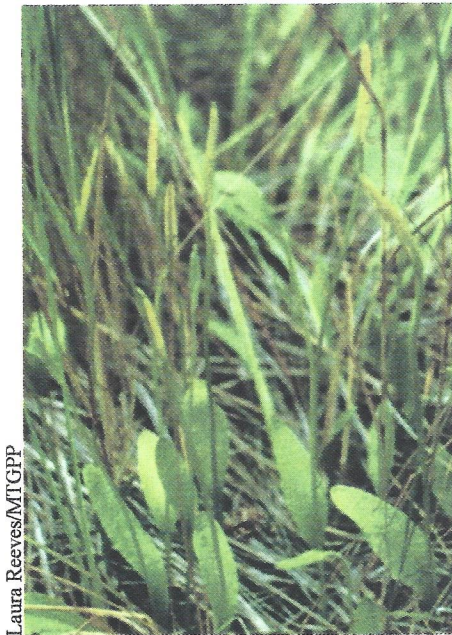


Native Orchid News:

THE NEWSLETTER OF NATIVE ORCHID CONSERVATION INC.

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Field Trips
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Rare Plant of the month
Northern Adder's-tongue
(*Ophioglossum pusillum*)

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PRESIDENT'S REPORT

Our sixth annual general meeting on April 14, 2004 was a success as approximately 30 members turned out to elect directors, review the financial statement and to socialize. Four members, whose terms were up, were re-elected to the NOCI board by acclamation. They were Doris Ames, Richard Reeves, Eugene Reimer, and Alice Warren. Your new board is now:

President:	Doris Ames
Vice president:	John Neufeld
Secretary:	Alice Warren
Treasurer:	Eugene Reimer
Directors:	Peggy Bainard Acheson (membership chair)
	Bob Joyce (field-trip coordinator)
	Richard Reeves (newsletter editor)

One of our members, Lorne Heshka, gave a wonderful PowerPoint presentation on the orchids in the Churchill area. Refreshments were donated by John Neufeld's firm, Smith Neufeld Jodoin.

We are now selling lottery tickets to raise money for our educational displays. This is a joint venture with the Ft. Whyte Nature Centre. There are some wonderful trips as prizes, including one to Churchill. If you would like to help us with this fund raising effort, you can purchase tickets from Bob Joyce at 256-8113. We would appreciate your support.

Thanks to all the members who volunteered to help us with displays this spring. This is the last newsletter you will receive until the fall. The NOCI board does not meet in July and August.

Field trips are starting very soon and the dates appear elsewhere in this newsletter. We have a couple of new locations this year. Hope to see you out in the field. Have a great summer!

RARE PLANT OF THE MONTH (SEE COVER PHOTO)

Northern Adder's-tongue (*Ophioglossum pusillum*)

By Laura Reeves

The Northern adder's-tongue fern has been ranked S1 by the Manitoba Conservation Data Centre, meaning that it is critically imperilled in the province of Manitoba. To date, this species has been recorded in only one location on the Manitoba Tall Grass Prairie Preserve. The single population of plants was discovered in 1996 by Preserve field staff in a wet swale that is bisected by a municipal road. Associated species include sedges (*Carex buxbaumii*, *Carex lanuginosa*), silverweed (*Potentilla anserina*) and small willows. The swale where these plants are found is generally inundated with water until late spring/early summer. Extensive explorations of similar habitats within the Preserve have failed to result in any additional sightings.

This species is known to range from North Dakota east to New Jersey. Though it was once common in the northeastern United States, it has declined dramatically in recent decades. It is a delicate plant most likely to be threatened by changes in the hydrology of its habitat, grazing and trampling.

The adder's-tongue fern is an inconspicuous perennial species. It has a maximum height of approximately 15cm, making it much shorter than the surrounding vegetation. It's single, basal, orchid-like leaf, has a netted venation, differentiating it from parallel-veined orchid leaves. The leaf is pale green and rounded-ovate. From this basal leaf grows a single fertile stalk, which sports 10-40 tightly arranged sporangia at its tip. It is this fertile stalk that has given rise to the name "adder's-tongue". Not all plants are fertile and many appear as just a single leaf.

Repeated visits to this patch of adder's-tongue have revealed an interesting fact - that these plants do not appear above ground until mid-July. Until then, there is no evidence of the plants' existence.

Ferns have a very different life cycle than other vascular plants. The sporophyte stage, which is the above-ground plant described above, is capable of vegetative reproduction by spreading at the roots. However, it does not reproduce sexually. Rather, the spores produced in the sporangia germinate and develop, underground, into gametophytes. (Both the spores and gametophytes contain a single set of chromosomes.) The gametophyte requires a symbiotic relationship with a mycorrhizal fungus. Sexual reproduction occurs when an egg cell is fertilized with a second set of chromosomes. It then develops into the above-ground sporophyte.

It is interesting to note that the adder's-tongue fern has the highest number of chromosomes among the vascular plants with a diploid number of 960 (1320 for the southern adder's-tongue). Human beings, by comparison, have a diploid number of 46 chromosomes.

