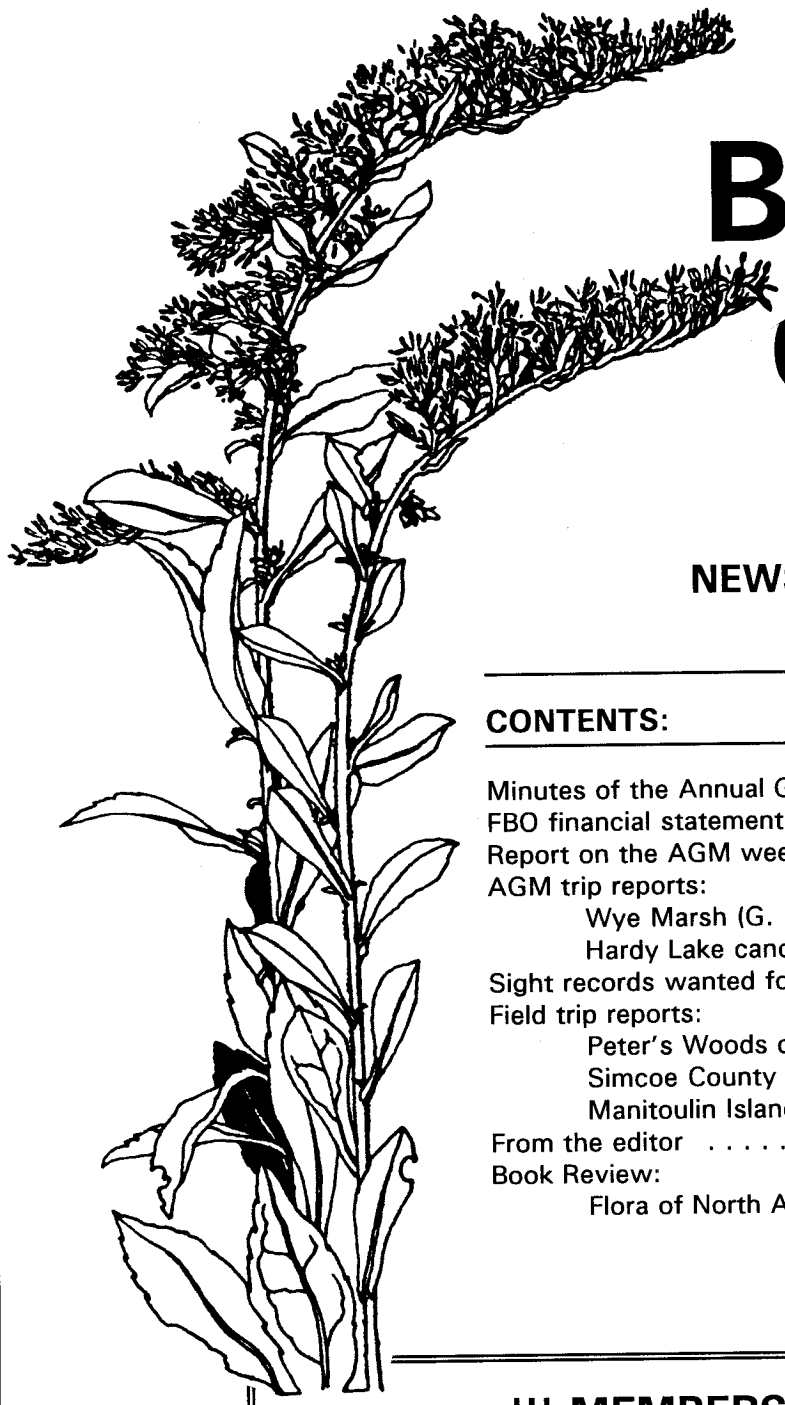


FIELD BOTANISTS OF ONTARIO

ISSN: 1180-1417

NEWSLETTER

Fall 1994
Volume 7(3)

CONTENTS:

!!! MEMBERSHIP RENEWAL !!!

FBO memberships fall due at the beginning of the calendar year.

Please help us by using the enclosed form to renew your membership early.

Individual $12.00 Family $15.00 Life $250.00

FIELD BOTANISTS of ONTARIO

NEWSLETTER
Published quarterly by the FBO
ISSN: 1180-1417

The FBO is a non-profit organization founded in 1984 for those interested in botany and conservation in the province of Ontario.

ILLUSTRATIONS

The drawings in this issue of the FBO Newsletter are by Bob Bowles, Jane Bowles, Erich Haber and Irene McIlveen. The cover drawing, by Irene McIlveen is Gray Goldenrod (*Solidago nemoralis*).

FIELD BOTANISTS OF ONTARIO
MINUTES OF THE ANNUAL GENERAL MEETING

WYE MARSH WILDLIFE CENTRE, MIDLAND, ONTARIO
SATURDAY, 6 AUGUST 1994

The meeting was called to order by President Bob Bowles; 42 members were in attendance.

Approval of the minutes of the 1993 Annual General Meeting. Moved by Bruce Falls and seconded by Wayne McShayne. Carried.

Treasurer's Report:
Ilmar Talvila presented a statement of Revenue and Expenses and briefly outlined important aspects. The finances are in good condition. Ilmar thanked Don Kirk who did an excellent job of auditing the books for the FBO.

Committee Reports:
Membership: Bill McIlveen reported that the membership numbers are good, with 222 individual, 50 family and 2 life members.

Field Trips: Irene McIlveen reported that attendance of field trips has been good. The lichen workshop in Sudbury had a low turnout, perhaps due to distance, but those who went found it excellent. Those interested in workshops were reminded to register early, as they book up quickly.

Changes in the Executive:
George Bryant, Past-president, announced the stepping down of Mary Gartshore and Bill Crins, and introduced the new member to the executive, Claudia Schaefer.

Bob Bowles, who has agreed to stay on as President for another year, announced Vicki Young as Vice-president. He also reported on the vacancy for Newsletter Editor, as Jane Bowles has asked to step down as soon as a replacement is found. Bob commended her on her excellent work over the past six years, and thanked her sincerely. An appeal was made to the general membership, that persons interested in this position should contact Bob Bowles.

