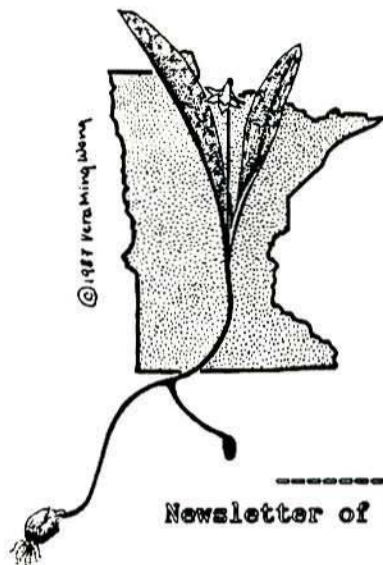




MINNESOTA PLANT PRESS

Newsletter of the Minnesota Native Plant Society v9:3.1 spring '90
Special Spring Supplement

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U P C O M I N G M E E T I N G S

May 2, 1990

Botany Photographs
Field Trip Review
Spring Plant Sale

7:30P - Borlaug Hall - Map on page 7

F i e l d T r i p S c h e d u l e

1990 Minnesota Native Plant Society 1990

Everyone is welcome to these expeditions...bring your friends along! Bring your cameras, binoculars, lunch....and dress appropriately.

The schedule is reasonably firm, although changes may occur: call for most current status: Char Menzel 612 426 2860

White Bear Lake Half day 12 May 1990 10:00A - *Art Hawkins*

At his home north of White Bear Lake, Art Hawkins will focus on plants that are beneficial to birds and animals. He will discuss invasive plants and the management difficulties associated with them. Bring your binoculars!

Directions: 35E to Co Rd J, west 1/4 mi. to Centerville Road, N 1/4 mi. to house.

Volunteer Work Day: Savage Fen Scientific and Natural Area

One day: 19 May 10:00A-4:00P *Steve Eggers and Ellen Fuge*

Purpose: girdle buckthorn, aspen and willow plants that are invading this rare calcareous fen plant community and shading the rare plants. Burning is not possible because of the lack of natural firebreaks.

Bring lunch, boots, small hatchet or pruning knife: some tools will be available.

Directions: Hwy 13 west through Savage, MN, turn south at traffic light (Hwy 13 turns south here), 1/2 mi. to 128 Street, east to dead-end; the SNA sign is visible at this point. Assemble at SNA sign at 10:00A

Hennepin Parks Native Materials Nursery and Prairie (restored)

One day: 9 June 09:00A *John Moriarty*

The trip will take place at the Crow-Hassan Park Reserve: the nursery is a leader in native woody plant and forb propagation; the prairie encompasses over 500 acres.

Call for directions: 612 476 4663

St. Croix One day: 16 June *Dr. Jerry Ownbey*

Dr. Ownbey will lead a field trip to St. Croix river area where we will see a reconstituted prairie within Afton State Park, and a gravel ridge near Bayport which is home to several unusual plants. Dr. Ownbey has invited us to have our brown bag lunch at his home nearby where we will review the growth performance of native trees planted over 20 years ago.

Directions: Meet in parking area Afton State Park 9:00A

Overnight Camping Trip 29 July-1 July *Dr. Anita Cholewa*

Botanizing near Isabella, MN. Vegetation includes black spruce bogs, aspen/birch forests and mixed pine/hardwoods forests..Be prepared for ticks, mosquitoes and black flies.

"Barebones" quarters are available at Forest Service campground on a lake with a beach. There is a rustic lodge in Isabella, the National Forest Lodge, if you prefer, *please make arrangements with the lodge.*

Dr. Cholewa and Lynden Gerdes will co-lead a Saturday Field Trip. This expedition is limited to 8 people: reservations are a **must**: *call Dr. Cholewa at 612 625 0215 by 31 May.*

Additional details and directions will be mailed to participants in early June.

