



# Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 25 Number 2

Winter 2006

## Monthly meetings

Minnesota Valley National Wildlife Refuge  
Visitor Center, 3815 American Blvd. East  
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  
9:00 p.m. — Building closes

## Programs

The MN NPS meets the first Thursday in October, November, December, February, March, April, May, and June. Check the Web site for more program information.

**Feb. 2: “Jaws: Carnivorous plants native to Minnesota,”** by Jason Husveth, Critical Connections Ecological Services. **Plant of the Month** to be announced.

**March 2: “A Match Made in Humus? The connection between bolete mushrooms and the roots of trees in Minnesota,”** by Bryn Dentinger, graduate student, University of Minnesota. **Plant of the Month. Annual meeting,** election of three board members.

**April 6: “Site and Restoration History of the Twin City Army Ammunition Plant,”** by Wade Hammer, wetland ecologist with Svoboda Ecological Resources.

**April 22: Symposium,** St. Olaf College.

## MN NPS Web site

[www.mnps.org](http://www.mnps.org)

**e-mail:** [contact@mnps.org](mailto:contact@mnps.org)

## MN NPS 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](mailto:mn-natpl-request@stolaf.edu)

## Scientific and Natural Area Spotlight

# Pine Bend Bluffs

By Karen Schik

As the Mississippi River flows toward the Gulf of Mexico, it makes a sharp bend to the east some eight miles downstream from the City of Saint Paul. This unique area, named Pine Bend Bluffs by early white settlers for the many white pines that grew in this area, remains a natural jewel nestled along the river in a rapidly developing portion of Dakota County. In the Twin Cities Metropolitan Area, a place of explosive development and urban expansion that continually eats away at the few remaining natural areas, it may seem surprising that large tracts of high quality natural areas still exist. A few such gems do remain, and there are several organizations that work together to obtain permanent protection for them.

Pine Bend Scientific and Natural Area was officially dedicated in May 2004. It was the result of many years of work and collaborative effort between Friends of the Mississippi River (FMR), the Trust for Public Land (TPL), and the Department of Natural Resources (DNR). The existing SNA was owned by several different private parties, so the fact that it all came together as one piece of land was extremely fortunate.

Tens of thousands of years ago, when the last of the glaciers were receding, the meltwater formed the Glacial River Warren, which carved the current river valley. The vestiges of this mighty river, the Mississippi, meandered uninterrupted through islands and channels on its way to the Gulf. In the 1930s, with the construction of a series of locks and dams, the nature of the river was changed — and with it the valley landscape was dramatically altered. However, the steep, wooded Pine Bend Bluffs have remained largely in their natural state.

Today these 200-foot bluffs, dissected by numerous ravines, are home to many native plant and animal communities. The steep, south-facing slopes, with their gravelly soils, are hot and dry and contain prairie remnants, dry oak forest, and oak woodland. The cooler, moister north-facing slopes contain mesic oak forest and white

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# Treasurer's report for 2005

<b>Assets</b>	<b>Dec. 31, 2005</b>	<b>Cash flow Jan. 1 - Dec. 31</b>
Checking	\$14,900.44	<b>Income</b>
Flora ID CDs	0.00	Insurance refund
Refuge project	38.92	4.00
Think Native	441.07	Book sales
<b>Total checking</b>	<b>15,380.43</b>	146.55
CD #10061266	1,063.40	Flora ID CDs
CD #95851478454	1,000.00	2,292.00
Cash on hand	55.00	Donations
<b>Total assets</b>	<b>\$17,498.83</b>	692.00
		Interest on checking
		14.51
		Membership dues
		3,470.00
		Symposium
		5,992.00
		Plant sale
		871.50
		Other
		70.00
		<b>Total income</b>
		<b>\$13,552.56</b>

## Prairie Smoke to be Conference host

Prairie Smoke will host the 2006 conference/banquet of The Prairie Enthusiasts (TPE) March 11 at Eagle Bluff Environmental Learning Center in the southeastern Minnesota bluff country near Lanesboro. Their target audience includes TPE members, landowners, and all persons interested in practical management and preservation of native prairies.