The 1994-1995 Board of Directors was introduced as follows:

President:	Bob Bowles	**Membership:**	Bill McIlveen
Past-president:	George Bryant	**Field Trips:**	Irene McIlveen
Vice-president:	Vicki Young	**Executive:**	Dale Hoy
Treasurer:	Ilmar Talvilla	**Editor:**	Jane Bowles
Secretary:	Claudia Schaefer		

Annual Meeting for 1995:
Vicki Young announced that the next AGM will be held at the Pinery Provincial Park on Lake Huron in late September, and outlined the meeting facilities and habitats for field trips.

Bob Bowles opened the floor for comments or questions from the general membership. The business meeting was adjourned at 8:15 p.m.

FIELD BOTANISTS OF ONTARIO
STATEMENT OF REVENUE AND EXPENSES

	January 1 - July 31, 1994		January 1 - August 31, 1993	
Bank balance beginning of period		$4,908.79		$ 6,088.86
REVENUE				
Memberships	982.00		1,357.00	
Field trips	1,859.00		3,411.00	
AGM	-----		125.00	
Donations	10.00		-----	
Publications	-----		(10.00)	
Bank interest	5.87		30.90	
US exchange	18.45	2,875.32	5.58	4,919.48
		$ 7,784.11		$ 11.008.34
EXPENSES				
Field trips	488.74		970.22	
Honoraria	150.00		375.00	
AGM	-----		-----	
Newsletter	-----		2,347.23	
Publications	-----		64.68	
President	75.81		206.20	
Membership	-----		41.68	
Treasurer	-----		46.44	
FON membership	-----		-----	
Filing fees	50.00		-----	
Trip insurance	-----		-----	
Bank charges	0.60	(765.15)	9.60	(4,061.05)
Bank balance		**$ 7,018.96**		**$ 6,947.29**

REPORT ON THE AGM WEEKEND

It was a great weekend. What else would it be with good weather, nice people, very special natural areas, great trip leadership and oodles of interesting plants? Sandwich these items around an enjoyable evening briefly discussing business items, boggling the mind in the plant quiz, and hearing a great speaker with great slides. It doesn't get much better than that.

Saturday August 6th started out with three trips to choose from, and no one was disappointed with their decision. Some canoed with Al Sinclair in Hardy Lake Provincial Park, while others had a dash of Bob Bowles at Matchedash Lake. A third group toured the Wye Marsh fen with the Executive Director of the centre, Bob Whittam. Groups of hungry hikers headed into town for dinner, and met up again later at the centre to get the hard facts on the FBO (not so hard, really). Executive members were emerging from their meeting, with long drawn looks on their faces. As it turned out, it was only the thought of the upcoming plant quiz that distressed them. In actual fact, Don Kirk's concoction of obscure but beautifully photographed plants was lots of fun, as long as one realized that one out of twenty was a good score. Bob Whittam welcomed the group to Wye Marsh and outlined the objectives of the centre. Business began and ended within an hour; reports from the treasurer and the outline of next years AGM comprised the bulk of it.

Mike Oldham from the Natural Heritage Information Centre (NHIC) then gave an interesting, informative and inspiring talk. The start-up and role of the NHIC, based in Peterborough, was discussed first. The focus then switched to rare plant species in Ontario, illustrated by beautiful slides and distribution maps. The talk finished with a thorough summary of the threats faced by rare plants and rare habitat types within Ontario. After Bob Bowles thanked Mike Oldham for speaking at the AGM, members moved to the sandwich and dessert trays, where one could chat with fellow plant appreciators.

Yet the weekend did not end there! For those interested, and there were many, on Sunday John Riley from the Ministry of Natural Resources, led a walk through the Holland Landing Prairie close to Newmarket. What were the topics addressed in this walk, you ask? One could say it was a natural history/management strategy/plant identification/human impact assessment/ecological field trip, due to John Riley's broad knowledge base and obvious concern and appreciation for the area.

Claudia Schaefer

WYE MARSH WILDLIFE CENTRE

As part of the 6 August 1994 Annual General Meeting weekend, a party of nine FBO members opted for a hike within the Wye Marsh Wildlife Centre. Sections visited included a fen where Kalm's Lobelia (*Lobelia kalmii*), Marsh-bellflower (*Campanula aparinoides*), Grass-of-Parnassus (*Parnassia glauca*) and lots of Pitcher-plants (*Sarracenia purpurea*) were observed.

The tour's advance publicity suggested that Twig-rush (*Cladium marisicoides*), White Beak-rush (*Rhynchospora alba*) and Narrow-leaved Fringed Gentian (*Gentianopsis virgata*) were all possibilities. The Twig-rush was found with ease, but there was a lack of unanimity as to the identity of *Rhynchospora alba*. One specimen of *Gentianopsis virgata* was found, but it was not yet in flower. Finding Beaked Spike-rush (*Eleocharis rostellata*) was a bonus.

Other habitats visited included mixed woods and open marsh. Ferns were a feature of the trail. Nine species included Oak Fern (*Gymnocarpium dryopteris*), American Royal Fern (*Osmunda regalis*) plus several luxuriant stands of Northern Maidenhair Fern (*Adiantum pedatum*).

Diversity of habitat and diligence of observers combined to produce a total of 60 herbs and shrubs in flower. Many others were past flowering; some already bore fruit. One of the latter was Common Buckthorn (*Rhamnus cathartica*). A specimen (past flowering) of a recent visitor, Martagon Lily (*Lilium martagon*) was indeed a specialty item.

The outing was all upscale. The weather was perfect. Hosts Bob Whittam and Robin Tapley supplied an appreciated mix of expertise and hospitality. And, of course, having Frank Cook along was like having Euclid as your Geometry teacher!

Gerry Bennett

HARDY LAKE PROVINCIAL PARK CANOE TRIP

Hardy Lake is a rare entity in Muskoka, a lake readily accessible, but with no cottage development, definitely a regionally rare species! The occupants of four canoes leisurely paddled around the shore on 6 August 1994, observing Atlantic Coastal Plain flora.

We had not paddled far before *Rhexia virginica* (Meadow-beauty) and *Xyris difformis* (Yellow-eyed Grass) were seen in good numbers. Other coastal plain flora included *Cladium mariscoides* (Twig-rush), *Drosera intermedia* (Spatulate-leaved Sundew), *Eleocharis robbinsii* (Spike-rush), *Juncus militaris* (Bayonet Rush), *Nymphoides cordata* (Floating-heart), *Potamogeton bicupulatus* (Pondweed) and *Elatine minima* (Waterwort). The *Elatine* was a big hit with most observers for we thought we might not find it. However Al Sinclair, our leader, knew that once we paddled into the right area we could not miss a plant the size of *Elatine minima*. I think a nomenclature change is overdue for this species, it should be *Elatine minuta*! In all twelve species of the Atlantic Coastal Plain flora were found.

