

# Native Orchid News:

The Newsletter of Native Orchid Conservation Inc.

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### AGM Reminder

Friday, February 17, 2012

### Plant of the Month

Green-tongue liverwort

(*Marchantia polymorpha*)



Will Milne



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High Magnification.

Normal width of a pore is about 0.1 mm.

# Plant of the Month

Green-tongue liverwort (*Marchantia polymorpha*)

By Doris Ames

The common name “liverwort” describes the appearance of this common, cosmopolitan plant; “liver” refers to its resemblance to liver lobes, and “wort” means plant or herb. “Green-tongue” specifically refers to the appearance of this particular species.

We usually describe vascular plants on this page but liverworts are non-vascular plants. Non-vascular plants have simple bodies but complex reproduction methods and they seem very strange at first but are actually really interesting. Bryophytes, is a term used to describe the mosses and the liverworts. Bryophytes are non-vascular plants that have poorly developed tubes for transporting water and food. They do not have flowers and produce spores rather than seeds and consist of two generations, the gametophyte and the sporophyte. The gametophyte is the thallus or flattened body of the plant and the sporophyte is often raised above the ground on a stalk.

Most liverworts are leafy like mosses but about 20% are thalloid (composed of a flattened body called the thallus that is not differentiated into stems and leaves). The plant forms a rosette of flattened thalli with forked branches. The thalli grow up to 10cm long and 2cm wide. The *Marchantia* thallus is bright green, and covered with pores used in gas exchange. It has a thickened midrib and rhizoids on the underside that attach it to the soil or other substrate.

Because they do such a poor job of transporting water and they need water to reproduce, liverworts are always found in colonies growing in wet or damp soil in swamps, bogs, fens, along stream banks and on burned over ground in the Parkland and Boreal Forest. They are common in Manitoba (actually there are dozens of species of leafy and thalloid liverworts) but they are often overlooked. *Marchantia* is the most well known and most commonly studied of the liverworts possibly because it is large and also because it is often a greenhouse pest.

Liverwort reproduction is very complex and requires water and the help of raindrops. *Marchantia* can reproduce both asexually (vegetatively) and sexually.

Asexual reproduction is accomplished through gemmae found in disc-shaped cups on the surface of the thallus. Each cup contains several gemmae (immature propagules). When it rains the raindrops can knock the gemmae out of the cups and throw them as much as 18" away from the parent plant. Each gemma can grow into a new plant that is an exact copy of the parent plant..

Sexual reproduction is even more complicated and involves interaction between the spores of male and female gametophytes. (I am only going to give a highly simplified version here.). *Marchantia* are dioecious. Sexes are usually found in separate colonies adjacent to one another. Male plants have sexual organs in sacs on flattened lobed discs at the top of a long stalk. Female plants have sexual organs beneath finger-like lobes that radiate outward from tops of long stalks. The stalks are positioned between the grooves of the thallus. The male gametangia are called antheridia and contain numerous sperm. The female gametangia (archegonia) are flask-like and each contains a single egg. Rain will splash and release the flagellated sperm cells sending them up to a meter away from the parent plant. The sperm are attracted to the eggs by chemicals. A sperm cell will swim into an archegonia and fertilize an egg (ovum). A fertilized ovum develops into a small sporophyte plant which remains attached to the larger gametophyte plant. The sporophyte produces male and female spores which develop into free-living gametophyte plants.

Green-tongue liverwort was used by early herbalists to treat liver problems and tuberculosis.

## **President's Report**

By Doris Ames

This was an eventful year and one tinged with much sadness. My husband Al died June 1 and long time NOCI board member Eugene Reimer died November 5. We have lost two wonderful long time volunteers. They will both be sadly missed. But as is often the case, along with that bad news came some wonderful news!

Before Eugene died he set up some endowment funds including one with the Winnipeg Foundation for \$600,000 to Debwendon Inc. for the maintenance of the planned interpretive trail and boardwalks into the Brokenhead Wetlands. Subsequently on October 24 Premier Selinger announced funding of \$1 million to build the trail. The Province of Manitoba will commence construction next fall. What a legacy they have left to all Manitobans! See details and pictures at [www.nativeorchid.org](http://www.nativeorchid.org)

Please mark your calendars with the date of the upcoming AGM on Friday, February 17, 2012 and remember to renew your membership now if you have not already done so.

I am also asking you to consider making a donation to help fund our fieldtrips and conservation work at the same time. Tax receipts will be issued for \$10.00 or more. Donations to NOCI can be made online at <http://www.nativeorchid.org/shopping-Donation.htm>

Thanks also to all of you who attended Eugene's memorial service on November 24. It was heart-warming to see many NOCI members turn out to honour him as the exceptional person that he was.

