

# Field Botanists of Ontario

Newsletter

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FBO members at the Gore Bay Savannah on Manitoulin Island

Photo by Chris Zoladeski

<b>President's Message</b>	2
<b>Editor's Corner</b>	2
<b>Field Trip Reports</b>	3
<hr/>	
<b>Presqu'île Pannes</b>	3
<b>Bala Fen Event</b>	5
<b>Awenda Provincial Park</b>	6
<b>Trip to Marcy's Woods, Point Abino</b>	7
<b>FBO Trip to Manitoulin Island</b>	8
<b>Botanical Roots</b>	11
<hr/>	
<b>John Goldie – Pioneer Field Botanist</b>	11
<b>Notice</b>	12
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*FIELD  
BOTANISTS of  
ONTARIO*

**FIELD BOTANISTS OF ONTARIO NEWSLETTER**

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

<b>President:</b>	Sarah Mainguy RR #3, Guelph, ON N1H 6H9	mainrod@sympatico.ca (519) 822-5221
<b>Vice President:</b>	Bill Crowley 19 Burnham Blvd, Port Hope, ON L1A 4H5	(905) 885-2123
<b>Treasurer:</b>	Bill Draper 35 Hepbourne St., Toronto, ON M6H 1K1	william.draper@sympatico.ca (416) 534-2892
<b>Secretary:</b>	Dan Barcza PO Box 1510, Bradford, ON L3Z 2B8	danbarcza@hotmail.com (905) 775-7633
<b>Past President:</b>	Mary Ann Johnson 301-188 15 Ave SW, Calgary, AB T2R 1S4	mjohnson86@shaw.ca
<b>Membership:</b>	Bill McIlveen RR#1, Acton, ON L7J 2L7	wmcilveen@sympatico.ca (519) 853-3948
<b>Field Trips:</b>	Jim Lane and Carol Brotman 583 Beresford Avenue, Toronto, ON M6S 3C2	fbotrips@sympatico.ca (416) 767-4878
<b>Newsletter Editor:</b>	Sarah Piett 478 German School Road, Paris, ON N3L 3E1	sarah_piett@hotmail.com (519) 442-0820
<b>Associate Editors:</b>	Michael J. Oldham, Natural Heritage Information Centre MNR, PO Box 7000, Peterborough, ON K9L 1C8	michael.oldham@ontario.ca (705) 755-2160
	Allan Harris	aharris@tbaytel.net (807) 344-7213
<b>Website:</b>	Melinda Thompson	plantgirl2002@hotmail.com www.trentu.ca/fbo

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Standard source for scientific names and authorities of vascular plants:

Newmaster, S.G., A. Lehela, P.W.C. Uhlir, S. McMurray and M.J. Oldham. 1998. *Ontario Plant List*. Ontario Ministry of Natural Resources, Ontario Forest Research Institute, Sault Ste. Marie, Ontario. Forest Research Information Paper No. 123, 550 pp. + appendices

## **President's Message**

We are doing our best to get back on track with newsletters. Thank you for your patience. A new newsletter editor is required! If you have an interest in this position on the executive, please call the president, Sarah Mainguy, at 519-822-5221. Please don't forget about the Annual General Meeting in Owen Sound on the 15<sup>th</sup> to 16<sup>th</sup> September. A wide variety of field trips are planned, and we will be presenting our new "Goldie Award" to Dr. Don Britton at the

banquet, as thanks for his many years of fostering field botany in Ontario. Please see our website for further details. ♣

Sarah Mainguy

## **Editor's Corner**

A new section has been added to the newsletter: Botanical Roots. This section is dedicated to discussing the history of botany in Ontario, so feel free to submit related articles! ♣

Sarah Piett



## Field Trip Reports

### Presqu'ile Pannes

September 17<sup>th</sup>, 2006

When I was contacted by Sarah Mainguy of the FBO executive to lead an outing to the Presqu'ile pannes I was both excited and concerned. Having gone on FBO trips before I knew the depth of cumulative knowledge that participants brought to these outings. I was excited to have that knowledge focused on a fascinating habitat in “my” park but was concerned to be leading such a group as my knowledge of the botany of the pannes, particularly the graminoids, would not be up to the level required. So I had to make clear that I would be happy to host such an event but would certainly need help from the participants themselves in identifying the many plants we would come across. Sarah said that would be fine and she would see that we would have some knowledgeable participants along.

So it was with great excitement that I awaited the group to gather on the 17<sup>th</sup> at the park gate. The weather was warm but the sun was obscured by the fog that had lifted from the ground but had not yet burned off. Our group was very fortunate to have Bill Draper from the FBO executive present and Sarah had been able to convince Wasyl Bakowsky, from the NHIC to come along and provide technical leadership for the trip. With these two stalwarts, rounded out by the not inconsiderable knowledge from our other participants; Holly Bickerton, Bill Draper, Bill and Barb Nelson, Bill Crowley, Mike and Peter McMurtry, Steve Smith, and Paula Davies, I knew we would be in for a wonderful day of discovery.

At the gate I handed out a very good park checklist compiled by Sean Blaney in 1996. I then gave a brief introduction to the geomorphology of the park. Presqu'ile is a tombolo, a series of four offshore limestone islands, three of which are connected to the mainland by a 3km long “bar” of unconsolidated sand and gravel. This bar continues to accumulate material on its western edge, along the beach, at a rate up to 2 meters a year. Behind the beach the bar features a series of low sand dunes, between which are the low, flat “pannes”. These pannes are characterized by low nutrient levels, are flooded in the spring, dry in the summer, wet again in the fall, and frozen solid in the winter. It is a harsh, but rare environment that has a unique floral assemblage. This assemblage provides the best wildflower display in the park, and it is at its peak in September so we would have both pretty and obscure plants to delight us during our ramble.

