



Native Plant News

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@NPSS_SK Summer 2016

Moonwort Madness

By SARAH VINGE-MAZER

Saskatchewan Conservation Data Centre



PHOTO BY SARAH VINGE-MAZER

Showing how tiny a *Botrychium* can be.

The Cypress Hills in July are a beautiful and exciting place for botanizing. This year they played host to an assembly of botany enthusiasts who were there to learn about a special group of plants, the Moonworts (*Botrychium*). Three experts in the study of Moonworts, Dr. Donald Farrar (Iowa State University), Dr. Cindy Johnson (Gustavus Adolphus College), and Steve Popovich (USDA Forest Service), shared their knowledge about this fascinating genus.

Participants spent the first day learning about the biology, ecology,

management and systematics of the plants. *Botrychium* are a cryptic group, meaning that the morphology between species is very similar, but those species are as genetically different as any other two species. As such, the group has confounded species identification in the field for some time. *Botrychium* spend much of their time underground, sending up a single leaf (that divides into two parts) only in some years. New research has enabled the experts to determine the morphological diagnostic characters of these single leaves upon which species identification should be based. Some of these characters are very subtle, so practice with identification via taxonomic keys is a must! Participants were gifted with three new keys (some not yet in print) and a host of information to practice their identification skills in house with both live and herbarium specimens. Day two brought the group outdoors to practice those skills in the field. In addition, participants learned techniques to search



PHOTO BY SARAH VINGE-MAZER

Participants searching for *Botrychium* on hands and knees - the best way to find them.

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**President:**

Shelly Heidinger 306-634-9771

Vice-President:

John Hauer 306-463-5507

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Jacey Bell 306-380-1668

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Nadia Mori 306-946-3219

Dale Gross 306-347-0447

Andrew Stewart 306-227-0640

Wade Sumners 306-250-6659

Joanne Marchand 306-960-9313

Executive Director:

Chet Neufeld 306-668-3940

NPSS Address:

Native Plant Society of Saskatchewan

P.O. Box 21099, Saskatoon, SK S7H 5N9

Phone: (306) 668-3940 Fax: (306) 668-3940

E-mail: info@npss.sk.ca Website: www.npss.sk.caTwitter: @NPSS_SK www.facebook.com/npss.sk

Native Plant News is a quarterly publication of the Native Plant Society of Saskatchewan (NPSS) and is one of the benefits of membership. Members are invited to submit articles, news, views, photographs and comments. Views expressed by the authors are not necessarily those of the NPSS.

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November 1

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March 15

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June 15

Fall Issue:

August 1

September 15

Membership Dues (Year End November 30)

Individual \$30

Non-profit organization \$100

Family \$45

Corporate \$200

Student \$15

Life \$500

Please contact the NPSS office for information about the lifetime membership installment payment option.

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PHOTO BY SARAH VINGE-MAZER

Dr. Cindy Johnson dissects a soil core containing the roots of a *Botrychium*.

for *Botrychium*, which are often small and hidden amongst other vegetation, habitat identification, and monitoring.

The Cypress Hills is uniquely situated with both eastern and western influences on its flora. As such, the experts were on the hunt for some new species never before documented in Saskatchewan, and some that are only rarely known elsewhere in the world. Participants provided the people-power to cover more ground searching for these species.



PHOTO BY SARAH VINGE-MAZER

Dr. Cindy Johnson shows the group how to set up a monitoring plot.

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Advertising In Native Plant News

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Correction

The article in the Spring 2016 issue of the Native Plant News entitled "Dodder Plant Found on NPSS Field Trip" was written by Glen Lee, although no credit was given. Our apologies for this! We really appreciate your excellent article and all you do for the NPSS! 🌱



PHOTO BY SARAH VINGE-MAZER

Two specimens of *B. pallidum*.



PHOTO BY SARAH VINGE-MAZER

The indoor session.

Some potentially exciting discoveries were made and participants are anxiously awaiting lab confirmation.

Participants gained enhanced practical skills and knowledge, but were still left with a sense of wonder about these mysterious plants. There is still so much more to discover about them! The enthusiasm for the study of Moonworts is catching; be careful or Moonwort Madness (aka Botrychulitis) will get you too! 🌱

Upcoming Events

Public Consultation on the Federal Review of the Canadian Environmental Assessment Act

Sept. 19-20, 2016

Saskatoon, SK

Registration and more information will be available at

www.eareview.ca

You can also submit input online at their website.