Weaver Landing One day: 21 July *Steve Eggers and Ellen Fuge.*

This group get-together will meet at Weavers Landing, MN, at 1030A, just off Hwy 61 south of Wabasha, MN. It is a canoe adventure, so bring your own or make arrangements with others.

Studying the Rough-Seeded Fameflower in Minnesota

Steve Fifield, Plant
Biology Dept., U. of Minn.

I spent part of last summer travelling around the Midwest searching for populations of *Talinum rugospermum* HOLZ., the rough-seeded fameflower. The rough-seeded fameflower is endangered in Minnesota and rare throughout its range. An irony of working on rare plants is that they do not always occur in pristine natural areas. Sometimes they hang on in the midst of sprawling parking lots, highways and steel mills. This became increasingly clear to me last summer in Indiana as my host, Noel Pavlovic, a biologist at the Indiana Dunes National Park, directed me to go to the back of a K-Mart parking lot not far from Gary. There we followed a series of all-terrain-vehicle trails to a small population of fameflower. The population is in a remnant oak savanna on top of an ancient sand dune deposited as Lake Michigan receded several thousand years ago. The population lies on and adjacent to an ATV trail which, while threatening to existence of the plants, may also be the disturbance that exposed bare soil and allowed the fameflower to germinate and establish itself in this area. This ironic relationship between human activity and the fameflower was evident at many of the sites I visited. We often think of plants being rare because of human activity, but fameflower often grows best in areas of moderate human disturbance.

Rough-seeded fameflower is in the *Purslane* family and is distinctly related to *Portulaca grandiflora*, the moss rose. Approximately 50 species are in the genus *Talinum*, most of them grow in the southwestern United States and Mexico. Only two species occur in Minnesota, *T. rugospermum* and *T. parviflorum*, the small-flowered fameflower. The small-flowered fameflower is fairly common on rock outcrops in southwestern Minnesota and

extends throughout much of the central United States. The rough-seeded fameflower has a more limited distribution occurring on sand prairies, savannas and rock outcrops in Minnesota, Wisconsin, Iowa, Illinois, and Indiana. A few very interesting outlying populations occur in Nebraska, Kansas and Texas. The tubular, fleshy leaves and short perennial stem make the fameflower unmistakable, although the plant is small and inconspicuous.



I have been conducting field studies on two populations of the rough-seeded fameflower in southeastern Minnesota at the Nature Conservancy's Weaver Dunes Preserve in Wabasha County and in the Whitewater Wildlife Management Area in Winona County. These sites are a far cry from the "K-Mart site" in Indiana. The Whitewater site is a small sand prairie at the base of a wooded bluff in the Whitewater River Valley. While the uplands surrounding the valley have been extensively altered by agriculture, the valley itself retains much of the original character. The slopes of the bluffs are thickly wooded, and steep goat prairies run along the south and west crests of the bluffs. The Weaver Dunes site is a beautiful sand

prairie, though it is anything but pristine, having recovered from many years of intensive agricultural use. In fact, the fameflower at Weaver Dunes tends to grow best along old tractor trails that cross the prairie. The eroding edges of these ruts seem to provide favorable sites for germination and establishment.

My research on fameflower is focused on its reproductive ecology and population genetics. I have established plots at both sites within which every individual is mapped. These sites are monitored regularly to track the survival of individuals and to assess the affect on fameflower of prairie management techniques such as burning. I have also studied the flowering phenology of fameflower. Fameflowers bloom throughout most of the summer, but flowers are only open from approximately 4:30PM to 7:30PM. This unusual flowering pattern is common in the genus, but it is not known why it evolved. At the Whitewater site, the mass flowering display transforms the brown colored prairie into a field of pink in the late afternoon. Since the plants otherwise tend to blend into the background, the late afternoon is a good time to search for them.