Our first stop was the drier panne just behind the park office and we hadn't taken two steps out of the parking lot when Wasyl pointed out that the abundant low white aster flowering was the nationally rare Bushy Aster (*Symphotrichum dumosum*). Being a bit of an aster and goldenrod enthusiast I was particularly pleased about this discovery. I knew this plant was on the park checklist, the furthest east in Ontario it occurs, but I was never



Bottle Gentian (*Gentiana andrewsii*)  
Photo by David Bree

able to convince myself that what I was looking at was *S. dumosum* and not *S. pilosum*, the more common “old field” species in the area. Wasyl pointed out how *S. pilosum* has tufts of small hairs at the base of the larger leaf stems. Also in the area was Gray-stemmed Goldenrod (*Solidago nemoralis*) and just starting to flower, some Heath Aster (*S. ericoides*), the last of our native flowers to bloom.

We crossed a low ridge of sand where one of the few grasses I can identify, Canada Wild Rye (*Elymus canadensis*) with its long awns and drooping flower head, was pointed out. Crossing the road, many stopped to admire the flowering Bottle Gentian (*Gentiana andrewsii*), while Wasyl stepped into the ditch and immediately pointed out one of our target species for the day. The Low Nut-rush (*Scleria verticillata*), is a rare species which I knew to be common at Presqu'ile, but I just didn't know how to pick it out. Once I got my eye in for this small but rather attractive plant, with its white nutlets, it transpired that it was hard to move anywhere in this panne without stepping on it. Other characteristic panne plants pointed out were Wiry Witch Grass (*Panicum flexile*), Variegated Horsetail (*Equisetum variegatum*), and Slender Spike-rush (*Eleocharis elliptica*). The latter is a spreading spike-rush with orange nutlets at this time of year. We also came across Ladies' tresses Orchids (*Spiranthes* sp.), nearing the end of their flowering run. Both Nodding (*S. cernua*) and Hooded (*S. romanzoffiana*) Ladies' tresses Orchids are common in the pannes. Wasyl mentioned the hairiness of the

flowering stalk of *S. cernua* is a better characteristic to use than petal shape to separate these two species. Everything we saw seemed to be *S. cernua* based on that characteristic. Also present was Crawe's Sedge (*Carex crawei*), a common panne and alvar species. To further the comparison of this habitat to an alvar was a single Small Skullcap (*Scutellaria parvula*), long past flowering but nice to see for me as it is rare in the park.

Walking back to the cars we compared the two *Agalinis* species present. Purple Gerardia (*Agalinis paupercula*) in the panne area, have larger flowers and short pedicels. Slender-leaved Gerardia (*Agalinis tenuifolia*), back in with the asters near the parking lot, have smaller flowers and long pedicels.



Gull Island  
Photo by: David Bree

We then moved on to Beach 2 parking lot, where by following a couple of roads, we are able to do a transect of the peninsula from the beach on the west to the marsh in the east. The shrubby zone near the parking lot was quickly traversed and as we neared the main road again three of the showier panne plants made an appearance. The white Grass-of-Parnassus (*Parnassia glauca*), the deep blue Fringed Gentian (*Gentianopsis crinita*) at its peak of beauty, and the pink Obedient Plant (*Physostegia virginiana*) were all present. The latter gets its common name from the flowers, which seem to have pedicels attached to the stem by a ball joint. They can easily be moved laterally and will stay in place after being moved. The Fringed Gentian is rather scarce in the pannes but

the other two are common and the Grass-of-Parnassus can be abundant. Anecdotal information from long-time park employees suggests this plant is much more numerous now than in the past.

Across the road and heading east we crossed a dry panne where another of the limited grasses I can identify occurs. Little Bluestem (*Schizachyrium scoparium*) was common, and particularly attractive in the sun that had finally broken through the fog overhead. There were a few Kalm's Lobelia (*Lobelia kalmii*) as well. They were mostly done flowering but a few were still quit vibrant, having been slowed done by the shade of the scattered cedars.

Over the next dune and we were in a panne that still held standing water. The most colourful display here came from the leaves of Marsh St. John's-wort (*Triadenum fraseri*), which had turned quit red. WasyI pulled up some *Selaginella apoda*, a spikemoss, that I was glad to see but admit I will probably not be able to distinguish it from moss in the future.

We then walked through the thick conifer forest that characterizes the oldest dunes on the bar to get to the marsh. Along the way a particularly thick-trunked Alternate-leaved Dogwood (*Cornus alternifolia*) was pointed out. Also along the path through the cedar woods was a fine display of mushrooms along with the dry stalks of Indian Pipe (*Monotropa uniflora*). The former slowed me down as I took the opportunity to snap a few pictures.

The marsh itself at this point was one of a series of long "fingers" that interpenetrate into the old forested dune ridges. As such, the finger end we were at had more the characteristics of a wet meadow than a marsh. Slender Sedge (*Carex lasiocarpa*), with its slender, drooping, shiny brown leaves was dominant. A highlight of the trip for me occurred here when WasyI pointed out the shiny green, strap-like leaves of Sweet Grass (*Hierochloe odorata*). I had long wanted to find this grass in its natural state. Having spent several years at Petroglyphs Provincial Park I was quite familiar with this plant as a sacred and ceremonial plant for the First Nations people but I didn't know what it looked like in the wild. The characteristic odour of the dried grass is only detectable in the growing plant from the inner white layer at the very base of the stem. While the botanists among us thought the smell reminiscent of White Sweet-clover (*Melilotus alba*), others in the group were trying to pin it to more culinary odours, with somewhat limited success. Rather unusually this grass sends it flower stocks up in May before the leaves and only a few old dried flower heads were seen. I'm looking forward to seeing them next spring.