Native Prairie Speaker Series Webinar - Multiple Approaches to Habitat Conservation for Species at Risk

Sept. 21, 2016

To register, go to

<https://attendee.gotowebinar.com/register/8832530113825923841>

Nature Saskatchewan Fall Meet

Sept. 30 – Oct. 2, 2016

Saskatoon, SK

For more information or to register, go to

www.saskatoonnaturesociety.sk.ca

2017 Native Prairie Restoration and Reclamation Workshop

February 8-9, 2017

Regina, SK

For more information, go to www.pcap-sk.org

To submit your native plant related event to our events list, send your information (including date, contact, phone number and location) to info@npss.sk.ca.



Upcoming Species at Risk Recovery Documents for Public Comment

We would like to invite your involvement in the upcoming recovery planning for several species at risk that may be of interest. Over the next several months, Environment and Climate Change Canada will develop recovery documents for the following plant species at risk:

Alkaline Wing-Nerved Moss (*Pterygoneurum kozlovii*)
Gattinger's Agalinis (*Agalinis gattingeri*)
Western Blue Flag (*Iris missouriensis*)
Whitebark Pine (*Pinus albicaulis*)
Yucca (*Yucca glauca*)

Under the *Species at Risk Act* (SARA), Recovery Strategies must be developed for species listed as threatened or endangered and Management Plans must be developed for species listed as special concern. Recovery documents are strategic planning documents that are intended to set the course for the survival, recovery, and management of species at risk.

Once drafted, all recovery documents are posted as Proposed on the Species at Risk Public Registry (www.sararegistry.gc.ca) for a 60-day public comment period. During this time, all those interested can make important contributions and are encouraged to provide their input.

To find out how you can become involved in the recovery planning process or to be notified when recovery documents for these species are published for comment, please contact our office at:

Email: SARA.PNR@ec.gc.ca

Telephone: 1-855-245-0331 (toll free)

Mail: Environment and Climate Change Canada, 115 Perimeter Rd, Saskatoon SK, S7N 0X4

NatureCity Festival Explored Reconciliation

CHET NEUFELD, NPSS Executive Director

From May 24-29, Wild About Saskatoon (of which the NPSS is a member) held its annual NatureCity Festival in Saskatoon. This year's theme revolved around the topic of Reconciliation, not just with our connection amongst people and cultures, but also to the land. Over 50 events ranging from nature walks to stargazing, art shows, music events and local food dinners were hosted, drawing thousands of people to the week's events. Now in its fourth year, the festival has grown steadily every year with 2016 being the biggest

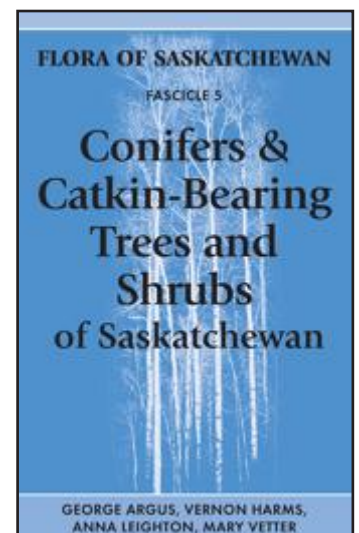
and best yet! This year's keynote event was entitled "Water Song for a River City" and featured an evening of stories and songs with Elder Maria Campbell, a distinguished aboriginal author, playwright and teacher, and an Officer of the Order of Canada.

Hats off to Candace Savage and the other organizers for another great festival. Thank-you also to the festival's sponsors: EcoFriendly Sask, City of Saskatoon, Saskatoon Nature Society and SaskOutdoors. 🌱

New FOSA Fascicle Available

The **Flora of Saskatchewan** has released its fifth fascicle "*Conifers & Catkin-Bearing Trees and Shrubs of Saskatchewan*."

The book is now available for purchase through **Nature Saskatchewan**. Other Flora of Saskatchewan titles include "*Ferns and Fern Allies of Saskatchewan*", "*Lilies, Irises and Orchids of Saskatchewan*", "*Sedges (Carex) of Saskatchewan*" and "*Grasses of Saskatchewan*." 🌱



NPSS Field Trips Provided Fun in the Sun

CHET NEUFELD, NPSS Executive Director



Nuttall's Violet (*Viola nuttallii*).