Working on plants in the field and in a greenhouse, I have studied the pollination ecology and mating system of fameflower. Because of the structure of its flowers, fameflower is primarily self-pollinating. When the flowers close in the evening, pollen bearing structures are pushed into the receptive female part of the flower causing self-pollination. Several types of small insects are attracted to the flowers in the field and they cause further self-pollination. This type of mating system contributes to inbreeding which should produce relatively low levels of genetic variability in the species-- individuals should be genetically very similar to each other. However, fameflower occurs in small isolated populations and this can lead to genetic differentiation between populations. Therefore, my next goal is to study the population genetics of fameflower to determine whether the

species is genetically uniform or composed of genetically distinct populations. This has important implication for conservation, since to preserve the genetic diversity of living things, we must know how much diversity there is and how it is distributed among populations.

The research I do is motivated by my fascination with living things and my commitment to conservation. It is not by chance that much of the work I do is in the field. I do my research in the company of wild turkeys, soaring turkey vultures and deer that constantly peer out at me from the woods. Sitting on a sand prairie at dusk, feeling the heat of the day radiate back into the sky and watching the sun set behind dark limestone bluffs is an experience that my colleagues who spend their careers in the lab. will never have. This is a great loss for them, for being in nature while studying it puts science in perspective and reminds you what biology is all about.

Acknowledgements: The following organizations have provided funds for my research: Carolyn M. Crosby Fellowship and the Dayton Natural History Fund, Univ. of Minn.; The Nature Conservancy; and the Roger Tory Peterson Institute for Natural History.

New MNPS Board Members

At the April Meeting of MNPS, the following were elected to serve on the Board for three years, from Sept '90 to Sept '93

(Because of the inclement weather and the consequent sparse attendance, the election was not held at the March meeting).

Pat Ryan Elizabeth Roddy
Don Knutson

Biographical sketches were included in Winter issue of *Plant Press*.

Agricultural Inspectors Need Educational Support

Nancy Sather, Minnesota Natural Heritage Program

We appear to be in an era of burgeoning interest in wildflowers and native species, evidenced by an increasing number of prairie restorations in the state, the development of wildflower routes along major roadways and the impending opening of a *Midwest Wildflower Center*. In keeping with this growing interest in native plants, citizens have become more knowledgeable about native vegetation and more concerned about agricultural and forestry practices that were considered not merely acceptable but necessary only a few years ago.

Over the past few months there has been some consternation within the conservation community about the activities of "weed inspectors." Incidents have been reported in which agricultural inspectors have mistaken native prairie plants for either Canada thistles or purple loosestrife, and have ordered spraying at the expense of landowners. The state's weed enforcement staff consists of about 5800 township, 850 city and 92 county agricultural inspectors, all funded by the respective local units of government. Funding for these positions therefore varies from local unit to unit, and is dependent upon fluctuations in overall local budgets. Most agricultural inspectors are not full-time positions, yet they are responsible both for enforcement of the state's noxious weed laws and for feed, fertilizer and pesticide control programs.

Just as the general public is increasing in awareness of the importance of native species, state agencies have begun to re-examine their policies and practices. An interagency *Exotic Species Task Force* is seeking to define "native," "non-native," and "exotic" species. Among the participants in this task force is Chuck Dale, head of state agricultural inspection program. I asked him to provide us with an update on the *Minnesota Department of Agriculture's* attempt to standardize and raise the level of competence of local inspectors. Projects in place, or being developed, include: a standardized position description that can be used by local units of government, a qualification exam, assistance in the interview process for new inspectors, an accreditation program for trained agricultural inspectors and annual training programs for county inspectors.

For the past several years, the State Department of Agriculture has called upon both the Minnesota Natural Heritage Program and the purple loosestrife program to assist with annual training for county inspectors. Specifically, they have requested workshops on the identification of endangered species and of natural communities. As a result of such workshops, Heritage staff has been invited to conduct a workshop for township inspectors in Jackson County and to assist the Martin County inspector in evaluation of a half dozen Martin County prairies not previously known to the Heritage Program.