After a late lunch, the last stop of the day was a walk out to Owen Point and onto Gull "Island". Owen Point is the southwest corner of the park. Up until last winter, two limestone islands, also part of the park, lay offshore. Last winter, wave action attached the closest island (Gull Island) back to the mainland for the first time since 1916. These two islands are the nesting grounds of about 60,000 pairs of water birds (gulls, terns, herons, and cormorants) and are closed to the public



until mid-September. We took advantage of the new situation, and the time of year to venture out onto what is essentially a low gravel spit. Walking to this spit we walked through a willow (*Salix X rubens*) stand where a tussock of grass was spotted. This tussock proved to be most significant as neither Wasyl nor Bill, or anyone else had a clue what it could be! Not often something can stump these experts to the extent that they couldn't even guess a genus! Wasyl took a specimen and I looked forward to finding out what it is. Would it be a rare species or a new potential alien invasive? (It turned out to be a bizarre form of Tufted Hairgrass (*Deschampsia cespitosa*). This species usually has leaves 40cm long, not the 70cm plus that this specimen showed.)

The spit itself had a most unusual flora. It was exclusively made up of an extremely verdant mix of annual plants, most non-native. Green Amaranth (*Amaranthus retroflexus*), Oak-leaved Goosefoot (*Chenopodium glaucum*), Lady's Thumb (*Polygonum persicaria*), Cocklebur (*Xanthium strumarium*), Black Nightshade (*Solanum ptychanthum*), Low Cudweed (*Gnaphalium uliginosum*), and European Bugleweed (*Lycopus europaeus*) were all noted. The plants no doubt grow so well due to the high level of fertilizer annually added by the nesting birds. Only annuals are present as the low exposed bar, sticking out into Lake Ontario, is ravaged in the winter by water and ice, so nothing more permanent can get established. We tried to turn some low Norwegian Cinquefoil (*Potentilla norvegica*) into the native beach specialist Bushy Cinquefoil (*Potentilla paradoxa*) but that rare plant eluded us despite being on the park list. The native plant honours went to a few clumps of Sea Rocket (*Cakile edentula*). This mustard is a Great Lakes shoreline specialist in Ontario.

It was three o'clock by the time we made it back to the cars and I think everyone had an enjoyable time. I know I certainly learned lots about the flora of my park. I just have to retain some of it!

My great thanks goes out to Wasyl and Bill for their leadership and to the FBO for choosing Presqu'île as a destination during their annual general meeting. Please come back any time.

David Bree  
Park Naturalist

## **Bala Fen Event**

September 10th, 2006

The visit to take in the fen flora of the Bala area was led by Jim Goltz. **Bala Fen is located XX.** Although he no longer lives in Ontario, he loves to return every year to the area where he grew up. He did not squander his time during his youth but used it wisely to learn about the flora of the area. Consequently, he is one of the most knowledgeable people on the flora of Muskoka. He was ably assisted by Al Sinclair who kindly supplied us with his list of species and some photographs for the day.



General view of fen habitat at Bala  
Photo by W.D. McIlveen

Jim took us to three locations though most of the time was spent in only one of those. The first stop was just across the road from the meeting location in Bala. Near the foot of the falls, Jim pointed out Ridged Panic-grass (*Panicum rigidulum*). **This is a rare grass in Ontario. Until it was found in the Muskoka area in 1975 [Dore & McNeil], it was known only along the Moira River (Hastings Co.) where it was suspected of being introduced. Its presence in Muskoka in rock fissure along Sparrow Lake was considered to be natural. The habitat at Bala is consistent with the other Muskoka records.**

The next stop was a short distance north of the village. As we were walking along the road to get to the entrance of our target fen, Jim pointed out Viscid Cudweed (*Gnaphalium macounii*) and Hair-like Bulbostylis (*Bulbostylis capillaris*). The latter is considered to be an uncommon native but appears to be spreading along roadsides by construction equipment. He also noted that White Sweet-clover (*Melilotus alba*) growing along the roadside contains dicoumarol that is an anticoagulant.

On the way into (and out of) the fen, we crossed some forest growing on the rock outcrops typical of the area. The dominant trees were Sugar Maple, Beech, Yellow Birch, Red Maple, and Hemlock. Douglas' Knotweed (*Polygonum douglasii*) was one species of interest that was pointed out. I noted Hobblebush (*Viburnum lantanoides*) here. It is one of my favourite shrubs, perhaps because of the symmetry of the foliage. The entrance is actually a former municipal landfill that was revived to store some tree trunks and branches; very likely some that were brought down by high winds earlier in the season. As a landfill, it had a couple of hardy exotics, namely Japanese Knotweed (*Polygonum cuspidatum*) and Japanese Silver Grass (*Miscanthus sacchariflorus*). I am noticing the latter in more and more places during my travels.

After crossing through the woods, we came onto a large open fen with a slight moat. We also went to a second large fen separated from the first by a narrow strip of alders. The open fen area had scattered Tamaracks sticking up in a very level open area covered mostly by herbaceous species. There were a number of common shrubs associated with wetlands including