The term Atlantic Coastal Plain flora refers to those species that occur most abundantly in the coastal plain from Cape Cod to Florida and along the gulf coast of Texas, and have a limited distribution elsewhere. The coastal plain flora of Ontario is thought to have arrived via the Hudson River and postglacial Lake Algonquin. There are two disjunct centres of coastal plain flora in Canada; one to the east of Georgian Bay on the Canadian Shield and the other in southwest Nova Scotia (Keddy and Sharp, 1989).

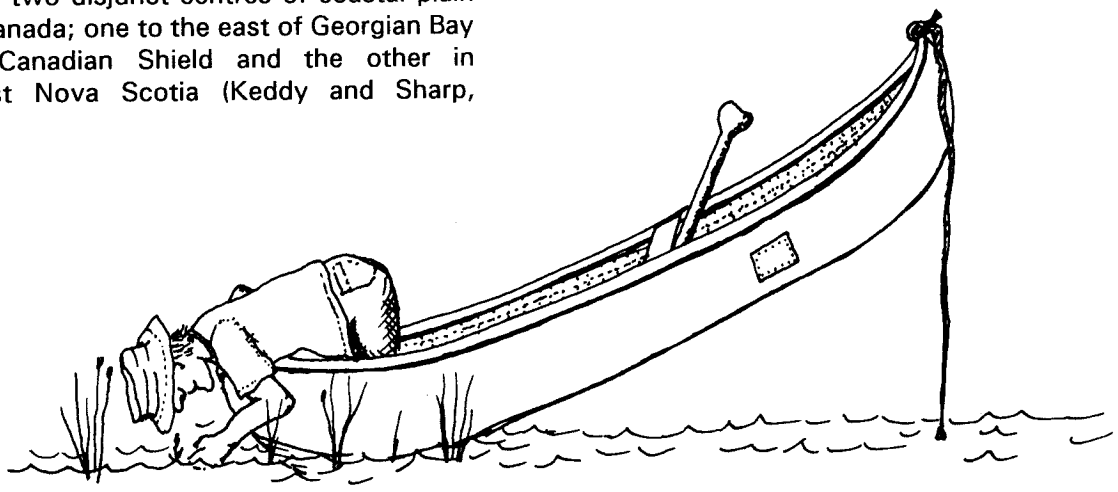
Atlantic coastal plain vegetation is generally found on sandy or gravelly lakeshores on lakes with a high degree of year to year water level fluctuation. Periodic high water kills shoreline shrubs and thus establishes a thin strand of suitable habitat for coastal plain vegetation when the water levels drop. Most coastal plain species persist as buried seeds and when the water drops, this seed bank provides a quick start for coastal plain species. In many lakes the water level control is provided by beavers, who abandon their dams after a few years when food resources become scarce.

It is difficult to imagine a better way to spend a day than paddling leisurely around a jewel of a Muskoka lake, in good company and with a knowledgable leader, learning about our natural heritage.

Margo Holt

Reference:

Keddy, C.J. and M.J. Sharp. 1989. Atlantic Coastal Plain flora conservation in Ontario. Prepared for Natural Heritage League and World Wildlife Fund.



SIGHT RECORDS WANTED FOR INVASIVE PLANTS

It was interesting to read in the recent FBO Newsletter (Volume 7(2):6) about the abundance of Garlic Mustard (*Alliaria petiolata*) in the London area. It was apparently already locally common in Middlesex County in the mid 1950s (Montgomery, 1957), this after a period of perhaps only about 20 years of spread in the region. The earliest record of the species from London is from 1936.

This plant has a much older history of introduction into North America. It was first collected on Long Island in Queens County, New York in 1868. Its occurrence in Canada was first recorded in a collection from Toronto made in 1879. Subsequently it was picked up in Ottawa in 1891 and Quebec City in 1895. This disjunct appearance, within a short time span, at cities widely separated geographically, probably indicates its independent introduction by European immigrants who valued the plant for its medicinal and culinary uses. An excellent account of this species is given by Cavers *et al.* (1979) in their review of the biology of this weed.

The FBO Newsletter article served as a reminder for me to contact Ontario naturalists for distributional records of invasive plants, and most particularly for sight records of Garlic Mustard. For the last three years I have been compiling data on invasive plants of natural habitats. Initially this was for the preparation of a report on invasive plants for the Canadian Wildlife Service (CWS) with David White and Cathy Keddy. This subsequently was published in paperback form (White *et al.*, 1993) and is available as a free publication from the CWS. More recently, as a consultant to the National Atlas Information Service, Natural Resources Canada, I have been involved in helping to set up the Biological Inventory of Canada Database System (BIOCAN-DBS) of digital files of georeferenced data. This work is being supported by CWS and the Canadian Museum of Nature.

The development of georeferenced databases, i.e., ones having records with coordinates used for computer mapping and analysis, and other digital range files for wildlife species, is in support of the requirements of various governmental agencies who need such digital information for various purposes. One of these is for establishing a monitoring capability for invasive species.

The BIOCAN-DBS presently has digital range information on the common vertebrates of Canada (mammals, birds and reptiles and amphibians - no fish data as yet). As well, database files for computer mapping of nationally rare vascular plants that are candidates for status report preparation by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), database files on endemic plants of Canada and on the arctic benthic marine algae are on hand. Files of invasive plants of natural habitats are in preparation. The latter include some of the species mentioned in the CWS publication (White *et al.*, 1993) as being of greatest concern in wetland and upland sites. These include plants such as Purple Loosestrife (*Lythrum salicaria*), European Frog-bit (*Hydrocharis morsus-ranae*), Flowering-rush (*Butomus umbellatus*) and Glossy Buckthorn (*Rhamnus frangula*) in wetlands and Garlic Mustard and Common Buckthorn (*Rhamnus cathartica*) in upland sites.

Alliaria petiolata

All of this preamble is by way of introduction and justification for asking the membership for help in gathering data on certain invasive plants. To date,

I have been compiling information mainly from herbarium specimens. These, however, provide mainly historic information on the spread of a species. As important as that is, we need as much current information as possible to fill in gaps and to represent the present-day range reasonably accurately.

I would very much appreciate sight records for Garlic Mustard, Flowering-rush and European Frog-bit.

