday we may learn how this resilience works, and be able to use that knowledge to better manage commercial forests.

Preservation of old-growth forests can be fully justified based on the scientific values just discussed. Spiritual and esthetic values, and the fact the people want them, only add to the reasons for preserving them. We should not forget how important it is to allow old-growth forests to experience and recover from natural disturbances, since it seems that this process is probably the most important aspect of old growth, and it is what shaped the ancient populations of trees over thousands of years. Certainly, it is more important than the age and size of the trees at a given moment in time.

Abatement events posted

The schedule for noxious weed abatement events is posted on the MNPS Web site. Last year 36 abatement and six educational events were posted. We need information on 2004 events. If your organization has scheduled a time to remove buckthorn, garlic mustard, Siberian elm, mulberry, honeysuckle, or other invasives, send the information to Dianne Plunkett Latham at plunkettdi@mn.rr.com.

Garlic mustard management plan developed

A management program for attacking garlic mustard has been developed by Driftless Land Stewardship, a restoration firm in southwestern Wisconsin. The firm says that their protocol, which integrates multiple control strategies, is very effective. Using it, they have taken massive garlic mustard infestations to “manageable levels” in two years. Their comprehensive approach uses a combination of prescribed burning, weed torching, hand-pulling and herbicide application, coupled with intensive survey and documentation.

The DLS method of garlic mustard control is described below and on the company’s Web page — <http://driftlesslandstewardship.com/id30.htm>

In fall, winter or spring, while most natives are dormant, garlic mustard should be foliar-sprayed with Roundup (or, if green natives such as sedges are present, Garlon4/water). Always use label recommendations; a higher percentage of herbicide is not better and is often less effective. The herbicide can be applied to garlic mustard as long as the ambient temperature is above freezing.

If the garlic mustard infestation is in a fire-dependent natural community (are oaks present?), broadcast-burn the garlic mustard-infested areas in late spring when the cotyledonous-stage plants are present. This step kills many first-year plants as well as removes leaf litter that prolongs germination and frustrates the control process.

Before garlic mustard sets seed, all second-year plants should be pulled to prevent seed production. Follow

March 27 symposium is on savannas, woodlands

by Karen Schik

The annual symposium is the flagship event of the Minnesota Native Plant Society. It is always a topical subject that draws a crowd, and this year is no exception. The title of the 2004 symposium is: *Our Historic Landscape: the ecology of savanna and woodland in the metropolitan area*. It will be held on Saturday, March 27, from 8 a.m. to 4 p.m. at the Bunker Hills Activity Center, Bunker Hills Regional Park, Coon Rapids. The building is surrounded by native prairie and savanna restorations.

The board discussed a number of good options for the topic of this year’s symposium. This one was selected because there is currently a lot of activity in the plant communities, as well as a lot of local expertise on the subject. Most members live in the metro, which was historically dominated by these communities (and prairie). We are, however, very cognizant of the fact that there are many outstate members in the society, and we would like to encourage more members throughout the state.

hand-pulling by burning off all of the garlic mustard seedlings with a hand-held propane weed torch. (DLS does not burn in the fall, because the roots remain viable and resprout in the spring. Top-killed plants cannot be sprayed in the winter. Therefore, fall burning increases the amount of hand-pulling that is necessary.)

This cycle needs to be repeated until garlic mustard is eradicated. The seed can remain viable in soil for five to seven years. All non-infested areas should be monitored to prevent further infestation.

The long-term plan of the board is to have future symposia focus on different plant communities and regions of the state over the next several years. We welcome your suggestions.

A brochure on this year’s symposium will be mailed in February. The following presentations have been scheduled.

- Geologic overview
- Plant communities
- Rare plants
- Plant-insect interactions
- Ethnobotany
- Mammals, birds, amphibians, and reptiles
- Degrading factors
- Case studies in restoration

Symposium committee members are Karen Schik, chair, Shirley Mah Kooyman, and Jason Husveth.

MNPS display is a winner

by Dianne Plunkett Latham

I recently became aware that educational displays can be entered at flower shows when a member of my garden club asked me to enter my buckthorn display at the July Tri-City Flower show (Edina, Richfield, Bloomington). It was awarded second place. Since so many people picked up the buckthorn literature, I decided to create a new buckthorn display and enter it in the State Fair Flower Show. There it got an honorable mention, and more than 100 people picked up the literature.