Leatherleaf (*Chamaedaphne calyculata*), Sweet Gale (*Myrica gale*), Mountain Holly (*Nemopanthis mucronatus*), Balsam Willow (*Salix pyrifolia*), and Large Cranberry (*Vaccinium macrocarpon*). At least five orchid species were seen on the trip. They were not in flower due to the lateness of the visit but Jim showed us the seed heads of Calopogon (*Calopogon tuberosus*), White Fringed Orchid (*Platanthera blephariglottis*), and Rose Pogonia (*Pogonia ophioglossoides*). The abundance of seed-heads indicated that during the proper season, they could produce a spectacular show. Bog Clubmoss (*Lycopodiella inundata*) was present along the stream flowing through the fen. The graminoids included Few-seeded Sedge (*Carex oligosperma*), Beaked Sedge (*Carex utriculata*), Twig Rush (*Cladium mariscoides*), Tawny Cotton-grass (*Eriophorum virginicum*), and White Beaked-rush (*Rhynchospora alba*). The Cotton-grass was mesmerizing when viewed through the camera. The field of little cottony clusters was in constant motion in the slight breeze but the plant heads did not move in unison. They were tethered by their unseen stems and suspended above the greenery below. Bog Aster (*Oclemena nemoralis*) were scattered through the fen. Most were pinkish but there were reasonably high numbers of the white form there as well. Other typical bog species were Pitcher Plant (*Sarracenia purpurea*) and Bog Goldenrod (*Solidago uliginosa*). People were quite interested in Hidden-fruited Bladderwort (*Utricularia geminiscapa*) which is one of the less-common bladderworts.



Screwstem (*Bartonia paniculata*)  
Photo by Al Sinclair

I am saving the best sightings for last. These were Screwstem (*Bartonia paniculata*), a member of the Gentian family. It is classed as extremely rare in Ontario. The plants are

diminutive, without a showy flower, and could be easily overlooked. Nevertheless, Jim was able to find some to show us the species, a lifer for me. They were only found in Ontario in 1973. It may grow as tall as 40 cm but that is the top end of the range. I would be surprised if the ones we saw could be stretched to half that height. As for being over-looked, well, the leaves are reduced to scales up to 3 mm long and the flowers are only up to 5 mm long with petals 0.3 to 1.2 mm wide. This is hardly a candidate for the cut-flower trade.



Southern Tickseed (*Bidens coronata*)  
Photo by W.D. McIlveen

By contrast, the highlight of the third stop was Southern Tickseed (*Bidens coronata*). This one is big and bold and bright yellow. It too is a rare species, though not quite as rare as the Screwstem. The plants grow to 1.2 m (4 to 5 feet) so you can look them in the eye instead of bending down to see the flowers. I was looking for a description that might help people get an idea what the species looks like. One that came to mind was *Coreopsis*. When I looked that up, it turned out that *Coreopsis* was the species nearest *Bidens* in the taxonomic text I checked.

I want say thank you to Jim for leading a very interesting trip and showing us interesting species and habitat. Thanks also to Al Sinclair for the notes and photographs.

W.D. McIlveen

## Awenda Provincial Park

August 19<sup>th</sup>, 2006

On August 19, 2006, 16 FBO members met at Awenda Provincial Park which is located on Georgian Bay near Penetanguishene. We were fortunate in having the very personable and knowledgeable Tim Tully as our leader. Tim is the National Heritage Education Co-ordinator for the park.

It was an overcast, virtually windless day of 23 degrees. We began at the park's eastern boundary on Georgian Bay overlooking Giant's Tomb Island. Here, glacial till from over 12,500 years ago has created a coastal meadow marsh (formerly known as a shoreline fen.) The current low water level makes a thorough examination of the area possible. Invasive species such as *Frangula alnus* (glossy buckthorn) and Common Reed (*Phragmites australis*) have only a minimum presence in the area.

One of the highlights was finding all three species of *Drosera* (*viz. intermedia*, *linearis* and *rotundifolia*) all growing on the same small hummock. (Spatulate-leaved, Slender-leaved and Round-leaved Sundew.)

Tim captured several Green Frogs in an unsuccessful quest to find a Mink Frog which are known to occur in the area. In addition he spotted a suspected Least Bittern.

Here is a list of some of the plant species found:

*Agalinis paupercula* var. *borealis* (Small-flowered Purple False Foxglove)  
*Agalinis purpurea* (Large-flowered Purple False Foxglove)  
*Alnus incana* ssp. *rugosa* (Speckled Alder)  
*Castilleja coccinea* (Indian Paintbrush)  
*Calamintha arkansana* (Savory/ Wild Calamint)  
*Epipactis helleborine* (Common Helleborine)  
*Eupatorium perfoliatum* (Boneset/Perfoliate Thoroughwort)  
*Gentianopsis virgata* (Smaller Fringed Gentian)  
*Hypericum kalmianum* (Kalm's St. John's-wort) found side by side with *Hypericum prolificum* (Shrubby St. John's-wort)  
*Larix laricina* (Tamarack)  
*Lobelia kalmii* (Kalm's Lobelia)  
*Lycopus uniflorus* (Northern Water-horehound)  
*Parnassia palustris* (Marsh Grass-of-Parnassus)  
*Physocarpus opulifolius* (Ninebark)  
*Plantanthera dilatata* (White Bog Orchis)  
*Potentilla fruticosa* (Shrubby Cinquefoil)  
*Prenanthes racemosa* (Glaucus White Lettuce)  
*Rudbeckia laciniata* (Green-headed Coneflower)  
*Primula mistassinica* (Bird's-eye Primrose)  
*Sarracenia purpurea* (Pitcher Plant)  
*Selaginella apoda* (Meadow Spike-Moss)  
*Senecio pauperculus* (Balsam Ragwort)  
*Solidago ohioensis* (Ohio Goldenrod)  
*Spiranthes cernua* (Nodding Ladies' Tresses)  
*Tofieldia glutinosa* ssp. *brevistyla* (Sticky False Asphodel/ False Fly Asphodel)  
*Utricularia cornuta* (Horned Bladderwort)  
*Vaccinium macrocarpon* (Large Cranberry)  
*Verbascum thapsus* (Common Mullein)

A sedge expert would have a wonderful time at this spot.