I have access to current sightings for Purple Loosestrife being sent in to the Canadian Wildlife Federation as part of the Project Purple initiative in the province, and have done several major highway transect tours across southeastern and southcentral Ontario recording sightings. Herbarium records are presently also being compiled for this species. I would still welcome, however, additional sight records. There is a potential for missidentification of the two Buckthorns, so for the present I am not specifically asking for sight records of these species from the membership at large. If some of the seasoned field botanists have time to extract information or draw my attention to reports that document records for these species such information would be most welcome.

A comprehensive database of herbarium specimens, literature reports and my personal field records of Garlic Mustard from Ontario has been compiled for all of North America. This has been possible with considerable help from retired phytogeographer Jim Soper. Additional data compiled by Victoria Nuzzo of Rockford, Illinois, from US herbaria not surveyed by us, has brought the size of this database close to 2000 georeferenced records. Information is also being compiled from Ontario life science inventories produced for the Ministry of Natural Resources. Records of this species from any sites, but particularly from parks, conservation areas and any other protected lands, would be most appreciated. Our special concern over this species is that it seems to have spread even faster than Purple Loosestrife in North America.

Sight record information should include: county; the precise locality (kilometric distance or mileage from the nearest populated place along a highway or from a cross-road on the Ontario road map or on a topographic map sheet); brief habitat description; size of patch or relative numbers of plants or shoots (patch about 1 m square, one, several, hundreds, hectares, etc); date seen (year, month and day if available); any significant observation on the apparent spread of a population or colony would also be helpful as would information on the introduction of the species to a site. We will determine the latitude and longitude for each record. However, if you have accurate coordinates available, these would be most welcome and would speed up our work. Coordinates should be reasonably precise but need only be determined to the nearest minute of a degree.

For those sending sight records, or records from their personal herbaria, who do not have a copy of the publication by White, Haber and Keddy on invasive plants, I will send a copy if specifically asked to do so. All respondents would be credited in the update report to be prepared for CWS by the end of March 1995.
Your sight records would be much appreciated and gratefully received. They can be sent to the following address.

Erich Haber
National Atlas Information Service
Natural Resources Canada
615 Booth Street, Ottawa
K1A 0E9

Fax: (613)-943-8282

References:

Cavers, P.B., M.I. Heagy and R.F. Kokron. 1979. The biology of Canadian weeds. 35. *Alliaria petiolata* (M. Bieb) Cavara and Grande. Can. J. Plant Sci. 59: 217-229.

Montgomery, F.H. 1957. The introduced plants of Ontario growing outside of cultivation (Part II). Trans. R. Can. Inst. 32: 3-34.

White, D.J, E. Haber and C. Keddy. 1993. Invasive plants of natural habitats in Canada: An integrated review of wetland and upland species and legislation governing their control. Canadian Wildlife Service, Environment Canada. ISBN 0-662-20476-X. 121 pp.

PETER'S WOOD OUTING

Dr. Jock McAndrews from the Department of Botany (Royal Ontario Museum) led a very interesting walk through Peter's Woods on Saturday, May 28, 1994. Even though the sun did not shine until mid-afternoon, it made no difference in this old growth forest. The canopy is very high and full, and casts deep shade throughout. The understorey plant life reflects the nature of the low ambient light conditions. The canopy also has a very strong effect of buffering temperature and wind. This translates into unusually cool forest floor temperatures. The results are that we found many early spring species still in bloom. In one habitat alone, 113 plant species were observed, by far the most spectacular were several clumps of Showy Orchis (*Galearis spectabilis*) in full bloom.

Dr. McAndrews was very thorough. He pointed out the effects of past and present farming on forest edge succession and took the time to coach individuals on tree identification. He introduced two significant points to the gathering of a dozen or so participants.

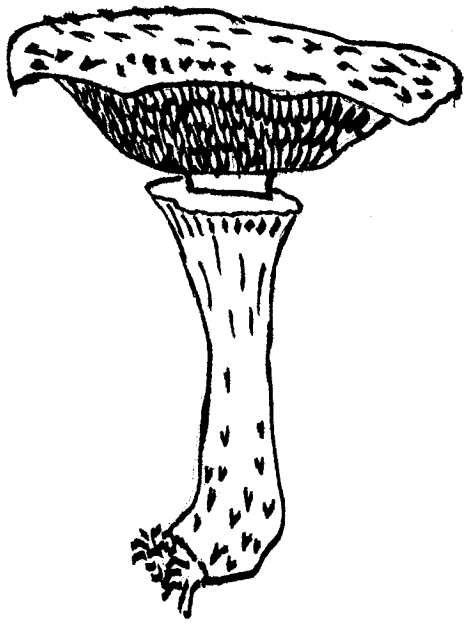
First, the forest is about 350 years old and there is no evidence of a major burn. Neither is there any concrete evidence for native corn cultivation in this area. So the answer as to why this forest is only 350 years old and not older remains a mystery.

Secondly, the appearance of Balsam Fir (*Abies balsamea*) in this area around 80 to 120 years ago lends credence to the hypothesis that large scale forest clearing in the last century caused a significant rise in the water table of south western and eastern Ontario and a change in the dominant forest trees.

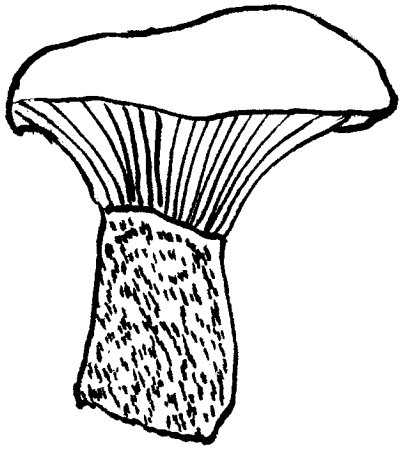
Dr. McAndrews also shared results on his current scientific work. He has profiled forest biomass, through time, from sediments in a small glacial lake near Grafton. The sediment profile dates back to the last glaciation and guides the reader through the various stages of forest genesis from 12,000 years ago to the present day. We visited the edge of the lake and went on to Presqu'ile Provincial Park.

When we reached the park, the sun came out. The rest of the afternoon was spent walking through woods and on the marsh board-walk. A fine time was had by all. The Field Botanists extend their gratitude to Dr. McAndrews for his time, valuable expertise and friendship. He was most gracious when he was presented a club membership for 1994.