One of Chuck Dale's hopes for improving the field knowledge of agricultural inspectors is the development of a convenient loose-leaf manual for identification of exotic and "weed" species, including both color photographs and easily understood but accurate technical descriptions. He has discussed with the Heritage botanists the possibility of developing similar loose-leaf pages for assistance in identification of endangered plants and native communities.

Despite incidents of mistaken identity in the past, now is the time for those interested in the conservation of native plants to express their concern about agricultural inspection issues in a positive way. Such positive efforts could include lobbying in support of increased funding for training and evaluation of inspectors and for solid funding for county agricultural inspectors as professional agricultural regulatory officials, support for such activities as the Exotic Species Task Force and contributions of voucher specimens for educational workshops or photographs for the development of an identification manual. Now is a time for open constructive communication between advocates of native plants and the agricultural inspection community.

D. N. R. Spring Fling Saturday, April 28 - 10:00A-4:00P

The Spring Fling is a celebration of spring in the outdoors, with activities for all ages: guided wildlife/wildflower walks, special hikes for families with small children, live displays of endangered and rare animals, and slide show/video presentations of natural history of Cannon River Valley.

This is also the kickoff for DNR's County Biological Survey in Rice and Goodhue counties.

The Spring Fling will be at the 4-H Building at Rice County Fairgrounds in Faribault on Saturday, April 28, from 10:00A to 4:00P. Chartered bus will take visitors to Rice County Wilderness Area for outdoor activities.

D.N.R. IS INVITING VOLUNTEERS TO AID IN TWO ACTIVITIES:

DURING THE SPRING FLING, DNR ECOLOGISTS WOULD WELCOME HELP IN LOCATING ADDITIONAL STANDS OF MINNESOTA DWARF TROUT LILY, WHICH IS FOUND ONLY WITHIN RICE AND GOODHUE COUNTIES. (CONTACT: B. J. FARLEY, 612 296 8217)

DURING THE BALANCE OF THE YEAR, D.N.R. WELCOMES VOLUNTEER ASSISTANCE IN ITS CONSERVATION EFFORTS. (CONTACT: NANCY SATHER, 612 297 4963)

Guild of Natural Science Illustrators

Annual Meeting: June 16-22, 1990

The Guild of Natural Science Illustrators (GNSI), an international organization of professional and amateur artists will hold its annual meeting and conference

June 16-22, University of Minnesota St. Paul Campus.

Included are lectures, demonstrations, field trips, in-depth workshops, and a juried exhibition at the Bell Museum.

For more information, call 612 624 6053.