Overnight lodging will be available in Eagle Bluff dorms Friday and Saturday nights. For more information, or to be considered as a speaker or exhibitor, contact Andrea Mueller at [andreaHillTopArts@msn.com](mailto:andreaHillTopArts@msn.com)

<b>Expenses</b>	
Renew CD	\$1,000.00
Insurance	436.00
Printing	1,123.64
Postage	920.10
Sales tax	144.00
Supplies	64.33
Symposium	2,512.97
Think Native	200.00
Refuge project	565.52
Flora ID CDs	1,725.00
Boundary Waters Fndtn.	50.00
Web site	512.65
Honoraria	50.00
<b>Total expenses</b>	<b>\$9,304.21</b>
<b>Net income</b>	<b>\$4,248.35</b>

# MN NPS Board of Directors

**President: Jason Husveth**, 14758 Ostlund Tr. N, Marine on St. Croix, MN 55047; 651-247-0474; [president@mnnps.org](mailto:president@mnnps.org)

**Vice-President: Scott Milburn**, [vp@mnnps.org](mailto:vp@mnnps.org)

**Secretary: Karen Schik**, [secretary@mnnps.org](mailto:secretary@mnnps.org)

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**Mary G. Brown**, board member, [mbrown@mnnps.org](mailto:mbrown@mnnps.org)

**Daniel Jones**, board member, [djones@mnnps.org](mailto:djones@mnnps.org)

**Shirley Mah Kooyman**, board member, [skooyman@mnnps.org](mailto:skooyman@mnnps.org)

**Sandy McCartney**, board member, [smccartney@mnnps.org](mailto:smccartney@mnnps.org)

**Program Coordinator: Linda Huhn**, 612-374-1435

**Listserv Coordinator: Charles Umbanhowar**, [ceumb@stolaf.edu](mailto:ceumb@stolaf.edu)

**Field Trips:** [fieldtrips@mnnps.org](mailto:fieldtrips@mnnps.org)

**Memberships:** [memberships@mnnps.org](mailto:memberships@mnnps.org); 651-739-4323

**Historian/Archives:** [president@mnnps.org](mailto:president@mnnps.org)

**Technical or membership inquiries:** [contact@mnnps.org](mailto:contact@mnnps.org)

**Minnesota Plant Press editor:** **Gerry Drewry**, phone, 651-463-8006; [plantpress@mnnps.org](mailto:plantpress@mnnps.org)

## Society has new mailing address

The MN NPS has changed its mailing address to a post office box. It will be checked at least once a week, speeding processing of membership applications and answers to your questions. The address is:

**Minnesota Native Plant Society**  
**P.O. Box 20401**  
**Bloomington, MN 55420**

## 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.

## Pine Bend SNA

### Continued from page 1

pine-hardwood forest. Along the river, are black ash seepage swamp and floodplain forest. These natural communities contain populations of seven rare plant species, of which four are listed as state-endangered.

Pine Bend was an important location for Native Americans and was one of the earliest sites of European settlement in the region. Vestiges of the town of Pine Bend are still visible south of the SNA, near the Flint Hills Resources refinery. Individual parcels at the SNA have more recent human histories. At the property owned by the Burgers, for instance, you can still see remnants of a Boy Scout cabin, built there by hand in the 1930s from logs that were floated to the site in a raft. Not far from there is the Old Military Road, which ran parallel to the river. And from the McGill property, you can find arguably the most spectacular views of the Mississippi River in the metropolitan area. (View photos at: [www.fmr.org/sna\\_addition.html](http://www.fmr.org/sna_addition.html))

One of the former property owners, the late Dwight Malcolm, not only donated his parcel to the state for permanent protection, but also provided significant funding to FMR for habitat restoration work at that parcel. In partnership with the DNR and the National Park Foundation, which also donated funds to the site, FMR has undertaken extensive exotic woody plant removal from the oak forest and has initiated a seven-acre oak savanna restoration. Over the last two years, nearly 200 volunteers have helped haul and stack large amounts of brush, collect prairie seed, and prepare the woodland for a prescribed burn.