MDB



Boletinus pictus



Paxillus atrotomentosus

SIMCOE COUNTY AND AWENDA PARK

On June 12, 1994, seventeen field-botanists converged on Penetanguishene for a day of botany in Simcoe County on Georgian Bay. John Sherrin led us to one after another of his favourite botanical spots, which he has discovered over the course of many years of scouting around in this corner of the province. John's enthusiasm for sharing his discoveries, combined with our eagerness to miss nothing, saw us in the field from nine-thirty in the morning until six in the evening. We disbanded reluctantly, with John still eager to show us "just one more spot".

On the outskirts of Penetanguishene, in full flower beside the road, was a healthy colony of the introduced species *Ranunculus repens* (Creeping Buttercup) - not to be confused with our native *Ranunculus reptans* (Creeping Spearwort) which is a minute species of wet sandy shorelines.

From here we proceeded to Awenda Provincial Park. John had arranged for the group to enter the Park free, in exchange for providing the day's plant list to the Park naturalist.

In Awenda Park, we first visited a rich Sugar Maple forest, where it was evident that a spectacular show had been put on earlier in the season by spring wildflowers - *Trillium grandiflorum* (White Trillium), *T. erectum* (Red Trillium), *Uvularia grandiflora* (Large-flowered Bellwort), *Hepatica acutiloba* (Sharp-lobed Hepatica) and *Caulophyllum thalictroides* (Blue Cohosh). Growing side by side were two species of *Dicentra* - *Dicentra canadensis* and *D. cucullaria* (Squirrel-corn and Dutchman's Breeches). Past flowering, the leafy stems of these two species are almost indistinguishable, but some small animal had exposed the pink-tinged corms of the Dutchman's Breeches plant. Brushing away the soil from the base of an adjacent plant (and accidentally dislodging the plant, we confess) we found the diagnostic yellow nodules on the root of Squirrel-corn. Jack-in-the-pulpit (*Arisaema triphyllum*) was seen thriving in an unlikely niche on a huge boulder top. Still in flower were some of the later woodland species: *Tiarella cordifolia* (Foam-flower), *Hydrophyllum virginianum* (Virginia Water-leaf), *Streptopus roseus* (Rose Twisted-stalk), *Osmorhiza claytonii* (Sweet-cicely), *Actaea pachypoda* (White Baneberry), *Aralia nudicaulis* (Wild Sarsaparilla), *Viola canadensis* (Canada Violet), *Geranium robertianum* (Herb Robert) and *Maianthemum racemosum* (False Solomon's-seal).

Near the car-park in Awenda, was a colony of what I at first took to be dandelions gone to seed, but which turned out to be Coltsfoot (*Tussilago farfara*), ignored by the rest of the party, but of interest to me, remembering a successful venture at salt-making by ashing Coltsfoot leaves on a flat rock.

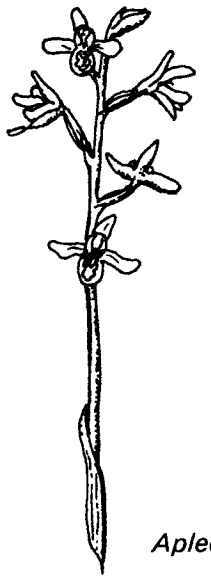
A lane through damp woods led us to a scenic lunch spot on the shore of Georgian Bay. We botanized along this lane on the way to and from our lunch spot. Two different maples were flowering here - Striped Maple, (*Acer pensylvanicum*) with strings of yellow-green flower bells dangling in the breeze, and Mountain Maple, (*A. spicatum*) with dainty wands of yellow flowers held perkily aloft. Along this lane, to the music of Water-thrush and Winter Wren, we debated the identity of trailside ferns, checked the hooked seeds of *Ranunculus recurvatus* (Hooked Buttercup), and had a brief lesson on how to distinguish between ash species.

On the shore of Georgian Bay a Caspian Tern did a casual fly-past before us as we ate lunch. Learning that Kalm's St. John's-wort (*Hypericum kalmianum*) grew along the shore here, I immediately thought of Ninebark (*Physocarpus opulifolius*), having only once in my life seen these two species, and they were growing together. I walked along the shore and the first shrub I came to was Ninebark! I called out my discovery, but no one seemed to hear. In a louder voice I called "Anyone want to see Ninebark?" No response. A slow learner, I went over to Bob Bowles, who had a Simcoe County plant list. "What's the status of Ninebark?" I asked. "Common!" was the reply. Must I omit the wonderful shrub Ninebark from the trip report, but, by special request, include the common-as-dandelions *Dicentra*?

An after-lunch walk took us along a boardwalk across a beaver pond. The dam had gone out, and the wet black soil of the pond bottom was filling with muck-loving plants such as *Nasturtium* sp. (Water-cress) and *Veronica americana* (Brooklime). Also growing beside the boardwalk were *Carex stipata*, *Juncus effusus* (Soft Rush) and *Ranunculus sceleratus* (Celery-leaved Buttercup). On one shore of the pond, under dark hemlocks, we came across

a few plants of Painted Trillium (*T. undulatum*), noting once again its preferred association with hemlock trees. A few steps further along the trail were Beech-drops (*Epifagus virginiana*) growing predictably beneath Beech trees (*Fagus grandifolia*), in this case not just a preferred tree companion, but an obligate biological association for *Epifagus*.

For many of us, the ultimate goal of the day was the orchid Putty-root (*Aplectrum hyemale*). To find it, we drove across the peninsula to a fairly young maple-beech forest with a good canopy, but rather scant understory. The habitat was unusual in that this forest was at the foot of a low wooded cliff that had once been a shoreline of Georgian Bay. At a spot with nothing particular to distinguish it, John began to look around for Putty-root. After some nose-to-the-ground searching, several leaves were found. Putty-root leaves are like no others. Large, elliptical, spread flat on the ground, they are a milky green colour, and strikingly silver-veined. Once we had tuned in to these distinctive leaves, we began to find more plants, thirty or forty in all, scattered over a small area of the woods here.