NOCI FIELD TRIP SCHEDULE 2004

SATURDAY, MAY 8 - Richer, Hadashville, East Braintree - Old Dawson Road and pine forests - spring flowers, (no orchids yet) Three-flowered avens, Crocus, Bloodroot and Trailing arbutus

SATURDAY, JUNE 5 - Marble Ridge - spruce forest over limestone - Fairy-slipper, Ram's-head lady's-slipper and other orchids

SATURDAY, JUNE 12 - Woodridge - cedar bog - Small round-leaf orchid, Showy lady's-slipper, Yellow lady's-slipper and other orchids

SATURDAY, JUNE 19 - Brokenhead Wetlands, Stead Road site, Belair - Moccasin flower, Dragon's-mouth orchid, other orchids and rare plants

SATURDAY, JULY 10 - south of East Braintree - coniferous bog - Grass-Pink, Lady's-slippers, Pitcher plants etc.

SATURDAY, JULY 24 - Tolstoi, Buffalo Point - tall grass prairie and mixed woods - tall grass prairie species, Western prairie fringed-orchid, and Small purple fringed-orchid. (This trip may have to be earlier in July depending on the orchids and the availability of trip leaders.)

Bob Joyce is our field-trip coordinator. **Please contact Bob at 256-8113** if you would like to join us on one of these trips. We take a limited number of members to some of the rarer and more delicate habitats, so register early. There is a charge of \$10.00 per adult to cover costs and you will be required to sign a liability waiver. You must be a member of NOCI to join us on these trips. Please use your discretion as to whether you are able to participate depending on the degree of difficulty walking. Bob can advise you. Most trips are suitable for any healthy adult. Our trip leaders are all amateur naturalists with field experience. We cannot guarantee that you will see every plant we mention in bloom, but we can guarantee that you will see many different plants and animals and you will certainly meet interesting people. **Please let Bob know if you have room for extra passengers in your car.** Many of our members do not have a car available to them but would love to join us on field trips. As well we will arrange to meet at a place in the city that is on a bus route, before we set off on the field trip.

Please dress suitably for the weather as we intend to go rain or shine. **Hats and drinking water are strongly recommended.** You will be notified if a trip has to be cancelled for some reason.

The Evolution of an Idea

By John E. Neufeld

May 11, 2003

Four Directors of Native Orchid Conservation Inc. went on a most unusual field trip today. To of all places, Cinema City. We went to see the movie *Adaptation* which is based on the non-fiction book *The Orchid Thief*, written by Susan Orlean which in turn was based on an article she wrote for *The New Yorker*. The screenplay was written by Charlie Kaufman, one of the wackiest and most original minds in modern movies. Not only is he able to 'think outside the box,' he has no idea there is a box. He is the one who wrote the screenplay for that earlier strange movie *Being John Malkovich*. *Adaptation* also is a bizarre movie, so it was only fitting that the directors of Native Orchid Conservation Inc. went to see it. They're pretty weird too.

At first when I watched the movie, although I enjoyed it immensely and found it extremely funny, I did not like the 'adaptation' of a book I loved. It was not the book I had read and loved. It was something very different. But then I realized that changes were absolutely necessary. Just as in life. Where adaptation does not occur, life dies out.

For some time now it has been my belief that evolution is one of the most fascinating and fruitful scientific ideas of all time. In its own odd way, this movie is further evidence of that. A very important principle for the theory of evolution propounded by Charles Darwin was the statement that small changes in species over very large periods of time, can result in huge changes. Astounding changes! Over time, mountain ranges can sink, and continents can raise mountains where low lands were located. If you go back far enough in time, evolution postulates that every being shares a common ancestor. For example most of us would tend to say that there is an unbridgeable gulf between us and bacteria. Yet according to evolutionary theory humans and bacteria shared a common ancestor. A vast amount of time is needed to accomplish that, but our universe has been around for billions of years. During that time minute individual changes at each generation have created huge overall change.

Some species are not able to adapt to changed circumstances fast enough, so they tend to disappear when facing challenges. Other species are able better to adapt to changed circumstances and those that are successful are able to pass on their genes to the next generation. In this way adaptation to change is crucial to evolutionary success.

So too with the book *The Orchid Thief*. It was a very successful book, but it cannot remain unchanged. Orlean wrote a book about an orchid fanatic. She wanted to know what made a person able to so zealously pursue a passion. It just so happened that in the case of the protagonist of the book his passion was orchid hunting. Yet she added herself to the story of the orchid hunter. She became a character in the life of John Laroche the orchid thief. She was the person trying to understand how another could have such a passion. So the story of John Laroche was adapted by her. Then Charles Kaufman, the screenwriter adapted Orlean's story and added himself to the story. He took liberties with the story, as surely Orlean had done earlier.

Then it was the turn of the NOCI directors on their 'field trip' to Cinema City. We turned it into the story of fellow orchid nuts. Now I adapted the story again by reviewing it here. Now it has become something entirely different again. If someone else sees the movie it will be something even different to them. Over time the book has become something different. In time it will become something that is radically different from what it started out as. That is life. That is evolution.

So now I urge each one of you to go and read the book and see the movie. Make your own adaptation. Don't rely on mine. Make the book and the movie yours. See what it will turn into next. You might be surprised.