Events planned for 2006 include brush burning on Saturday, Jan. 28, garlic mustard pulling on June 3, and seed collection in the summer and fall. For more information or to sign

up, contact Katie Galloway at Friends of the Mississippi River (651-222-2193 ext. 14, or [kgallowa@fmr.org](mailto:kgallowa@fmr.org)).

For additional information, visit:  
[www.fmr.org/pbptrns/](http://www.fmr.org/pbptrns/)  
[www.fmr.org/pr03112003.html](http://www.fmr.org/pr03112003.html)  
[www.dnr.state.mn.us/snass/sna02030/index.html](http://www.dnr.state.mn.us/snass/sna02030/index.html)

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## Group explores winter botany at Nature Center

*by Ken Arndt*

On Saturday Nov. 12, MN NPS President and Botanist Jason Husveth and Board Member and Urban Forester Ken Arndt led 16 amateur and professional plant enthusiasts on an enjoyable walk through the Maplewood Nature Center property to learn about winter botany. With a lack of snow cover and comfortable temperatures that morning, we encountered many different plants along the trails.

We began inside the nature center, where we had a brief overview of the aspects of winter botany and how to begin identifying plants by characteristics outside of the growing season. We started our plant walk at a small landscaped area dominated by native trees, shrubs and perennials. A paved trail took us around a large open-water pond, where we passed through a wooded area of green ash, silver maple, and black willow. We moved on, to a small prairie restoration area and into an upland of white and northern pin oak. Here, a buckthorn removal project has opened up the understory, welcoming back the true natives. On the north side of the pond, a large stand of pagoda dogwood was growing along the trail, just above the wetland edge with hackberry and silver maple.

Maplewood Nature Center is also a great get-away for a quick family hike through scenic woodland and wetland plant communities.

## Symposium on Driftless Area is April 22

“The Land that Glaciers Forgot: the Ecology of the Driftless Area” is the subject of this year’s symposium. It will be Saturday, April 22, from 8:30 a.m. to 4 p.m. at St. Olaf College Science Center, Northfield.

Presenters will discuss the geology of the Driftless Area and its plant communities, rare plants, and conservation issues. Speakers and their topics are posted on the MN NPS Web site, [www.mnnp.org](http://www.mnnp.org). Members will also receive a brochure in the mail. Space will be limited, so register early.

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## Two Winter Field Trips are planned

Join MN NPS members Saturday, Feb. 11, from 9:30 a.m. to noon for a tour of the University of Minnesota’s herbarium. Dr. George Weiblin, curator of flowering plants-Bell Museum, will take us through the herbarium and give us an up-close look at what it takes to maintain a herbarium at a major university. A demonstration on plant specimen mounting will be included.

On Saturday, March 11, from 9 a.m. to noon, MN NPS Board Members Ken Arndt and Scott Milburn will lead a field trip at Boot Lake Scientific and Natural Area in northern Anoka County. From the tamarack swamp through the stately white pines and into the woodlands and on to Boot Lake, we will identify woody and herbaceous plants found at this great SNA.

Go to [www.mnnp.org](http://www.mnnp.org) for information on signing up for either of these field trips, detailed directions and parking lots. Participation will be limited to 25 people for each trip. Field trips for this spring will be posted soon.

# A gorgeous view: Plant communities of the Mississippi Gorge Regional Park

by Karen Schik, *Friends of the Mississippi River*; and Carolyn Carr, *Ecological Strategies*. This is an abstract of their presentation at the Nov. 3, 2005, meeting.

The Mississippi River Gorge is an eight-mile stretch of river between St. Anthony Falls and the confluence with the Minnesota River. This steep-sided ravine is the only gorge on the entire length of the river and is a result of the only falls on the river. The story of how the falls and the gorge came to be began millions of years ago, when ancient seas covered the region. Deposits of sand and calcite exoskeletons of tiny organisms formed thick layers of sandstone beneath limestone. Long after the seas receded, the landscape was dramatically altered by glaciation. The most recent glacial period, about 10,000 years ago, carved many of the present-day stream and river valleys and exposed the bedrock layers along parts of the gorge. The geologic history can easily be viewed at the exposed cliff faces in many places along the river.