Aplectrum hyemale

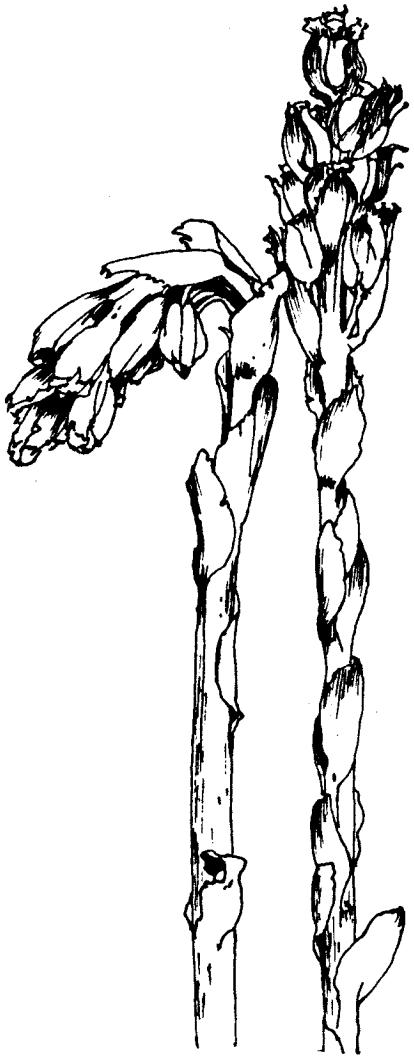
There is something mysterious about this orchid. More than once we found ourselves gazing for some seconds at a patch of Putty-root leaves on the ground, before noticing a flowering stalk, **at least 40 centimetres tall**, rising from among those leaves! As this happened several times and to different searchers, it is evident that the orchid Putty-root has the property of rendering its tall flowering stalk invisible. (This helps to explain how seventeen field botanists, on a quest for Putty-root, all initially passed within one metre of trailside flowering stalks without spotting them.) The delicate airy nature of the inflorescence, along with the dappled wine tones in the flowers, and the filtered light of the woodland setting, all conspire to help the plant blend unobtrusively into its background. Close up, the individual flowers are seen to be perfectly formed little orchids, wine-splotched, with a faint fragrance that is too sweet to be pleasing. Nine tall flowering stalks were found before we withdrew from the patch, with George shaking his head in distress (with some justification) that so many people were wandering through this orchid habitat.

A nearby plant of Frog Orchid (*Cynoclossum viride* var. *bracteata*) was anti-climax after the Putty-root. At the trailside, two species of Osmorhiza (*O. claytonii* and *O. longistylis*) grew with leaves intermingling. The woods here also contained lush patches of Downy Yellow Violet (*Viola pubescens*), and a colony of Bluebead (*Clintonia borealis*), giant plants, flowering profusely. Wild Leek (*Allium tricoccum*) was also found here. In places there were big areas of the spent and yellowed leaves of Trout Lily (*Erythronium americanum*), its allotted cycle already run its course for this year.

This Putty-root woods has recently been sold to a developer for half a million dollars. For those who feel distressed, but helpless in the face of this kind of habitat loss, one form of action decidedly more effective than hand-wringing is to double, triple, quadruple, your support for the organizations that are working to preserve wild habitat....

At Cedar Point, on the shore of Georgian Bay, we located a single plant of Northern Wild Comfrey (*Cynoglossum boreale*), but failed to find the little mint, Pennyroyal (*Hedeoma pulegioides*). This stop was remarkable for the capture of a new moth for Simcoe County, *Zanclognatha pedipilalis* (Grayish Zanclognatha), a day-flying species that feeds on dead leaves.

The day had become hot, and we were grateful for a few minutes here in the cool shoreline breeze before heading off to our next stop. This was a steep wooded hillside, which we scrambled down to enjoy the sight of a wonderful colony of Moccasin Flower (*Cypripedium acaule*) in full bloom. In one spot I stood and counted 183 flowering plants within ten metres of me! No explanation was forthcoming for the profusion and vigour of this hillside colony.



Monotropa hypopithys

We'll skip lightly over the uneasy direction checking, wry joking, and good-natured grumbling, as we wandered a bit to find our way out of the woods here. In the course of this exercise in woodsmanship, the orchid *Goodyera oblongifolia* (Rattlesnake-plantain) was found and photographed, growing along with woodland plants such as Shinleaf (*Pyrola elliptica*), Pipsissewa (*Chimaphila umbellata*) and last year's stalks of Pinesap (*Monotropa hypopithys*).

By this time it was late in the afternoon, but John still had one more special place to show us. This stop was, for me, the icing on the cake (except, of course, for Putty-root. Hurrying through a fringe of woods, with only a passing nod for the woodland plants - Yellow Lady's-slipper (*Cypripedium calceolus*), Goldthread (*Coptis trifolia*), Three-leaved False Solomon's-seal (*Maianthemum trifolium*), Indian Pipe (*Monotropa uniflora*), Indian Cucumber-root (*Medeola virginiana*), Starflower (*Trientalis borealis*), and Maylily (*Maianthemum canadense*) we came out onto one of those wonderful shoreline habitats of Georgian Bay, where three different species of Sundew were operating their auxiliary food-gathering devices. (The three sticky-leaved Sundews were *Drosera linearis*, *D. rotundifolia*, and a spatulate-leaved species which, unfortunately, we failed to check closely enough for positive identification.) These miniature miracles of the plant world were growing in company with Indian Paintbrush (*Castilleja coccinea*), Grass-of-Parnassus (*Parnassia glauca*), Bird's-eye Primrose (*Primula mistassinica*), flowering Pitcher-plant (*Sarracenia purpurea*), Arrow-grass (*Triglochin* sp.), Shrubby Cinqfoil (*Potentilla fruticosa*) ... a whole treasure chest of botanical gold spread over the damp shoreline at our feet. This small fragment of special shoreline was by great good fortune inside the Park boundary - but just barely. Within living memory, a long stretch of the adjacent habitat has been wiped out by cottage development.

A final stop took us to a thriving patch of *Goodyera pubescens* (Downy Rattlesnake Plantain) - twenty-eight plants in all. None were flowering, but this was an excellent opportunity to observe the distinctive leaf pattern of this orchid, quite different from that of *G. oblongifolia* which we had observed earlier in the day.

A rewarding outing in good company on a sunny summer day!

Sheila Thomson

OBSERVATIONS OF AN IMPOSTER

on the Manitoulin Island FBO trip,
June 24-25, 1994

Although I am not really a Field Botanist of Ontario, the alvars of Manitoulin are my territory, so I found myself on the FBO trip, trying to look informed.