Rare Bladderswort Revisited

Welby Smith

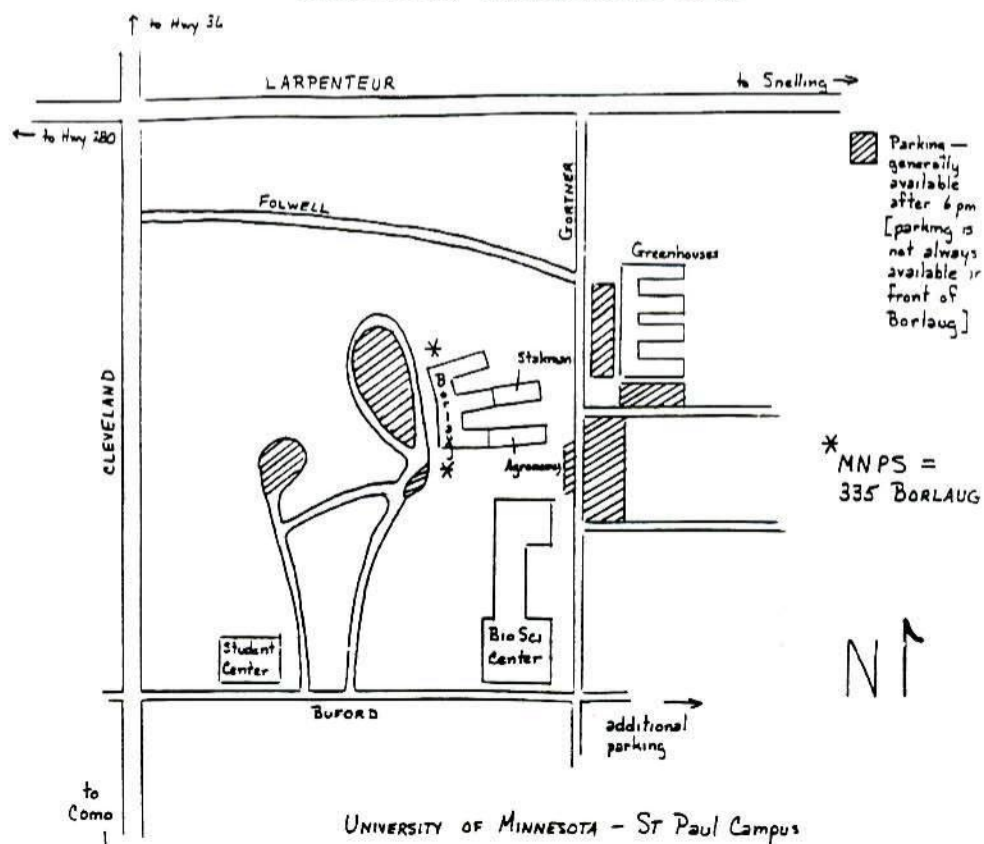
Readers of the *MNPS Plant Press* may recall back in the spring of 1988 I reported on the discovery of the "upside-down bladderwort" (*Utricularia resupinata*) at Makwa and Pan Lakes. It was the first report of the rare species in Minnesota and it attracted a lot of attention. Its habitat is the shallow margins of sandy-bottomed lakes in the BWCA, an unusual habitat in the region of ice-scoured bedrocks.

I was delighted to receive several tips from readers who knew of potential habitats. A number of people specifically mentioned Frost Lake in Cook County. In August of 1989, Vera and I took a week-long vacation in the Boundary Waters, and made a point to visit Frost Lake. It turned out to be the highlight of the trip! When we arrived, we found a vast sandy shoreline with what seemed like acres of bladderwort. The plants formed a solid mat about one-half inch beneath the sand with only their flower stalks poking up.

Thanks to all who offered suggestions, especially to Sue Trull who responded all the way from Missoula, Montana. I am still interested in hearing of possible habitats: drop me a note c/o *MNPS*.

By the way, if anybody knows of a better common name for this crazy plant, please let me know.

Meeting Location Map



Northstar Native Plant Handbook

A Minnesota Native Plant Society Project

..OR GREEN THUMBS AND DIRTY KNEES

During the far-ranging discussions at the January meeting of *MNPS*, it became clear that there is great interest by the members of *MNPS* in the growing and propagation of native plants. Two additional features also became clear: First, many members do not feel that they are getting enough useful information on the subject; and, second, there are some members who have impressive and successful experiences which could be shared.

A search of literature readily available to Upper Midwest native plant gardeners is disappointing for several reasons: its old; it doesn't adequately address Minnesota native plants; and it doesn't cover propagation. This prompts the question: Where is the information concerning growing and propagating Minnesota native plants? The answer is two-fold: some of it does *not* exist, but a lot of it *does* exist in the form of members' experience, but has not been published. In any case, there is a dearth of material available to concerned native plant gardeners.

Such a lack dampens the enthusiasm of those who wish to show their concern by participating in this awakened appreciation of our native plants.

The solution?.....write our own handbook: *Northstar Native Plant Handbook...OR GREEN THUMBS AND DIRTY KNEES*.

As we enter a new spring, we have the ideal opportunity for gathering the fruits of our experiences in the germination, propagation, growing of Minnesota's native plants. The combined experience of 50 members of *MNPS* will produce more results than years of academic/government/laboratory research.

What can we do about it?