The gorge came about as a result of erosion and recession of St. Anthony Falls. About 8,000 years ago, the falls was located in downtown St. Paul. Water flowed over the limestone shelf of the falls and eroded the soft sandstone beneath it. The undercut limestone would eventually break off, causing the migration of the falls upstream and leaving behind the present-day gorge with 100-foot bluffs. Geology forms the basis for plant communities and strongly influences the other factors that shape the communities: soils, topography, aspect, climate, hydrology and disturbance regime.

While the native Minnesota plant communities have been largely altered since the time of European settlement, first by logging and more recently by invasive species, the entire corridor has been identified by the DNR as having moderate or high biodiversity significance. Mesic oak forest is the dominant community along the river, but a number of other plant communities can be found, including floodplain forest, maple basswood forest, black ash seepage swamp, and mesic prairie.

**Mesic Oak Forest** class consists of mesic forests on gravelly moraine or outwash deposits, and on slopes with thin soil over bedrock along the Mississippi River bluffs. They developed on moist to somewhat drought or fire-prone sites. Red oak, white oak, bur oak, and pin oak dominate mesic oak forests. These stands typically did not burn as much as drier oak forests and were probably always forest, rather than savanna. The trees are tall and straight, with narrow crowns. Fire-sensitive species are common, especially basswood, green ash, butternut and aspen, as well as hackberry, bitternut, walnut, elm and sugar maple. This community often succeeds to maple-basswood forest.

The shrub layer is sparser than in dry forests because the canopy is denser. The forb layer is subsequently more dense and diverse and has more grasses and sedges, as well as tree seedlings. An abundance of prickly ash and other spiny shrubs are indicators of past grazing.

**Floodplain Forests** are made up of a particularly hardy group of species, adapted to disturbances of opposite extremes, such as prolonged

flooding and drought, and severe erosion and sedimentation. One adaptation to injury that many floodplain tree species have is to send up new shoots, forming multiple trunks, a common floodplain forest feature.

Structurally, floodplain forests are not very diverse, with sparse or absent shrub layer. The ground layer is also sparse and may be absent in an active floodplain until mid-summer. Then it is composed of early-successional, opportunistic species, especially annuals. Stinging nettle is common, as well as clearweed, goldenglow, touch-me-not, honewort and bur marigold. A distinctive feature of floodplain is that there are many vine species.

**Black Ash Seepage Swamp** is a rather uncommon plant community that is most often found on level river terraces at the base of steep slopes. In the gorge, it exists below Minnehaha Falls. The community consists of wet hardwood forests on muck or peat soils in areas with continuously flowing cold groundwater. The canopy is patchy to interrupted and is dominated by black ash, sometimes with basswood and American elm, and rarely with green ash and yellow birch. Skunk cabbage is a common ground layer species, and the shrub layer is typically sparse or absent.

**Maple Basswood Forest** is found in moist, fire-protected areas such as ravines and north-facing slopes. In the gorge it can be found on the west side of the river, near 44th St.

Only about 2 percent of maple basswood forest is left in the state. Although the loss has been primarily due to farming, logging and

development, remaining areas are now threatened by invasive species.

The community is characterized by a dense, continuous canopy dominated by sugar maple and American basswood, though red and white oak, green ash, slippery elm, and paper birch are also common. The trees are tall, straight, and narrow-crowned. Because the canopy is so dense, the shrub layer is sparse, and the ground layer is diverse and abundant. Woodland wildflowers must take advantage of the bright light in spring before leaf-out to flower and set seed, so spring ephemerals are common.

**Maple-basswood** is a late-successional community that succeeds mixed oak forest and other forest types on mesic soils. It is a self-perpetuating community because seedlings of the dominant tree species are very shade-tolerant. The forest can develop into old-growth forest because catastrophic disturbance is rare and dominant species are long-lived (250 years or more).