After lunch on the shores of Kettle Lake, Tim showed us a Northern Widow Spider collected in a garage in nearby Penetanguishene. Carolyn King and Stephen LaForest identified a Giant Swallowtail in the parking lot P2 at Kettle's Lake. We then proceeded toward a very rare old-growth deciduous forest. The area has seen extensive farming and logging over the years and there were many Norwegian Spruce, Scotch and Red Pine planted in tight rows. As Tim joked "the squirrels have to run at right angles here!"

We also learned of the former inhabitants, the Wendat, an agricultural people. They lived on corn, beans and squash until driven out by disease and the Five Nation Iroquois. Awenda means "voice" and "word" in the Wendat language.

When the park was first formed, it was believed that the Sugar Maples (the dominant old growth species here) were about 150 years old. After the coring of about 10 specimens in 1998, surprised observers counted as many as 280 rings. The oldest trees are mainly between 220 and 280 years old. There are many enormous beech trees as well, but many are suffering from Beech bark disease caused by beech scale. The trees eventually break in half from the top in severe wind. Tim worries that this will affect the beech population just as Dutch Elm disease has affected the elms. He went on to mention that recent studies suggest global warming is leading to an increase in Poison Ivy (*Rhus radicans*) and a strengthening of its toxicity.

During our afternoon walk through the old growth forest we saw the following species:

*Acer rubrum* (Red Maple)  
*Acer saccharum* (Sugar Maple)  
*Acer pensylvanicum* (Striped Maple)  
*Asclepias incarnata* (Swamp Milkweed)  
*Betula alleghaniensis* (Yellow Birch)  
*Betula papyrifera* (Paper Birch)  
*Conopholis americana* (Squawroot)  
*Monotropa uniflora* (Indian-pipe)  
*Onoclea sensibilis* (Sensitive fern)  
*Pinus strobus* (Eastern White Pine)  
*Quercus rubra* (Red Oak)  
*Solanum dulcamara* (Bitter Nightshade)  
*Thuja occidentalis* (Eastern White Cedar)  
*Tilia americana* (American Basswood)  
*Typha latifolia* (Common Cattail)

I would encourage everyone to visit this beautiful and lesser-known region

Miles Hearn

## **Trip to Marcy's Woods, Point Abino**

August 12<sup>th</sup>, 2006

On August 12, 2006, FBO members were treated to a trip to Marcy's Woods located at Point Abino near the eastern end of Lake Erie. The leader for the day was James Kamstra. He started the day by describing the geological features of the site as well as its history. Point Abino includes a limestone ridge extending into Lake Erie. Due to movements of sand by the wind, a tombolo has developed between the tip and the mainland. Some high sand dunes, now forested, have developed parallel to the shore as well. The property was owned by the Marcy family since the 1920s. After the death of Dr. Marcy, the property was left to his children but they decided to sell it. Owing to the significance of the site, concern was raised about how the property would be managed in the future. The new owner recognizes the ecological importance of the site and appears to be taking measures to protect it.



The first comprehensive inventory of the Area of Natural and Scientific Interest which included Marcy's Woods was undertaken in 1990 by Ian McDonald. James had been continuing with that work in the past few years and could therefore give the FBO group some first hand knowledge of the significant features.

James showed us several of the very different habitat types present on the property. First, we went through an area that was dominated by forest that included Black and Sugar Maple, and Red Oak as well as other common forest species. Not so common were the Tall Bellflower (*Campanula americana*), Appalachian Sedge (*Carex appalachica*), Hop-tree (*Ptelea trifoliata*) and Pokeweed (*Phytolacca americana*). From the forest, we moved out on to the sand beach with dunes starting on the back edge of the beach. We saw a number of characteristic beach plant species. There were American Beachgrass (*Ammophila breviligulata*), Sea Rocket (*Cakile edentula*), Sand Dropseed (*Sporobolus cryptandrus*), Canada Wild Rye (*Elymus canadensis*), Artemisia (*Artemisia campestris* ssp. *caudata*) and Seaside Spurge (*Chamaesyce polygonifolia*). We also saw two rather uncommon species: Clammy-weed (*Polanisia dodecandra*) and Trailing Wild Bean (*Strophostyles helvola*). The latter was serving as the host of a rather interesting caterpillar with tufts of long hair.



Clammy-weed (*Polanisia dodecandra*) with adhering sand showing appropriateness of its name.  
Photo by W.D. McIlveen

From there, James took us through some more forest that had species similar to those mentioned above. There were some tall Tulip Trees (*Liriodendron tulipifera*), a few Hemlock (*Tsuga canadensis*) and this forest was on the edge of the wooded dunes and an organic swamp. James was determined to show the group a Halberd-leaved Tear-thumb (*Polygonum arifolium*). He did not disappoint us. He also pointed out a small individual of Southern Arrow-wood (*Viburnum recognitum*). From this location, we climbed to the top of one

of the long, wooded ridges running back to the Marcy's cottage near where we started our walk. By climbing to the top of the ridge, we were made aware of how tall the dunes actually were before they were colonized by trees. The walk back along the ridge reminded me of a trip I had made to the woods in May ten years earlier. From the path along the ridge, we had been able to look down on a den of foxes with the young kits playing, quite unaware of our presence high above them.



Flower and pod of Trailing Wild Bean (*Strophostyles helvola*)  
Photo by W.D. McIlveen

After our tour of the former Marcy property, James took us to see a completely different habitat in a different location nearby. This time it was an alvar. Because of its long history of human influence, there was a number of non-native species on the site. Among the native species seen were Sneezeweed (*Helenium autumnale*), Knotted Rush (*Juncus nodosus*), Virginia Mountain-mint (*Pycnanthemum virginianum*), False Pennyroyal (*Trichostema brachiatum*), and Slender-leaved Agalinis (*Agalinis tenuifolia*). The species that James wanted to show was Many-flowered Agrimony (*Agrimonia parviflora*); another new species for me.