My sincere thanks to all of you for your support to NOCI in the past along with my best wishes for a warm and wonderful holiday season.

## **Members' Night 2011**

By Peggy Bainard Acheson

Wow! We couldn't have asked for better weather on Friday, October 21, for NOCI's eleventh annual Members' Night at the Dakota Lawn Bowls Club in Winnipeg.

Peggy Bainard Acheson, MC, heartily welcomed the 34 members and guests who came out to enjoy a couple of great presentations, some socializing, and some fabulous refreshments.

Doris Ames, President, was pleased to announce that the Premier of Manitoba, Greg Selinger would be making an important announcement with respect to the Brokenhead Ecological Reserve at the Legislature on Monday, October 24, and invited members to attend. Of course, we all know what that good news was now as reported elsewhere in this newsletter.

Next, John Dyck, our hard-working field trip coordinator, took us right back to the spring and summer and gave us a lovely visual overview of the 2011 Field trip program. Thanks for reminding us of those hazy, crazy days of summer and some great memories, John!

We were also pleased to have long-time member Lorne Heshka give us his presentation on "Variations on a Theme – the heterogeneity of our native orchids". His beautiful pictures brought home how, just like people, orchids are individuals and the potential range of diversity and variability that is possible.

Door prize winners were Ian Ward, Carol Martin, Yvonne Lozinski, Linda Pearn, Derrick Ko Heinrichs, Emery Lojtas, Denny Smith, Joan Heshka, Alan Mason, John Neufeld, Ruby Tekauz, and Sheila Bradford. Thanks to those who provided door prizes!

Raffle prizewinners of Double D's cheesecakes were Peggy Bainard Acheson and John Neufeld.

I would like to thank all the NOCI board members and other volunteers who came out early to set up or stayed late to help clean up. A special thanks to Richard Reeves and Rose Kuzina, as well as Will Milne for his technical assistance. We couldn't do this without you. Thanks, all!



# Brokenhead Wetlands Ecological Reserve Announcement

October 24, 2011

## **“New Trail to Make Wetlands More Accessible to Public While Protecting Environment” : Selinger**

A new, \$1-million interpretive trail and boardwalk next to the Brokenhead Wetland Ecological Reserve will make the wetlands more accessible and highlight many of their unique and rare features, Premier Greg Selinger announced today. “This new resource will allow the public to safely visit the area without causing damage to the fragile native plants and their habitat,” said Selinger. “I especially want to thank our partners, Debwendon Inc. and Eugene Reimer, for their support in making this new trail possible.”

The Brokenhead Wetland Ecological Reserve was established in 2004. The 563-hectare parcel of land is located along PTH 59 northeast of the Brokenhead Ojibway First Nation and features 23 species of provincially rare and uncommon plants, 28 of 36 native orchid species including the ram’s head lady’s slipper (*Cypripedium arietinum*) and eight of Manitoba’s 10 species of carnivorous plants. The Brokenhead wetland is a calcareous fen, a wetland type considered rare in North America. A fen is a kind of peatland known for its variable water levels. Groundwater and surface water movement is a common characteristic of fens and can be observed in the surrounding rare white cedar forest and at the forest/fen interface.

The premier noted, Eugene Reimer, a long-time naturalist and board member of Native Orchid Conservation Inc., has donated \$600,000 to the Winnipeg Foundation to establish the Eugene Reimer Environment Fund. The fund will provide an annual grant to Debwendon to maintain the Brokenhead Wetland Interpretive Trail. “It brings me great joy and satisfaction to make a contribution towards protecting these wetlands where I spent so many happy hours enjoying and learning about nature,” said Reimer.

Debwendon Inc. is a non-profit organization formed in 2007 to promote and preserve the Brokenhead Wetland Ecological Reserve, raise public awareness of the historic cultural connection between the Brokenhead Ojibway Nation and the Brokenhead Wetland and, over the long term, construct and maintain a boardwalk and interpretive trail adjacent to the Brokenhead Wetland Ecological Reserve. “The word debwendon means ‘trust’ in Ojibway,” said Carl Smith, chair of Debwendon. “It has been more than 10 years since we started to work to protect the Brokenhead wetlands. We are overwhelmed by Eugene’s generous donation and excited to see work on the trail begin.”

This initiative supports the province’s trail-based tourism strategy, which focuses on engaging tourism and service providers to capitalize on the potential of outdoor recreational tourism. Since 2001, the province has invested more than \$27 million in trails funding including \$12.8 million for Winnipeg trails and \$1.4 million to complete the Border to Beaches active transportation route, which stretches 370 kilometres from the Ontario border to the beaches of Lake Winnipeg.

Construction of the Brokenhead Wetland Interpretive Trail will begin in 2012 and take approximately two years to complete, said Selinger.