



Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 27 Number 5

Fall 2008

Monthly meetings

Thompson Park Center/Dakota
Lodge
Thompson County Park
360 Butler Ave. E.,
West St. Paul, MN 55118
651-552-7559 (kitchen)

Programs

The Minnesota Native Plant Society meets the first Thursday in October, November, December, February, March, April, May, and June. Check the website for more program information.

6 p.m. — Social period

7 – 9 p.m. — Program, society business

Nov. 6: “Relationship between Native Aquatic Plant Communities and Water Quality/Aquatic Life: What Three Rivers Park District Is Doing to Promote Natives and Minimize Exotics,” by Randy Lehr, senior manager of water resources, Three Rivers Park District; **Seed exchange.**

Dec. 4: “Trees and Shrubs of Minnesota,” by Welby Smith, botanist, MN DNR; **Plant-of-the-Month: *Gymnocladus dioica*** (Kentucky coffee tree). **Book sale, signing.**

Feb. 5: Speaker and Plant-of-the-Month to be announced.

MN NPS website

For current information about MN NPS field trips, meetings, and other events, check the website: www.mnps.org

Red Saltwort is found in two new state locations

by Scott Milburn

Red saltwort, *Salicornia rubra*, is one of the more unusual plants belonging to our flora and is quite the attention-getter to those having botanical interests. It is an annual that is a member of the goosefoot family (*Chenopodiaceae*). Typical of members of this family, the flowers are not showy, so as not to distract from the distinctive appearance of this species. It is a succulent species that is segmented and turns red as the growing season progresses. (See photo on page 3.)

The species is generally described as found in the Great Plains and having an affinity for saline habitats. Its habitats in Minnesota are described as wet saline prairie and mud flat saline subtype communities, usually forming dense patches. Up until 2007, this species had only been documented in three western Minnesota counties and was so uncommon that it is listed as threatened.

I had the opportunity to see this plant last year in southern Kittson County, so I had a good search image for this species in both color and growth pattern. While heading up north on Interstate 94 this summer, I ended up in stop-and-go traffic near Rodgers. Trying to keep my mind off the subject of traffic, I began to examine the highway median. As traffic picked back up, I thought I was seeing patches of *Salicornia rubra*, along with *Suaeda calceoliformis*.

On my next trip up this same route, I ran into traffic again. This time, however, I was able to confirm what I had seen earlier and made a collection. A few weeks later, another unusual occurrence of this species was found off of Interstate 35 in southern St. Louis County by Otto Gockman. This was growing in habitat similar to the population near Rodgers.

These two new populations are far from previously documented populations, so the question is, how did these populations get there?

It is likely that the salting of highways is creating the appropriate saline habitat required by this species. Perhaps we need to look at the salt source for further answers.

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Native plants may help honey bees

The population of honey bees has been declining for 20 years. The triple problems of disease, mites and Colony Collapse Disorder helped cause 35 percent of bee colonies in the United States to die last winter alone.

Research at the University of Minnesota Bee Lab suggests that native plants along roadsides could help increase bee populations.

Farmers depend on honey bees for crop pollination, but the bees do not feed on corn or soybeans. One solution may be increasing the number of flowers available for bees to feed on, Entomology Professor Maria Spivak said.

Urban sprawl, large single-crop areas, and golf courses have decreased these flowers, she said. "We need to add more pollination corridors — crop borders of flowers, roadsides of flowers, golf courses with bee flowers, gardens for bees." She cautioned that

insecticides should not be used in these pollination corridors.

Spivak and her lab are studying ways to make bees healthy, focusing on using their natural behaviors. "Minnesota Hygenic" bees, bred by the Bee Lab, are one answer. These bees detect and remove bees in the egg, larva, and pupa states that are infected with certain diseases before they emerge from the honeycomb cells, preventing the diseases from spreading. Minnesota Hygenic bees are now available for beekeepers throughout the United States.

The researchers are also studying propolis, a tree resin collected by bees to seal their hives. Michael Simone, an entomology graduate student, said that this resin has antimicrobial properties and may prevent diseases in the hives. It is used by humans in Japan, Brazil and other countries.

A new Bee Lab is being designed. It is to be used for bee research, teaching and outreach. It would be located near the future Bell Museum of Natural History site, at the corner of Larpenteur and Cleveland avenues in St. Paul. Funding has not been secured, but it is being sought.