As a new season of growth appears in Minnesota, *MNPS* urges its members to keep records and notes their experiences in growing and propagating native plants. Then, send those notes to the newsletter editor who will collect and compile them for review, after which they will be published.

This sounds like a lot of work-- and it will be-- but it is a small price to pay to save and share the valuable experience of all of *MNPS*'s green thumbs.

Please keep a notebook of your native plant gardening: identify the plant(s) (scientific names, if known); seed or vegetative propagation; soil; woodland/prairie/wet lands/etc.; special germination techniques; flowering time; fertility; .. whatever you have found useful.

SPRING PLANT SALE

May 2, 1990

The annual sale of wildflower garden transplants and seedlings will be at the May 2, 1990 meeting of the MNPS.

One of the goals of the MNPS is to promote the conservation and appreciation of native plants. We can enjoy wildflower gardening without disturbing native populations by creating gardens with plants started from seed or with transplants from other gardens. Our plant sale is one way to acquire some of these plants. Also, it is a fundraiser for our society, with the proceeds going into the general treasury. A \$1.00 donation is the suggested price for each plant purchased. Help make this project a success by donating and buying native plants started from seed and/or native wildflower transplants from members' gardens.

Do Not Collect Plants from the Wild for this Sale!

Plants should be labelled with the name of the plant (include scientific name if possible) and the name of the donor. Please divide transplants and have them in individual pots. Come early to drop off your plants: this will give us time to organize them.

The sale will be held after the program. Those who have donated plants will have first opportunity to make 3 selections; then the sale will be opened to all. You do not have to donate plants to participate in the sale

NEW MEMBERS

Please welcome the following new members who have joined the *Minnesota Native Plant Society* this winter:

Dennis Albrecht, Minnetonka	Joan Albrecht, Minneapolis
Frank D. Bowers, Stevens Point	Robert Engstrom, Minneapolis
Peggy Erickson, White Bear Lake	Terry Ferriss, River Falls
Adrian & Liz Golledge, River Falls	Ann Haines, Minneapolis
Carol Hegre, Minneapolis	Diane Peck Hilscher, Plymouth
Leo Holm, Maplewood	Eldon Hugelen, Apple Valley
Sheila A. Jensen, Minneapolis	Nancy A. Johnson, Minneapolis
Mary Kado, St. Paul	Cindy & John Karwacki, St. Louis Park
John Kippely, Little Canada	Kathy Kittleson, Victoria
Erwin Mickelberg, Minneapolis	Minnesota Zoo, Apple Valley
Sonja Moseman, Hastings	Ms. Kathe Nelson, Gaylordsville
Susan L. Nelson, Corcoran	Marcie O'Connor, St. Paul
Jon Peterson, Hastings	Connie Sansame, Northfield
Dr. Jerome Wagner, Anoka	Eric Weis, Ramsey
Robin E. Whaley, Knife River	Colette S. Wolf, Bloomington

1989/1990 MNPS OFFICERS AND BOARD OF DIRECTORS

David McLaughlin, *Pres. (1990)* Don Knutson, *Vice pres. (1990)*
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 Cole Burrell, *Director (1990)* Steve Eggers, *Director (1990)*
 Ellen Fuge, *Director (1992)* John Moriarty, *Director (1991)*
 Harriet Mason, *Director (1991)* Nancy Sather, *Director (1992)*
 Ellen Fuge, Don Knutson, *Field Trips and Workshops*
 James Ketchum, *Newsletter* Chris Soutter, *Historian*
 Don Knutson, *Conservation* May Wright, *Education*

Donations made to M.N.P.S. are tax-deductible

Minnesota Plant Press may be obtained through membership in the Minnesota Native Plant Society. The newsletter is distributed three times a year (fall, winter, spring). Items of interest for inclusion in the newsletter will be welcome. Please submit typed, double-spaced copy: submissions via computer disks are welcome, but please include hard copy and identify word processing program.

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