At the Sept. 13 Arboretum Flower Show, I entered the buckthorn display (second place), my all-new invasive plant display (third place) and the MNPS display.

MNPS got first place and the Educational Award (a big maroon ribbon)! Congratulations to all those who had a hand in designing the MNPS display. It is truly a winner!

Wild rice is valuable food and a culturally significant resource

Darren Vogt, environmental biologist for the 1854 Authority, discussed the “Biology, Traditional Harvest, and Cultural Significance of Minnesota Wild Rice” at the Dec. 4, 2003, MNPS meeting. The following article includes information from Vogt’s abstract and from the “Wild Rice Resource Guide” published by the 1854 Authority.

The 1854 Authority is an inter-tribal natural resource management agency governed by the Bois Forte Band and Grand Portage Band of Lake Superior Chippewa. The organization is charged to preserve and protect the treaty rights and natural resources in the 1854 Ceded Territory of northeastern Minnesota.

Wild rice, known as manoomin in the Ojibway language, has been a valuable food source and a culturally significant resource for Native Americans for centuries. The 1854 Authority developed the *Wild Rice Resource Guide* in an effort to outline potential water bodies where wild rice may be harvested within the 1854 Ceded Territory. The booklet also includes information about wild rice biology, harvest regulations, and traditional harvesting and finishing.

Several varieties of wild rice have been identified. The wild rice found in northeastern Minnesota can be classified as *Zizania palustris*, but is sometimes misnamed as *Zizania aquatica*. Wild rice is not related to white rice (*Oryza sativa*).

Wild rice is an annual plant that grows best in shallow lakes and rivers. It begins growing soon after ice-out, reaching the water surface in June. During this time, the plants lie

flat on the water surface and can form vast leafy mats. During July, the rice grows vertically and eventually stands out of the water up to six to eight feet. Separate male and female spikelets are located on a terminal flowering panicle. Cross-pollination occurs naturally in rice beds, usually in late July. Rice kernels begin to fill with a milky substance in late July to early August, later hardening to become seeds.

Wild rice ripens in late August or early September, and it is during this time that harvesting is done. A state license or 1854 Authority identification card (for Bois Forte or Grand Portage band members) is required. Two people in a canoe typically cooperate to harvest wild rice. One person guides the canoe while the other uses knockers (short pieces of wood) to harvest the rice. Because the kernels ripen at different times, the same wild rice bed can be harvested several times in a year.

Finishing of wild rice prepares it for cooking or storage and traditionally includes drying, parching, hulling, and winnowing. Much of the wild rice for sale in stores is actually “paddy” rice, a hybrid that is cultivated in artificially created fields and mechanically harvested.

If wild rice is not harvested, the ripe seeds will eventually fall into the water and sink into the sediment at the bottom of the lake or river. With favorable conditions, seeds will grow into wild rice plants beginning the next spring. However, wild rice seed also has the ability to remain dormant until favorable conditions are encountered. This dormancy can last

for years if the seed remains in the water. Wild rice is susceptible to high water levels, human disturbances, and competing vegetation such as bur reed, water lilies, bulrushes, and pickerel weed.

If you are interested in purchasing native-harvested rice, be sure to read package labeling to verify authenticity, and make inquiries of your grocer. You may also want to look for native-harvested rice at food co-ops. In the Twin Cities area, try Lakewinds Natural Foods, Linden Hills Co-op, Mississippi Market, River Market Community Co-op, Seward Co-op Grocery & Deli, Valley Natural Foods, and Wedge Co-op. It is also available at St. Peter Food Co-op in St. Peter and may be available at other co-ops in the state.

For additional information, contact the 1854 Authority at 4428 Haines Rd., Duluth, MN 55811; 218-722-8907; www.1854authority.org

The buckthorn-Asian lady beetle connection

Buckthorn played a role in the Asian lady beetle infestation last fall, according to Bruce Potter, a University of Minnesota biologist.