MN NPS Board of Directors

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Reminder:

Do not take plants from the wild. It is against the law to take plants from public property. Enjoy them where they are. Plants can be taken from private property only with the permission of the property owner.

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, 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.

Red Saltwort



Salicornia rubra (Red saltwort).
See article on page 1. Photo by
Scott Milburn.

Black spruce: a crop or a key ecological component?

by Elizabeth Nixon, MN NPS
Conservation Committee chair

Popular components of winter decorations are the growing tips of black spruce trees. They are frequently wreathed in tiny white lights and can be found in numerous public places and private homes.

Yes, I admit to the cuteness of this décor, but I am reluctant to use this horticultural product. I would rather imagine black spruce growing in a native peat bog than being managed as a crop, and, as I see it, every acre of cut spruce tips is an acre that could be left in a natural state.

The State of Minnesota licenses the cutting of black spruce tips. Bachman's says so right up front on its website. Some lawn care services advertise black spruce tips but make no mention of the licensing requirements.

President's column

by Scott Milburn

With autumn here, a new year of programming has begun. We will continue our efforts to educate and inform Society members. Planning is underway for our monthly programming for the entire year, but I would especially like to point out the upcoming December meeting with lifetime member Welby Smith. He will be presenting on the topic of his soon-to-be-released book, *Trees and Shrubs of Minnesota*. We are anticipating selling the book at this meeting, and we hope we get a great turnout.

In terms of board news, the board voted at our last meeting to provide funding for two microscopes for the Bell Museum of Natural History. These scopes will be housed at the herbarium and will be available for public use. I encourage our members to take advantage of the opportunity.

I would also like to point out that we have new membership coordinators, Cathy and Ron Huber. They are replacing David Johnson, who has served as the membership coordinator for a number of years. We thank David for his efforts, and we are happy the Hubers have taken over this important task.

There are other changes currently underway as well. Daniel Jones and Sean Jergens are stepping down from the board after each serving over three years. The board will be electing replacements to serve out the duration of their terms, and we thank the two of them for their time and efforts.

In other news, everyone must be taken aback by recent economic developments. We don't have a good grasp on how the markets will fare, with much to worry about in a declining economy. A great concern of mine is that at a time like this, our natural resources take a back seat, as everyone has to do more with less. However, we do have an opportunity to do something with the proposed constitutional amendment on the ballot this year in Minnesota. The Clean Water, Land and Legacy Amendment

An organization by the name of SmartWood (a program of the Rainforest Alliance) performs certification audits on forestry sites harvested for black spruce tips.

The DNR reported on the industry in 2003, saying that harvest is from low productivity stands on public lands, on wet sites when the ground is unfrozen, and that demand is highly cyclical.

Please consider your winter decorations needs carefully and consider to what extent black spruce tips should be part of them. Visit the DNR website to learn more, and make your own conclusions about the sustainability of the harvest and the tradeoffs that are made.

will appear on the ballot. The amendment seeks to provide dedicated funding to, in part, protect our natural resources. I encourage our members to further examine this amendment by visiting www.yesformn.org for more details.

There are other actions folks can take to support natural resources. We, as an organization, need to encourage non-members to explore Minnesota, anything from learning the native flora in their own town to understanding the uniqueness of the Minnesota landscape. I hope that in future years, our group as a whole can foster such exploring, but for the time being, I ask you to share your interests with those around you.

Canoeing in Weaver Bottoms

by Ken Arndt

On a warm Saturday, Aug. 2, the MN NPS held a field trip to Weaver Bottoms in southeastern Minnesota. It was led by St. Paul District Corps of Engineers Senior Ecologist Steve Eggers. Several years ago, Steve led a similar trip to the bottoms for the Society, and he wanted to take us back down there again.

This was to be a hot day in the low to mid 90s with humidity, so being closer to the water seemed to be a good remedy for beating the heat. Several determined field trip participants decided to venture south to the heart of the bluff lands of Minnesota to take in the many spectacular features of the area.

Everyone met that morning at the USFWS boat landing off of Highway 61 just north of the town of Weaver. Once we unloaded our canoes and gear for the day, Steve had us gather around a picnic table to go over many of the plants we would be seeing in the bottoms. It was good to review



Steve Eggers discusses an aquatic plant before participants start canoeing.

these plants ahead of time, so when we got out in the bottoms we were already familiar with much of what was under and around us.