During the day, we were treated to see at least eleven different butterflies incidental to the trip. The highlights for the day though were Giant Swallowtail and Spicebush Swallowtail.

On behalf of the Field Botanists, I must say thank you to James for leading a very interesting trip. I got to see at least five plant species that I had never seen before as well getting a chance to see a few that I had not seen in a long time.

W.D. McIlveen

## **FBO Trip to Manitoulin Island**

May 20<sup>th</sup> and 21<sup>st</sup>, 2006

If the ecological saying, almost a principle, that there are no rare species – only rare habitats – is true, then Manitoulin Island is a testimony of it. Many of the plant species that are rare to very rare in Ontario, are found here in such abundance that it is hard to believe that their status in the province may be perilous. It was undoubtedly the expectation of encountering



such rarities that enticed the FBO members to come here and explore Manitoulin Island's superb flora and unique habitats.

The weather was great when we assembled in mid-morning at the Tourist Office at Little Current, the northern gateway to the island. The day was shaping up sunny, although on a chilly side, a great combination considering the previous several days of rainy weather.

Some of us came the day before and lodged on the island, others arrived on the same day via ferry from Tobermory or travelled by car from other directions.

The trip leader was young Mrs. Leslie McDonnell, Natural Lands Steward at the Nature Conservancy Canada (NCC) office in Guelph. After the head count and introductions, Mrs. McDonnell explained the purpose of the trip and our proposed itinerary for the two days. It happened that the NCC had recently bought an interesting piece of land at Gore Bay, about an hour's drive west from our meeting spot, mainly for its existing and potential natural heritage features. The purpose of the trip was to acquaint the FBO members with that new property and help NCC in a botanical inventory. This would assist NCC in the development of a management plan, in particular to monitor changes following the discontinuation of cattle grazing, decommissioning of roads and trails, and to establish appropriate fire regime in order to rebalance the pattern of ecosystems in favour of natural communities. This research will be compared to results from other sites, like Carden Plain, where ecosystem management is similar.

Mrs. McDonnell then presented two books of interest on the flora and habitats of Manitoulin Island: The Alvares of Ontario (Brownell and Riley 2000), and (2) Flora of Manitoulin Island (Morton and Venn 1984). It is important to note that the diverse patterns of flora and vegetation on the island are conditioned by two general types of limestone substrates, one of Ordovician and the other of Silurian age, each covered by different assemblages of plant communities.

Our program for day one was to focus on the Gore Bay property. The second day was to be more flexible, starting with the Manitoulin's jewel-in-the-crown, Misery Bay, in the morning, and Carter Bay and its dunes in the afternoon.

After arriving at Gore Bay, we were distributed clipboards with maps of the site and floristic lists for checking out species as we would encounter them. The property presently consists of expanses of heavily grazed former pastures of grasses, sedges and forbs (of which the predominant is Prairie Smoke *Geum triflorum*) and low patches of Common Juniper (*Juniperus communis*). Not the entire site, though, was converted to open pastureland as several areas of Bur Oak (*Quercus macrocarpa*) savanna managed to persist. In the shade of the trees, a better developed cover of shrubs is present, with juniper, Downy Arrow-wood (*Viburnum rafinesquianum*) and Juneberry or Serviceberry (*Amelanchier* sp.). Amongst these two types were also extensive moister and heavily grazed areas of low vegetation, mostly with Flat-stemmed Spike-rush (*Eleocharis compressa*), dotted with low-

growing Shrubby Cinquefoil (*Potentilla fruticosa*) bushes. Spiked Sedge (*Carex spicata*), an introduced species common in disturbed pastures throughout much of southern Ontario, was also growing there.

After spending considerable time exploring the open habitats near the gate to the site, we headed south towards the lake. Soon, new species began to pop up. Several stems of Small Yellow Lady's Slipper (*Cypripedium calceolus* var. *parviflorum*) were spotted amongst patches of juniper and the cinquefoil, some also beneath scattered Jack Pine (*Pinus banksiana*). Indian Paintbrush (*Castilleja coccinea*), which was just beginning to flower, was more common closer to the lake within willow-shrubby cinquefoil-red osier dogwood swampy thickets. Multi-coloured Blue-flag (*Iris versicolor*) was also abundant there, growing above a carpet of brown mosses.



Lakeside Daisy (*Hymenoxys herbacea*)  
Photo by Christopher Zoladeski

Finally, we reached the shore and began to admire the flats of coastal meadows. Major plants there were Baltic Rush (*Juncus balticus*), Flat-stemmed Spike-rush, scattered shrub willows and low-growing Silverweed (*Potentilla anserina*).

We were not less lucky in terms of the weather on the next day. The morning was crisp and windy, but sunny when we assembled at the Misery Bay Nature Preserve Interpretation Centre. We spent a few minutes perusing the interesting collections of nature books, souvenirs and pamphlets, several specifically about the bay's ecosystems and wildlife.

To reach the shoreline alvars at the bay, one first walks through a mixed forest of White Spruce (*Picea glauca*), White Pine (*Pinus strobus*), Red Maple (*Acer rubrum*), Balsam Fir (*Abies balsamea*), Trembling Aspen (*Populus tremuloides*) and White Birch (*Betula papyrifera*). The trees are rooted in shallow soil and in crevices of the flat limestone pavement. Shrub species were represented by the Common Juniper (*Juniperus communis*), Choke Cherry (*Prunus virginiana*), Canada Soapberry (*Shepherdia canadensis*) and Common Bearberry (*Arctostaphylos uva-ursi*). Along the trail winding through this ecosystem, we encountered a number of

understorey plants, such as Wild Columbine (*Aquilegia canadensis*), Scarlet Strawberry (*Fragaria virginiana*), Early Saxifrage (*Saxifraga virginiana*), Field Chickweed (*Cerastium arvense*), Bristle-leaved Sedge (*Carex eburnea*), Gay Wings (*Polygala paucifolia*), Barren Strawberry (*Waldsteinia fragarioides*), and Wild Lily-of-the-valley (*Maianthemum canadense*). One or two white-flowered Round-lobed Hepatica (*Anemone americana*) were spotted right at the edge of the trail.