Field Botanists of Ontario carry books in their backpacks, instead of food. There are things you pick up quickly. At first when you see a group of people leaning over something on the ground, you think someone is hurt. Then you find that they have these books out, and are agonizing over the difference between False Pennyroyal (*Trichostema brachiatum*) and Low Calamint or Wild Savory (*Calamintha arkansana*), both of which release the most beautiful pungent fragrance when you walk over the alvar - which will forever be an evocative memory for those who have experienced it.

Later you realize that clusters of people are working over grasses. They are the grass people. You walk away quickly and hope they won't notice (and they won't). But sometimes you shouldn't walk away. They have found a most beautiful grass, Alpine Bluegrass (*Poa alpina*), an Arctic disjunct found only on the southwest shores of Manitoulin.

In fact, grasses can be interesting. At Providence Bay, the Great Lakes Wheat Grass (*Elymus lanceolatus* ssp. *psammophilus*) is beautiful, but even the Beach Grass (*Ammophila breviligulata*) is remarkable, because it has rhizomes which may grow eight feet (c. 2.4 m) a year and are vital to stabilize the dunes. Pitcher's Thistle (*Cirsium pitcheri*) lives where the dunes are loose.

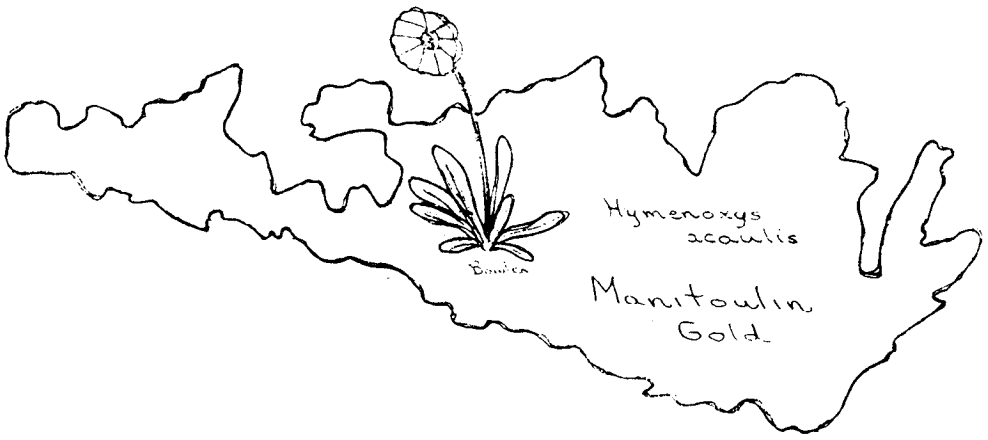
At Christina Bay we had seen the Mermaid Weed (*Proserpinaca palustris*), which grows in the transition zone, sometimes covered with water, and sometimes living on dry ground.

A Field Botanist of Ontario is bilingual. Sometimes you can fake this by learning the difference between the *Hymenoxys* (*acaulis*) and the *Coreopsis* (*lanceolata*). Then the Field Botanists may continue speaking to you in Latin. Unless you want to be asked more questions (and the answers are hard to fake), you might be better to just call this Stemless Rubberweed, Manitoulin Gold a beautiful name.

Because of the exceptionally hot previous weekend, the *Hymenoxys* were mainly over, and their dead flower heads spotted the landscape, but the *Coreopsis lanceolata* (Lance-leaved Coreopsis) were doing their best to replace them. The alvar at this time is covered with yellow Balsam Ragwort (*Senecio pauperculus*), Indian Paint Brush (*Castilleja coccinea*) (whose bracts on Manitoulin are almost always yellow), Yellow King Devil Hawkweed (*Hieracium piloselloides*), Mossy Stonecrop (*Sedum acre*) and even a lichen, which was expanded in the rain. A few Shrubby Cinquefoil (*Potentilla fruticosa*) remained in flower. Even the Lady's-slippers (*Cypripedium*) at the alvar edge are yellow.

If the alvars at Christina Bay and Misery Bay were the land of the yellow plants, the high alvar at Silverwater Fire Tower, a fissured dolomite plateau, was the land of the white shrubs - Ninebark (*Physocarpus opulifolus*), Narrow-leaved New Jersey Tea (*Ceanothus herbaceus*), Downy Arrow-wood (*Viburnum rafinesquianum*) and Red-osier Dogwood (*Cornus stolonifera*).

The Field Botanists of Ontario, know how to set up a tent in the rain, in the dark, two feet



from an Alaska Rein Orchid (*Piperia unalascensis*) (a tall green nothing), without damaging the orchid. But all of us enjoyed the Showy and Yellow Lady's-slippers (*Cypripedium reginae* and *C. calceolus*), the Arethusa (*Arethusa bulbosa*), the Tall White Bog Orchid and Northern Green Orchid (*Platanthera dilatata* and *P. hyperborea*), the Spotted and Striped Coral-root (*Corallorhiza maculata* and *C. striata*), and the Loesel's Twayblade (*Liparis loeselii*) - all in their blooming glory, as well as a few Rose Pogonias (*Pogonia ophioglossoides*).

Apparently, one can be a Field Botanist of Ontario without knowing lichens. An impressive rockcliff in Mindemoya had a thick coat, maybe two feet thick, of the softest green. The lichen specialists told us that this mossy mass was really a lichen; they had us look at something with a hand lens; but it appeared to me that even some of the executive of the Field Botanists may have been unconvinced. Earlier, Bruce Gilman, the alvar lichen specialist from the Finger Lakes of New York, had shown us *Nostoc commune*, a blue green algae which occupies the pockets in the limestone which were originally formed by small pebbles. This algae forms an algo-partner at the edge of the moss and helps the moss by nitrogen fixation. We all felt the globs of gooey algae, and this time were convinced of its importance in transition.

Sometimes Field Botanists of Ontario may even carry nets and jars, so that captured insects can be identified - such as the Black Onion Fly (*Tritoxa flexa*) living on the abundant Chives (*Allium schoenoprasum*) of the alvar and the Dwarf Skimmer or Bluebell (*Nannothemis bella*), the smallest dragonfly in North America, which was abundant in the Misery Bay Fen. In fact, they showed great interest in all the living things, even the Stalked Puff Ball (*Tulostoma brumale*).

Judith Jones, our leader, knew her sites and her plants, others contributed a lot of talent and camaraderie, they treated an imposter well, and everyone seemed to love the Manintoulin experience.