Buckthorn is the primary host of soybean aphids, which are eaten by the Asian lady beetles. In the fall, the aphids lay eggs at the base of buckthorn buds. The eggs hatch in the spring, producing asexual females that reproduce asexually on buckthorn and then move to soybeans, their alternate host. Some winged aphids travel long distances. “Eggs on buckthorn are believed to be the only way soybean aphids can overwinter here,” Potter said.

Board member nominees to be announced Feb.5

by Linda Huhn

At the Feb. 5 Minnesota Native Plant Society membership meeting, the society's Board of Directors, as required in the bylaws, will introduce three candidates it deems qualified to fill the three board member positions that expire in 2004. Additional nominations may be made by members.

Each year three of the nine board members, who serve staggered three-year terms, are either up for re-election or step down. Board members whose terms expire in 2004 are President Jason Husveth, Vice President Linda Huhn and Secretary (and Former President, 2000-02) Joel Dunnette.

Is your town a 'Native Plant Community?'

by Joel Dunnette

How can we raise awareness of native plants? You've seen signs promoting towns as "Tree City USA." Why not extend that idea to native plants? The Prairie Smoke Chapter of The Prairie Enthusiasts, Minnesota Department of Natural Resources and MNPS are beginning discussions of a plan to do just that.

A town would get a sign recognizing it as a "Native Plant Community" if they have an area of native plants and encourage use of native plants. Details remain to be worked out. You can help make this happen. Contact Joel Dunnette at Dunnette.joel@mayo.edu

Booth was in school fair

Between 700 and 1,000 people attended the Volunteer Fair at Edina High School Oct. 28. MNPS was one of 55 participating organizations. Diane Plunkett Latham and Linda Huhn set up and staffed the booth.

All candidates for the board must have been active society members for more than one year. Any interested member in good standing who meets this qualification may also become a candidate.

At press time, the Nominations Committee, chaired by Vice President Linda Huhn, is selecting a slate of three nominees to propose to the board for its approval as candidates. Any members who would like to nominate themselves or other members should call or e-mail Linda Huhn at 612-374-1435, or lindahuhnphoto@aol.com

At the March 4 annual meeting, secret ballots will be cast by members present. Three directors will be elected by a simple majority of all candidates. These will include the board-approved slate of three candidates, any other announced candidates, and nominations from the floor.

An identified absentee ballot may be cast by mail if obtained from Secretary Joel Dunnette and returned to him before the election. (Contact Joel: dunnette.joel@mayo.edu). Voting by proxy is not permitted under the society's bylaws.

Election results will be announced immediately and will also be published in the spring *Minnesota Plant Press*. New board members will begin their three-year terms of office in June 2004.

The board hopes all members interested in serving the society (which, like most volunteer organization is run by just a few volunteers) will step forward and run for office. We need your skills, your ideas, and your dedication. Call or e-mail Linda at the above numbers.

Plant Lore

by Thor Kommedahl

What is prickly pear cactus?

Prickly pear cactus is a species of *Opuntia*. Species native to Minnesota are *O. fragilis* and *O. macrorhiza*, but *O. humifusa* has also been reported. These species are in the cactus family.

What do these names mean?

Opuntia is a Greek city, and this name was used for succulent plants by Tournafort. Others say it was a name given by Pliny for a plant described by Theophrastus; however, neither of them could have been describing this plant for it was not present in Europe until the discovery of the New World. *Fragilis* means fragile, *macrorhiza* means large root, and *humifusa* means sprawling. The "pear" refers to the fruit.

Where do these plants grow?

Opuntia species are native to North and South America. In Minnesota they are found along the Minnesota River and in the southwest part of the state, on rocks, sand dunes and prairies, and along shores.

What do the plants look like?

Minnesota species are prostrate and spreading and form large mats. The stems (sometimes called pads) are flat and spined. Flowers are yellow, often with a red or reddish center, and produce a juicy berry. They bloom in early summer.

Does the prickly pear have any uses?

Most of the uses are attributed to *O. humifusa*. Pads are roasted, peeled, sliced, and eaten. Seeds are roasted and ground as a meal for soup thickeners. The Pawnee and Dakota Indians used the pads for sizing to fix colors on hides or receptacles made from hides. They also ate fruits fresh or dried. American Indians also applied fruit juice to warts and drank pad tea for lung ailments. An Israeli research group used flowers to reduce urgency to urinate for those with benign prostatic hyperplasia.

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