Sugar maple plays a key role in soil formation. It is sometimes referred to as a nutrient pump, because it pulls nutrients from deep in the soil to make massive numbers of leaves. In most tree species, nutrients from the leaves are returned to the tree trunk in the fall, prior to leaf fall. In sugar maple, the nutrients are not returned to the trunk but fall with the leaves, thus returning high levels of calcium, phosphorus and magnesium to the soil and creating a very rich duff layer.

One of the most serious threats to this and other hardwood forest communities in Minnesota is the invasion of earthworms. Since earthworms did not survive glaciation, plant communities that evolved after glaciation did so in the absence of earthworms. Earthworms

were brought here by European settlers and have since spread from gardening and fishing.

Referred to as “ecosystem engineers,” earthworms seriously alter the soil structure in native forests. By consuming the duff or leaf litter, they convert the loose, rich, and spongy native soils to a hard, mineral soil with no duff, thereby removing the substrate from beneath the native woodland plants. Earthworm infestations result in bare forest floors with a very depauperate species assemblage.

It is not yet clear if forest communities can recover from the altered condition. The problem is compounded because exotic plant species such as garlic mustard and buckthorn readily invade the disturbed soils. And native woodland plants that do survive are preferentially eaten by an overly abundant deer population.

**Mesic Prairie** comprises a very small portion of the gorge, but an intensive restoration project at the “prairie bowl” at 36th St. and West River Road has been on-going for many years. Successive burning, woody removal, seeding and planting efforts are helping to restore the native composition and structure to this small remnant.

While degraded in many areas by historic land uses and exotic invasive species, the river gorge has been the target of intensive restoration activities for many years and an amazing collaboration of local residents working with many other groups. The Minneapolis Park Board, Friends of the Mississippi River, Great River Greening, the Department of Natural Resources and the National Park Service are some of the entities that have been working with neighborhood groups to restore and maintain the natural features of this local treasure.

## **Patterned peatland field trip planned for July weekend**

Jason Husveth will lead a northern Minnesota field trip Saturday, July 15, and Sunday, July 16, to a patterned peatland he surveyed last summer. The trip will be open to all MN NPS members.

The location is 12 miles southeast of Ely along Minnesota Hwy. 1, in the Superior National Forest and on state forest land. Participants will camp in a national forest campground Friday night.

This site is within a large complex of patterned peatland, rich fens, poor fens, black spruce swamps, and tamarack swamps. In addition to rare species, participants will see carnivorous plants, numerous orchids, sedges, rushes, grasses, and native wetland wildflowers. The trip will require hiking across the peatlands along a “winter access road.”

The hike will be approximately one to two miles each way on a saturated cushion of peat moss over a consolidated peat deposit and will be somewhat difficult to difficult. “The payoffs will make all of the efforts worthwhile,” Jason said. “I hiked into this complex three times last summer, and it was one of the most fascinating sites I have ever surveyed in Minnesota.”

Jason will announce the trip at the February meeting and will post details, including costs, on the society’s Web site.

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## **Minnesota grass key is on herbarium Web site**

Anita Cholewa has placed an easy-to-use grass key online at [www.umn.edu/herbarium/Grasses/grass%20text/contents%20Lpage.htm](http://www.umn.edu/herbarium/Grasses/grass%20text/contents%20Lpage.htm). She is curator of temperate plants, J. F. Bell Museum of Natural History, University of Minnesota, St. Paul.

# Nursery Law amendments affect rules for plant sales

by Dianne Plunkett Latham

*This is part of an article Dianne, a former MN NPS board member, wrote for the Federated Garden Clubs of Minnesota Newsletter.*

On June 30, the Minnesota Legislature passed a bill to keep portions of our state government running. The bill not only managed to keep the Departments of Natural Resources and Agriculture operational, but it also had quite a few other things in it, including changes to 18H.06, Exempt Nursery Sales. The new Nursery Law amendments went into force on July 1, 2005.