From the boat landing, we maneuvered out into the bottom toward the sea of American lotuses

(*Nelumbo lutea*) that we could see were in full bloom.

Off in the distance to the east, looking toward Wisconsin, you could see a horizon of creamy yellow flowers held above giant round, green leaves. It felt like we were in a tropical setting with the heat, humidity and the lush vegetation all around us. As we got closer to the lotuses, we soon realized just how many there were, as they now completely surrounded us.

Throughout the day Steve would gather us all together and show us the many interesting emergent, submergent, and floating aquatic vegetation, and tell us about the management that has taken place here over the years.

Apparently in 2005 and briefly in 2006, the Corps of Engineers, MN DNR, and several other agencies worked together to allow the bottoms to be drawn down in an effort to improve the habitat for plants, fish and other wildlife. Nearly 1,000 acres of mudflats were exposed, which allowed many different aquatic plants to establish.

After having lunch in our canoes where the Zumbro River flows into the bottoms, we made our way back through the lotuses for one last round before coming out of the water for the day. Since we were in our canoes the whole time, several of us were happy to be back on land to stretch once again.

I think I can speak for everyone that day in that we all enjoyed the amazing sights of the many thousands of American lotuses in bloom with 400-foot-tall bluffs as their backdrop. Thanks, Steve, for taking us back to Weaver Bottoms.



*American lotuses (*Nelumbo lutea*) blooming in Weaver Bottoms. A canoe with a field-trip participant is at upper left. Photos by Ken Arndt.*

Can spurge hawkmoth help control invasive leafy spurge?

by Ron Huber

In August 2005, MN NPS member Dianne Plunkett Latham photographed a colorful larva on invasive leafy spurge in Bredesen Park, Edina. It proved to be a spurge hawkmoth. The following month, similar larvae were photographed in Minneapolis on leafy spurge along I-35W at Stinson Blvd. They are black with red and white dots and a bright red stripe along the back.

Additional Minnesota records are summarized here. John Luhman at the Department of Agriculture confirms records for Ottertail County and Scott County, and Robert Dana of the Department of Natural Resources has added observations from Clay County. On July 1, 2008, John Lundeen brought a final instar larva to his sister, Cathy Huber. He found the larva behind the building where he works in Eden Prairie. The larva seemed restless, so it was put in a jar with fresh dirt, and the larva pupated a day or two later. It emerged as a fresh adult on July 25.

R. W. Hodges reported in 1971 that the spurge hawkmoth, *Hyles euphorbiae*, had been introduced from Europe in an attempt to control leafy spurge and other range euphorbs in western Canada. The latest publication by J. P. Tuttle, in 2007, gives an excellent summary of the recent and brief history of this hawkmoth in the U.S. and Canada, as follows:

“In the mid-1960s, this hawkmoth was released at numerous Canadian sites from Ontario westward. All of the early releases were unsuccessful in establishing the moth. Finally, in 1967, a release in Ontario took hold. Subsequent generations from that site were used in future Canadian releases, plus an introduction at Chestertown, New York. By 1983, the Ontario site had an estimated larval population in excess of one million. These larvae had thrived on cypress spurge, *Euphorbia cyparissias*, but they failed when introduced on leafy spurge, *E. esula*, in Montana in 1966.

“Then, larvae from Hungary were introduced in Montana in 1974 and began to take hold. Thirty years later, the larvae were estimated to be in the millions and had spread out in a 15-mile radius from the original release. Amazingly, however, the spurge continues to thrive!”

While the ability of the hawkmoth to control leafy spurge remains to be demonstrated, maybe it will offer a “one-two punch” in conjunction with the introduced flea beetle, *Aphthona lacertosa*.



Special thanks go to Dianne Plunkett Latham for submitting the wonderful larval photo for identification, and to John Luhman and Robert Dana for sharing their records.

The adult photo was taken by Bruce Erickson, Fitzpatrick chair of palaeontology, Science Museum of Minnesota.

Roles of streams and vegetation are focus of StreamLab

How do rivers and vegetation affect each other? That question is being studied at the University of Minnesota’s new Outdoor StreamLab. The lab, which is located at 2 Third Ave. S.E., Minneapolis, opened in mid-September.

Researchers have diverted Mississippi River water to create a meandering stream on a grassy riverbank. The new brook is open to both the elements and to experimental control.