Nancy Ironside

(with the technical assistance of Bob Bowles and Margo Holt)

FROM THE EDITOR

I have been editor of the FBO Newsletter for six years. It has been a wonderful experience which has included some frustration, a lot of learning and a great deal of fun. However, I feel the time has come to move on the other commitments and new experiences. As announced at the AGM in August, I am looking for someone to replace me as editor.

Editing the Newsletter requires some, but not overwhelming, time commitment concentrated four times a year. Apart from the odd hour spent here and there as material comes in, I have usually spend about a day or a day and a half on each issue. Ready access to a computer, reference material and a printer are important and some fluency with a word processor or desktop publisher is essential.

The function of the Newsletter is to let members know about club activities, but it also reflects the interests of the membership and the thoughts of the editor. Those who have been FBO members throughout my tenure will have seen the Newsletter evolve under my influence. I have tried to maintain both factual accuracy and consistency in plant nomenclature. Mike Oldham and Jeff Warren have supported me as associate editors and proof readers, helping to build and maintain a standard that I could not have achieved alone.

Now the time has come for a change at the helm and for the Newsletter to take a new direction under a different editor. The next (Winter 1994) issue of the Newsletter will be last one for which I will take responsibility. If there is anyone in the membership who would like to take over please call me (519)-461-1932 or Bob Bowles (705)-325-3149 as soon as possible. The future of the FBO Newsletter depends on your support.

Finally, thank you to everyone who has responded over the years to my appeals for newsletter submissions. You are the people who provided the material which filled the pages.

Jane M. Bowles

BOOK REVIEW

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FLORA OF NORTH AMERICA

Flora of North America, Volume 2: Pteridophytes and Gymnosperms. (Editorial Committee, eds.) 1993. Oxford University Press. 475 pp.

Anyone familiar with the Flora Europaea or the Flora of the U.S.S.R. projects will appreciate that undertaking a comprehensive, descriptive flora of a continental or near-continental area is an awesome task. So great, in fact, that no such work has been completed for North America. You would be forgiven for questioning if any of the more than a dozen volumes envisioned in the latest attempt to produce such a Flora of North America (FNA) would ever see the light of day.

Well, despite the tortured state of support for pure science and huge technical, professional and personnel resources problems, the first two volumes have been published. While volume one is an extended introduction, volume two gets to the meat of the matter, covering all North American ferns and gymnosperms (conifers, etc.). So, as Sherlock would say " the game is afoot".

And remarkably well 'afoot' it is too. Volume two is a handsome, sturdily bound book printed on good quality paper. The main text is offered in a rather classical, slightly overly ornate typeface for my aging eyes, but is clear enough in most cases. Very helpful reticulograms are included that schematically illustrate taxonomic relationships within complex fern groups (*Asplenium*, *Polystichum*, *Isoetes*, *Polypodium* etc.). Following descriptions of each family and a generic key, species by species descriptions are offered that, in the words of the FNA introduction, are "*...intended to reflect current knowledge of taxa throughout their ranges worldwide* ...". Most of these species treatments are accompanied by a valuable, detailed North American range map.

Despite a common complaint of contributors about the tight editorial control on format, the spartan format can be utilized to produce concise and elegant text, as demonstrated by Chris Haufler's *Polypodium* or Kathy Pryer's *Gymnocarpium* treatments. With 55 different contributors being involved, considerable unevenness in the treatments is inevitable. It occasionally goes too far. For example, sterile fern hybrids - named and un-named - are typically included in the treatment of the presumed parents. Contradicting this however, is the discussion of named, sterile *Asplenium* hybrids within stand-alone, species-like treatments.

The infrequent pen and ink illustrations of representative species are typically well executed. This is no illustrated flora however! An unfortunate exception to illustration quality is the treatment of Isoetes megaspores, critical characters for the identification of most species. These can only be definitively illustrated by Scanning Electron Microscope images and should have been so illustrated.

There are the expected typos and minor glitches. As one of the co-authors of the treatment, I was not thrilled to see **Isoeataceae** [sic] heading the introductory page of the **Isoetaceae** section - a publishers error, let me hasten to add. The omission of *Juniperus horizontalis* records in southern Ontario and the illustration of the range of *Marsilea quadrifolia* as covering the entire Carolinian Zone as well as the north shore of Lake Ontario are examples of technical errors, as is the over-simplified Ontario range of *Polypodium appalachianum*. Given that the vast majority of contributors were American and that tight production schedules meant regional reviewers' comments did not always make it through in time, the number of Canadian errors is remarkably small.

The one serious beef I have is the range maps. The minute size of these figures may have been a cost-benefit compromise but they are just too small, literally requiring a magnifying glass for fine detail. All of North America is covered in less than 30 mm - southern Ontario in under 2 mm!

You'll see a bundle of new names. Familiar old *Lycopodium* is offered up as seven genera, four of which occur in Ontario ... *Huperzia* (the fir club-moss group), *Diphasiastrum* (the

ground-cedar group), *Lycopodiella* (the bog club-moss group) and *Lycopodium* (the ground-pine and trailing club-moss groups). Hmmmmmmm. How does *Deparia acrostichoides* sound as the latin name of Silvery Spleenwort (*Athyrium thelypteroides*)? And you will hardly believe what is suggested for *Cystopteris*...

Ontario botanists are likely to pull more than a few hairs trying to work familiar material through unfamiliar keys incorporating new nomenclature. Traditionally tricky groups like *Botrychium* come to mind, as does the swarm of very similar *Huperzia* taxa identified as occurring along the north shore of Lake Superior.

Easier to take will be the recognition of some other "new" species and subspecies in Ontario, such as *Polypodium appalachianum* (known from several sites in Algonquin Park) and *P. sibiricum* (in the far northwest). The placement of some ambiguous Ontario material in distinct taxa - *viz.*, *Woodsia scopulina* ssp. *laurentiana* and *W. oregana* ssp. *cathcartiana* will also likely be readily accepted.

The bottom line of course is ... does the FNA work? The simple answer is ... remarkably well. It is too bad this volume is so expensive (over $100) because FNA will be the starting point for taxonomic considerations of pteridophytes and conifers in North America from now on. All serious Ontario botanists would be well advised to dig deeply and purchase this important volume.

Daniel F. Brunton

FIELD BOTANISTS of ONTARIO

Membership in the Field Botanists of Ontario includes subscription to the FBO Newsletter and the privilege of attending field trips and workshops. Annual Membership Fees are $12.00 single and $15.00 family.

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