The new amendments removed the words “Nursery Hobbyist” and “organization,” leaving only the word “individuals.” Thus, any individual, as a private citizen, and/or as a member of a garden club, can sell up to \$2,000 of Minnesota-grown nursery stock to customers who will plant it in Minnesota, but the number of days of allowable sales was reduced from 14 days to 10 days.

Under 18H.02, Subd. 20, nursery stock is defined as “trees, shrubs, vines, perennials, biennials, grafts, cuttings and buds that may be sold for propagation, whether cultivated or wild, and all viable parts of these plants.” As before, members who have the above-defined plants, which are grown out-of-state, cannot sell them at a Minnesota club’s plant sale under the occasional sales statute.

As before, the nursery certification requirements do not apply to annuals, bulbs, tubers, vegetable plants or ornamental indoor plants, among others. These categories of plants may be grown by members in Minnesota or out-of-state and sold at a Minnesota club plant sale without need of any certification.

Broadly speaking, there are two groups eligible to sell nursery stock without obtaining a nursery stock grower certificate (exempt nursery sales). These two groups are not-for-profit sales and occasional sales. Not-for-profit sales applies to an organization or an individual who offers for sale *certified* nursery stock (from any certified nursery, from any state) if sales are conducted on 10 or less days in a calendar year, and if the proceeds are used for educational, scientific, charitable or religious purposes. There is no dollar limit on the amount of nursery stock that can be sold under the not-for-profit statute. However, *all* the stock must be certified in the state of origin prior to sale.

The second category under exempt nursery sales is occasional sales. The rationale for the occasional sales statute on low volume sales (\$2,000 per year limit) of Minnesota-grown nursery stock to customers who will plant the nursery stock in Minnesota, is that such nursery stock presents a low risk of plant pest spread from seller to customer. The occasional sales category is the part of the statute that is generally the most applicable to garden club plant sales.

The old statute allowed an individual, company or organization such as a garden club to sell up to \$2,000 per year of uncertified nursery stock, for example, stock grown in members’ back yards, in addition to certified stock purchased from Minnesota vendors. All stock had to be Minnesota-grown and planted in Minnesota. Sales could be conducted up to a maximum of 14 days per calendar year.

What does a garden club have to do to prove that no member is selling over \$2,000 worth of plants under the new statute? To determine this, on Sept. 22, I met with representatives of the Minnesota Department of

Agriculture (MDA), including Geir Friisoe, manager of the Plant Protection Section, Mark Schreiber, supervisor of the Nursery Inspection & Export Certification Unit, and Gail Ryan, MDA attorney. Also participating were Mary Maguire Lerman, City of Minneapolis horticulturalist, and Myk Hamlin of the Minnesota Hosta Society. The consensus was that if a garden club hosted or advertised a plant sale with plants provided by its members, and the total sales of nursery stock (defined under 18H.02 subd. 20) were under \$2,000, the club need not track sales to individuals. If total sales of nursery stock were over \$2,000, however, the garden club must record each individual member’s sales so that the garden club can demonstrate that no member sold more than \$2,000 worth of nursery stock at their sale.

Representatives of the Minnesota Department of Agriculture said that the occasional sales classification is an option available to low-volume, infrequent plant vendors. The choice is up to each individual; plan sales dates carefully and stop selling when \$2,000 is reached, or get a nursery stock grower’s certificate. Once the plants are certified, you can sell your plants on as many days as you wish and without a limit on the amount of money you make. Each individual is responsible for keeping personal records of their nursery stock sales to document that their total sales of nursery stock do not exceed \$2,000 in a given year, and that sales do not occur on more than 10 days during the year.

Technical changes were also made to Minn. Statutes 18H.18, Conservation of Certain Wildflowers. The changes were made to eliminate redundant plant names, establish consistency within the statute and clarify plant species covered by the statute. No species were removed or added as a result of this most recent revision. Questions

about the wildflower statute or nursery laws can be directed to Mark Schreiber or Steven Shimek at the MDA at 651-296-8507.