Topics studied will include the ecological roles of streams, flood control, and stream restoration. One project underway examines how vegetation affects the flow of streams and the retention of flood water.

“Understanding how rivers work can help us make smart decisions about how and where and whether to develop,” said Anne Lightbody, a research associate at St. Anthony Falls Laboratory and manager of the Outdoor StreamLab.

She cites a problem at Uvas Creek, Calif. “They tried to turn it from a braided stream to a meandering one. The next spring, it flooded and reverted. People didn’t take ‘what the river wanted to do’ into account.”

Another project is to study how vegetation affects the flow of streams and the retention of flood water.

Trout streams are an example of the need to understand ecological relationships. “Trout streams must be cold,” she said. “If trees along the banks are cut, there goes the shade, and the water starts to warm up.”

Not in my backyard, or yours either!

by Bonnie Harper-Lore, restoration ecologist, Federal Highway Administration. This is an abstract of her talk at the Oct. 2, 2008 MN NPS meeting.

After our Purple Loosestrife Task Force shepherded a bill through the Minnesota Legislature in the mid '80s, I felt like we had stopped invasive plants in their tracks.

My new job in Washington put me at the table with federal agencies, ready to unite to do something similar on a national level. In 1994, 16 agencies signed a memo of understanding of cooperation on the issue of invasive plants. By 1999, we wrote an executive order (EO13112) on invasives that called for a national plan and coordinated action.

So imagine my surprise when I discovered garlic mustard in my own backyard a few years ago. Not only had all our efforts not stopped the spread of invasive plants nationally, we had not been effective locally.

Why should you care?

The reasons are many. Begin with the fact that next to loss of habitat, the invasiveness of nonnative plants is the second biggest reason for plant extinction in the nation. Every day some 4,600 new acres are impacted by invasives. These invasions have ecological and economical impacts. Some \$123 billion dollars are lost annually to invasive control, crop losses, forage decline, ranch failures and more (Pimental, et al, 2004). The ecological costs of monocultures, habitat loss, wetland function, etc. are less easy to quantify. We cannot afford either kind of loss.

What can we do?

An invasive species is defined as an alien species whose introduction does or is likely to cause economic harm or harm to human health. (EO13112). Each state has a different noxious weed law and weed list. Very few weeds listed in the United States are native.

Most fit the definition of invasive species. Of course, not planting them in the first place is essential. The planting of kudzu in the 1930s by the U.S. Department of Agriculture demonstrates what mistakes can be made, if we do not examine the consequences of quick solutions. Kudzu is found throughout the eastern states and is moving northward.

Like all plants, it has the ability to continue to adapt. It is now found in Northern Illinois. The key reason it is not being controlled in southern states is the prohibitive cost of controlling millions of infested acres. Our only hope is to contain it and stop it on sight!

What else can Minnesotans do?

Vigilance will be essential. Be the first in your neighborhood to spot new invaders, including ailanthus, star thistle, common teasel, Scotch thistle, hydrilla, yellow flag iris, or kudzu. Report the invasion to the Department of Agriculture and the Department of Natural Resources, both of which have responsibility. Native Plant Society members can volunteer to educate city and county managers and crews about weeds. Schools, neighborhoods, and developers would benefit from your help. Review

local ordinances, state legislation, and seek partnerships to benefit your own backyard, your community, and your state.

Engage your neighborhood in a buckthorn clearing effort or other partnership. Educate homeowners with booklets like *Why Should I Care about Invasive Plants?* (from MIPN.org) Inspire children to act like the kids from Bailey Elementary in 1998 who raised and released purple loosestrife beetles.

And most importantly, take care of your own backyard. Remove invasive plants and report new intruders. More invasive plants, animals, insects and diseases are headed our way. It is predicted that climate change will increase invasive species. Together, we can protect not only our own backyards, but Minnesota as well.

Annual seed exchange to be held in November

The annual native plant seed exchange will be held following the program at the Nov. 6 meeting.

Seeds should be gathered from your yard or property. Pack the seeds in small envelopes, ready for distribution. Do not bring bulk seeds. Mark each envelope with the plant's name (common and scientific if possible), habitat, including the county where it was harvested, and your name.

Bring your seeds to the front room of the lodge before the meeting. Dave Crawford is again in charge of the seed exchange. He and several volunteers will arrange the seeds, making it easy to select some you would like to grow.