PHOTO BY CHET NEUFELD

This summer the Native Plant Society of Saskatchewan offered two summer field trips for people to get involved in. The first was a spring wildflower walk in Kernén Prairie on May 29, and was hosted as an event of Wild About Saskatoon's NatureCity Festival. Kernén Prairie is a 130 hectare remnant patch of



PHOTO BY JIM PISAROWICZ (WIKIMEDIA COMMONS)

White Milkwort (*Polygala alba*).



PHOTO BY CHET NEUFELD

Participants investigate one of the large, flat-topped boulders buried at Kernén Prairie.

fescue prairie, an increasingly rare ecosystem. Owned by the University of Saskatchewan and normally closed to the public due to ongoing research activities, the NPSS was granted special permission to access Kernén Prairie with a small group of visitors. Visitors were treated to dozens of species of spring wildflowers, including Three-flowered Avens (*Geum triflorum*), Field Chickweed (*Cerastium arvense*), Prairie Crocus (*Anemone patens*), Moss Phlox (*Phlox hoodii*), Early Blue Violet (*Viola adunca*), Nuttall's Violet (*Viola nuttallii*), Prairie Onion (*Allium textile*), Pale Comandra (*Comandra pallida*), several species of Cinquefoil (*Potentilla* spp.) and Rock Cress (*Arabis* spp.)

and many other early bloomers. Of particular interest were the flat-topped boulders that had been buried at ground level by retreating glaciers, which provided a hotter microclimate and supported a different suite of plants, some species existing nowhere else on the property except for at these sites. Participants also learned about many of the current research projects being carried out on the property. Thanks to Dr. Eric Lamb of the University of Saskatchewan for providing access to Kernén Prairie.

The NPSS held its second summer field tour on July 30 on 1360 acres of gorgeous rolling prairie and wetlands near Big Muddy Lake in the Coteau region of southeast Saskatchewan. Comprising part of the prairie pothole

region, the Coteau is incredibly diverse and is home to many threatened and endangered species of wildlife as well as provincially-rare plants. The property that we toured is the focus of a conservation initiative by the Nature Conservancy of Canada. Field tour participants engaged in a bioblitz by compiling a vegetation inventory of all species they found. In total, 79 plant species were found including one provincially-rare plant, White Milkwort (*Polygala alba*) (S3) and a few introduced species. Thanks to Dale Gross of the Nature Conservancy of Canada for hosting the tour! 🌱

Master Naturalist Program Promotes Citizen Science

CHET NEUFELD, NPSS Executive Director

During the NatureCity Festival in the last week of May, the NPSS held the first learning modules of its new Saskatchewan Master Naturalist Program. The purpose of the program is to develop a network of reliable, highly-skilled “citizen scientists” to assist with local conservation projects, while at the same time providing learning opportunities to people interested in nature. Two learning modules were developed and delivered this past spring - Urban Ecosystems and Citizen Science. The Urban Ecosystem module explored the unique and complex interface that occurs where cities and natural areas come together and the challenges and opportunities associated with these areas. The Citizen Science module highlighted the importance of involving amateur naturalists in conservation

projects, and gave participants the means and opportunities to do so. Both modules were well-attended for their introductory offering, and were given good reviews by the participants. They will be held again this fall for those who missed the initial offering, and will likely be offered in future years as well. We are also in the process of developing new learning modules which will be offered this winter (we are aiming to offer them at this year’s annual general meeting). We hope that the Saskatchewan Master Naturalist Program can become a permanent program of the NPSS, and are currently developing a strategy that will ensure its long-term viability. For more information on the program, visit the information page on our website at: www.npss.sk.ca/?s=5.projects,409
Thank-you to our supporting

individuals and organizations who have helped to develop and deliver the modules: Renny Grilz and Kenton Lysak with the Meewasin Valley Authority, Amber Weckworth, Shannon Dyck and Twyla Yobb of the City of Saskatoon, Candace Savage, Danielle Levesque of the NPSS, Wendy Comeau, Louise Jones of the Northeast Swalewatchers, Guy Wapple, Barb Hanbidge of Ducks Unlimited Canada, Valerie Martz and Joan Feather of the Saskatoon Nature Society, Elizabeth Bekolay, John Patterson, Lloyd Saul of the South Saskatchewan River Watershed Stewards, and Teri Clark with Brightwater Science and Environment Centre.