I have been appointed by Geir Friisoe to represent garden clubs at future deliberations on proposed amendments to the nursery laws. If you have any comments on the nursery laws do not hesitate to contact me at 952-941-3542.

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## Book review

# Field guide for Laurentian Mixed Forest Province

by Scott Milburn

Recently, the Minnesota Department of Natural Resources revised its system of classifying native plant communities in Minnesota. The native plant communities defined in this effort are based not on plant species composition alone, but also considerations of hydrology, landforms, soils, and natural disturbance.

This information is being published in a series of three field guides. The first, *Field Guide to the Native Plant Communities of Minnesota: the Laurentian Mixed Forest Province*, was published in 2003. The second field guide, for the Eastern Broadleaf Forest Province, has just been printed. The third guide, for Prairie Parkland-Aspen Parklands is to be available soon.

The guides are small in size, to enable the user to easily carry them on a short hike or a long camping trip. These guides are also field-hardy, printed on water-resistant paper, enabling the user to have one less worry when perhaps crossing an extensive peatland or waiting out a summer storm. Price-wise, the

guides are very affordable and can be purchased at Minnesota's Bookstore.

The Laurentian Mixed Forest Province guide provides easy-to-use keys for identifying native plant communities, along with well-written information on the various ecological systems described for the Laurentian Mixed Forest Province.

It includes detailed fact sheets for each described native plant community. I have found the fact sheets to be very valuable, with an abundance of very interesting information that users will appreciate. These fact sheets are also available online on the MN DNR Web site.

The guide itself provides an enormous amount of information, some of which is technical. That should not, however, intimidate anyone interested in learning more about the plant communities of Minnesota. The guides are not just for professionals, but are for anyone who is interested in understanding how our landscape is shaped by ecological processes. For a link to the MN DNR Native Plant Community page, visit our Web site ([www.mnps.org](http://www.mnps.org)) and look under links.

Information about the second book, *Field Guide to the Native Plant Communities of Minnesota: the Eastern Broadleaf Forest Province*, will be available on the Minnesota's Bookstore's Web site, [www.minnesotasbookstore.com](http://www.minnesotasbookstore.com). The price is \$10.95, plus sales tax and \$3 for shipping.

Mail orders can be sent to Minnesota's Bookstore, 660 Olive St., St. Paul, MN 55155. The retail store is open from 8 a.m. to 5 p.m. Monday through Friday. Call 651-282-5077 or 1-800-657-3706.

# Plant Lore

by Thor Kommedahl

## What is Dutchman's breeches?

Dutchman's breeches is *Dicentra cucullaria* in the fumitory (bleeding heart) family.

## What do its names mean?

*Dicentra* comes from *dis* meaning twice and *kentron* meaning spur, referring to the double-spurred flowers. The specific epithet *cucullaria* means hooded. And, of course, the flowers resemble pantaloons or breeches.

## What does the plant look like?

It is a perennial with roots consisting of a cluster of many small white tubers. White flowers hang from an arched stem (raceme), and each bloom has two inflated spurs resembling legs of tiny pantaloons. Leaves are highly dissected, almost fern-like. It flowers in April and May, then goes dormant.

## Where does it grow?

It is found as a native plant in rich woods, in full or semi-shade, in most of the state except the northwest. The seed is difficult to harvest; as soon as it ripens, it falls quickly from plants.

## Is it poisonous or medicinal?

It may cause a skin rash. It contains the alkaloid protopine, which acts as a depressant to the central nervous system. Cattle grazing on this plant tremble and stagger, and sometimes the plant is called staggerweed. Root tea has been used as a diuretic and to promote sweating.

## Has it other uses?

Not economically. The Menominee Indians regarded it as a love charm. A suitor would throw the plant at a potential mate, who then felt compelled to follow the suitor. If a root was nibbled by a man, it was believed that his breath would attract a woman, even against her will. A different species, *Dicentra spectabilis*, is bleeding heart, and it is cultivated in gardens.

Minnesota Native Plant Society  
P.O. Box 20401  
Bloomington, MN 55420

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