As the trail gradually sloped down towards the bay the forest began to open up more and more. As usual at this time of the year, these flat and otherwise monotonous pavements were embellished by thousands of bright-yellow flowers of Lakeside Daisy (*Hymenoxys herbacea*), an S2 species. At such a wonderful sight, photographers in the group prostrated themselves en masse to take pictures from ground level. The daisy was by far the most conspicuous plant at these locations. As for another rarity growing in this habitat - Cylindric Blazing Star (*Liatris cylindracea*) - it was at least a month too early to begin flowering.



Carter Bay  
Photo by Christopher Zoladeski

At one of such large openings we took a turn and followed the red trail leading straight to the shoreline. When at the bay, we headed towards its head, slowly treading on exposed sand and cobble flats. These were vegetated with Baltic Rush, Needle Spike-rush (*Eleocharis acicularis*), and Silverweed.

At the top end of the bay the situation changed dramatically with the appearance of various fen ecosystems. The graminoid fen was dominated by Slender Sedge (*Carex lasiocarpa*) and had water above the soft peat surface. Baltic Rush was still abundant there, along with Water Bog-rush (*Cladium mariscoides*), Shrubby Cinquefoil and Pitcher-plant (*Sarracenia purpurea*).

Finally, we reached our destination - a ribbed fen-bog complex. As Dr. Peter Beckett explained, nutrients-carrying water seeping from limestone rocks above the bay enriched the floristic composition of this community. Across the direction of water movement, the wet channels had mostly fen

species (such as Three-leaved Buckbean (*Menyanthes trifoliata*) and Seaside Arrow-grass (*Triglochin maritimum*), in addition to Slender Sedge), while the drier “ribs” or hummocks had mostly bog species on deposits of Sphagnum peat. Scattered amongst this pattern were small and highly acidic and nutrient-poor “islands” of Black Spruce (*Picea mariana*).

After lunch, Mrs. Campbell led us to Carter Bay located on the south shore of Manitoulin Island, between South Baymouth and Providence Bay. The beaches are surrounded by a mostly mixed forest on shallow soils over limestone. The gem of the property is the sand dune community along the shore. The area has long been at the centre of controversy because of a proposal to develop it as a high-end recreational estate. The development has stalled for various reasons, but at least one of the lots that had been sold extends into the conspicuous portion of the dunes. Some promises for protecting the dunes have been made, however, easy access and proximity of a large human community are certain to place stress on the dune ecosystem.

The dunes had a sand beach backed by a low front dune of Short-liguled Beach Grass (*Ammophila breviligulata*). Behind, there were tall dunes with wet meadows between them. Further from the shore, there are older dunes on which a forest cover has developed, composed of Eastern White Cedar (*Thuja occidentalis*), Red Pine (*Pinus resinosa*) and White Spruce.

The dunes had plant species typical of such communities around the Great Lakes. Sand Cherry (*Prunus pumila*) was very common, with many plants having exposed roots where sand that formerly covered them had blown away. Stunted trees of Tamarack (*Larix laricina*) and Common Juniper also helped trap the blowing sand, much like the Beach Grass. Tall Wormwood (*Artemisia campestris* ssp. *caudata*) was also very common. Although it was still not at the flowering stage, it was good to see Pitcher’s Thistle (*Cirsium pitcheri*), another S2 species, growing at several locations on the dunes.

Exploring Carter Bay dunes was a great way to wind up the day and the entire very interesting trip. We thanked Mrs. McDonnell for organizing the outing and she was pleased.

Christopher Zoladeski  
(with a contribution by Bill McIlveen)

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## **Botanical Roots**

### **John Goldie – Pioneer Field Botanist**

#### **Early Information**

John Goldie was born on March 21, 1793 in Kirkoswald near Ayr, Scotland. He showed enough early promise that he gained employment at the Glasgow Botanic Garden. Through that connection, Sir William J. Hooker, then Director of the Gardens took an interest in John Goldie and underwrote part of Goldie's North American trip. By 1817, he had sufficient money to pay his passage across the Atlantic and to leave a small surplus for expenses. In June 1817, John left Leith bound for New York but, encountering bad weather, the ship diverted to Halifax where he debarked and began botanizing. From Halifax, he journeyed to Quebec and collected for a further two weeks. All the material he had collected was packed up and stowed in a ship bound for Greenock while John traveled on to Montreal. Later he learned that the entire shipment had been lost.

In Montreal, he hoped to get support from Frederick Pursh who had just authored the two volume "*Flora Americae Septentrionalis*" published in 1814. That treatise had described botanical materials collected during the Lewis and Clark expedition. Although Pursh was in poor health at the time, he did not lend Goldie the requisite support that would allow him to travel to the interior of North America. Instead, Goldie settled for botanical searches in less distant locals, almost always on foot, but over distances that we off recent times would never dream of doing.

#### **New York**

In 1817, Goldie walked from Montreal down through New York State to Albany, then on to New York City. He was highly impressed by the pine barrens of eastern New Jersey "a country which, though barren and thinly inhabited, yet presents many rarities to the botanist, and gave me more gratification than any part of America that I have seen". Goldie sent all his many collections made on this trip to Scotland, but they never arrived there, much to his disappointment. He survived the winter by teaching along the Mohawk River in New York before returning to Montreal

Plans to journey with traders to the north-west failed to materialize in 1818 so he resorted to being a laborer to survive through that year. He spent his weekends hunting for plants and included an exploration for a short distance up the Ottawa River. His collections for the year were sent to Scotland by ship but that ship too was lost in the St. Lawrence.