This project was undertaken with the financial support of Environment and Climate Change Canada, and the City of Saskatoon. 🌱

Rare Plants and Ranchers Summer Update

DANIELLE LEVESQUE, NPSS Project Coordinator



PHOTO BY CHET NEUFELD

Bur Ragweed (*Ambrosia acanthicarpa*).

Greetings NPSS members,

It’s been a busy and exciting season so far for this summer’s Rare Plants and Ranchers field crew (Danielle Levesque and Inger Pors). We began the summer searching for Smooth Goosefoot (*Chenopodium subglabrum* – Conservation ranking S3) on several large private ranches in the Great Sandhills region near Leader, SK. These active dunes and sandy native prairie are important habitats for many uncommon and rare plants. In addition to finding several new occurrences of Smooth Goosefoot, we were fortunate to come across some other difficult to find species including Small Lupine (*Lupinus pusillus* ssp. *pusillus* – S3), Bur Ragweed (*Ambrosia acanthicarpa* – S2), Spiny Milk-vetch (*Astragalus kentrophyta* var. *kentrophyta* – S2) and Beaked Annual Skeleton-weed (*Shinnersoseris rostrata* – S2). The remote nature of the sand dunes we were searching made for some long, scenic hikes each day, during which we enjoyed observing the other native flowers, pollinators and insects, and wildlife out on the land.

After saying goodbye to Leader, we continued our Rare Plants and Ranchers activities near Elbow, SK. We set up permanent transects so that the NPSS can monitor the long term health and survival of several known populations Smooth Goosefoot, and Western Spiderwort (*Tradescantia occidentalis* var. *occidentalis* – S1). Here we also encountered Schweinitz’s Flatsedge (*Cyperus schweinitzii* – S3). One of the other fascinating highlights of this trip was to find the parasitic vines of one rare plant, Dodder (*Cuscuta* spp. – still working on species ID) twining themselves around the stem of another (Smooth Goosefoot)!

We took a brief break from our Rare Plants and Ranchers duties

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PHOTO BY DANIELLE LEVESQUE

Conducting range health assessments.

to venture to the Cypress Hills for a workshop on Moonworts (*Botrychium* spp.). We convened with other prairie plant enthusiasts to learn about the ecology and systematics of this little-known fern genus from experts Donald Farrar, Cindy Johnson, and Steve Popovich. After some classroom time, we took to the field to look for wild specimens in the park with great success. Our group found several different *Botrychium* species, including one never before documented in our



PHOTO BY CANDACE NEUFELD

Hairy Prairie-clover (*Dalea villosa* var. *villosa*).

province and one that our experts suspected may be a never-before-described species!

Most recently, we have moved on to some smaller pastures near Caron, SK, where we have teamed up with Erin McKlusky, a plant Species at Risk technician from Canadian Wildlife Service, to monitor, map and count populations of Hairy Prairie-clover (*Dalea villosa* var. *villosa* – S2). In our first week alone we have counted

almost 8,000 individuals of this showy rare species! We are excited to see what the rest of the summer has in store for us!



PHOTO BY C. NEUFELD

Western Spiderwort (*Tradescantia occidentalis* var. *occidentalis*) near Elbow, SK.

Finally, the Rare Plants & Ranchers crew would like to extend special thanks to the program participants who have granted access to their beautiful land and shared with us their insights about the responsibilities and rewards of habitat stewardship.



PHOTO BY DANIELLE LEVESQUE

Dodder (*Cuscuta* spp.) parasitizing Smooth Goosefoot (*Chenopodium subglabrum*).

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PHOTO BY DANIELLE LEVESQUE

NPSS field assistant Inger Pors taking a close-up.

Thanks to our funding partners:

Part of the National Conservation Plan, this project was undertaken with the financial support of the Government of Canada.

Dans le cadre du Plan de conservation national, ce projet a été réalisé avec l'appui financier du gouvernement du Canada.

This project was also financed in part by the Saskatchewan Ministry of Environment's Fish and Wildlife Development Fund *



PHOTO BY CHET NEUFELD

Spiny Milk-vetch (*Astragalus kentrophyta*).

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