When the exchange begins, those persons who brought seeds will have the first opportunity to choose some to take home. A few minutes later, the exchange will be open to everyone.

Plant Lore

by Thor Kommedahl

What is shinleaf?

Shinleaf is *Pyrola elliptica* in the shinleaf family (*Pyrolaceae*), but recent research places *Pyrola* in the wintergreen family (*Ericaceae*). Six species of *Pyrola* are native to Minnesota, but *P. elliptica* is most common.

How did it get its names?

Pyrola means like a pear leaf, and *elliptica* refers to the leaf shape. It is called shinleaf because the leaves were used as a plaster applied to bruised shins and other sores and wounds.

Where do these plants grow?

In Minnesota, shinleaf is most abundant east of the Mississippi River, in damp, rich woods, often under conifers.

What does the plant look like?

All *Pyrola* species have only basal



Pyrola elliptica, photo by Peter Dziuk.

leaves that persist through winter. Plants are 5-10 inch-tall perennials with scaly rhizomes. Leaves are thin and not shiny, and the leaf blade is longer than its petiole. Nodding, fragrant, white to greenish flowers are borne on racemes; have long,

curving pistils; are insect pollinated; and appear summer into fall.

Does it have medicinal or poisonous properties?

The analgesic properties of leaves account for its use as treatment for bruises and sores. The American Indians gargled leaf tea for sore throats and canker sores. Root tea was a tonic. Leaves contain about eight flavonoids (known for antioxidant activity). It is neither edible nor poisonous

Has it any economic or horticultural uses?

No. Although sometimes transplanted to wild gardens, plants do not thrive in the usual garden soil.

CO₂ level affects weeds

Climate change is strengthening weeds, including kudzu. Read Chapter 2.3.2 of the federal SAP agricultural report 4.3 at www.climatechange.gov/Library

Minnesota Native Plant Society Member Registration

Name _____

Address _____

City _____ State _____ Zip _____

Phone (work) _____ (home) _____ E-mail newsletter? Yes ___ No ___

E-mail _____

Membership category (New _____ Renewal _____)

\$15 Individual

\$15 Family (2 or more people at same address)

\$8 Student (full time)

\$8 Senior (over 62 or retired)

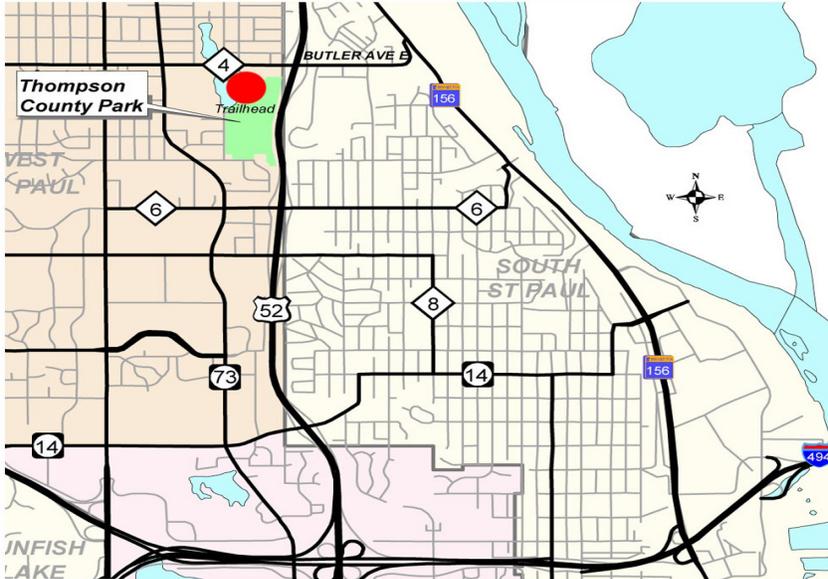
\$20 Institution

The membership year starts Jan. 1. Please fill in this form and circle the appropriate membership category. Make your check payable to the Minnesota Native Plant Society. Bring the completed form and your check to the next meeting, or mail them to the Minnesota Native Plant Society, P.O. Box 20401, Bloomington, MN 55420.

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

Fall 2008

Thompson County Park:
360 Butler Ave East, West St. Paul, MN 55118



Directions:
Take MN Hwy. 52 to the Butler Ave. E. exit in West St. Paul.
Go west on Butler 0.2 miles to Stassen Lane.
Go south on Stassen Lane to Thompson County Park.