#### **Ontario**

The objective of John Goldie's entire tour is outlined in the opening words of his Diary: "On June 4th, 1819, I commenced my long-talked of journey to examine the natural but more particularly the botanical productions of Upper

Canada and of the States in the vicinity of the Lakes". On that date, he set out from Montreal and in the course of his journey during that summer, he was to visit Kingston, York (Toronto), Holland Landing and many other places. Through self-financing, this was his last chance to make a success of his trip to North America.

His journey in Upper Canada was along the north shore of Lake Ontario from Montreal down to Niagara Falls and Fort Erie and then into the states of New York and Pennsylvania. He noted the presence of sandy soils around Lake Ontario in which crops could only be grown poorly. We now know these soils were remnants of the old beaches of former lakes or morainal deposits. He also noted barren, rocky areas around northern Lake Ontario, too, where farms could not be established. He was tormented by mosquitoes and black flies as he walked carrying all he owned in a knapsack as well as his collections (plants in a collecting book, insects in his hat).

#### **Toronto – Rouge River**

On June 25, 1819, Goldie crossed the Rouge River near Kingston Road. Here he found Hairy Beartongue (*Penstemon hirsutus*) in the east slope of the river in "such a quantity of which I never expected to see in one place". From here, he passed through miles of "barren sandy Pine Woods, which it is probable will never be cleared" presumably due to the infertile character of the soil. More sand was observed on the cliffs of Scarborough. Although the Rouge area was primarily forested in the past, it did contain meadow wildflowers and even remnants of prairie grasslands with species such as Big Bluestem from a drier climatic period. Some of these remnant wildflower communities were probably on the clearings created through the activities of early native farmers.

#### **Toronto – Holland Landing**

After walking from Montreal to Toronto along the lakeshore road, he headed north to Holland Landing just south of Lake Simcoe on June 26th, 1819. The next day he reached his destination and stayed for a week collecting plants. Here he found his type locality for Prairie Buttercup (*Ranunculus rhomboideus*) and much admired species like the orange Butterfly Weed (*Asclepias tuberosa*) and the white-flowered Flowering Spurge (*Euphorbia corollata*). Goldie regretted his single week there for he felt new species could be found in this locality that served as camping-grounds for the early Indians and fur-traders.

#### **Toronto – Niagara**

After heading back to Toronto, and although he could have taken a ship to Niagara, Goldie continued around Lake Ontario on foot, collecting as he went. Around Toronto, he noted that "the land is naturally dry and sandy; the summer is generally dry". Three miles west after leaving York, he encountered a Sandy Pine Barren in the area we now recognize as High Park. Such a plant community extended for five miles. He wrote "This is as good a Botanical Spot as any

that I ever was in. On July 8<sup>th</sup>, 1819 he crossed the sand bar that cut off Burlington Bay from Lake Ontario.

### Niagara

On reaching the Niagara River, Goldie headed upstream towards the Falls. After reaching Queeston, he was greatly impressed by the nature of the Niagara River gorge. On July 13, 1819, he crossed over to Goat Island and he may have been the first botanist of note to visit the previously inaccessible island. From the stratigraphy of the rocks and such information as he could muster about the Falls, it appeared to him that the calculated time for the falls to retreat from the edge of the escarpment to its present position did not square with the churches teachings on the age of the earth. Being a devout Christian, this troubled him greatly but he realized that the age of the earth must be much greater than the concepts promoted by the Church. Goldie's visit to Goat Island and his examination of the flora there predates the work of such illustrious botanists as David Douglas, Asa Gray, and John Torrey who were foremost in developing the science of botany on the American continent.

In the Niagara Gorge, Goldie noted Maidenhair Spleenwort (*Asplenium trichomanes*) and Purple Cliff-brake (*Pellaea glabella*). He also found Fringed Gentian (*Gentianopsis procera*) and Kalm's Hypericum (*Hypericum kalmianum*) though neither of these was in bloom at the time he was there.

### Pittsburgh – Montreal

After his visit at Niagara, Goldie headed on to Buffalo, New York. In Cattaraugus, Goldie was impressed with an area of swampy ground covered with Great Rhododendron (*Rhododendron maximum*) in flower and Tulip Tree (*Liriodendron tulipifera*) with four-foot bases. He then followed the road along Lake Erie. He noted that the flax crop grew poorly on the native sands there though it was later determined that the flax-parasite, Flax Dodder (*Cuscuta epilinum*) likely had some responsibility for the crop problem. From here he continued to walk to Pittsburgh reaching that location on August 2. He then made his way back to Montreal in time to catch a ship that took him back to his homeland, this time with a load of all his specimens.

Among the items he was able to carry back was the root of the fern that bears his name, Goldie's Fern (*Dryopteris goldiana*). Another of the plants he collected which became type specimens was Small-headed Sunflower (*Helianthus microcephalus*) (though this plant is not found in Ontario).

### Later History

After returning to Scotland, Goldie made two trips to Russia. He did return to North America in 1833 in search of land to settle on but that visit was short-lived due to a death in the family and he returned home.

In 1844, when financial prospects for his family in Scotland appeared low, at age 51, John Goldie brought his six youngest

children to Ontario. On the advice of a friend, Goldie settled at Ayr where he established an early plant nursery. Although the nursery was barely a success, the family fortunes changed when one of his sons founded a flourmill on the Nith River at Ayr in 1857. Six years later, they built a much larger mill that was a dramatic financial success. John Goldie died at age 93 in July 23, 1886 after a comfortable old age. We can salute his efforts and great contributions to the early knowledge of botany of Ontario.

W.D. McIlveen

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## Notice

### John Goldie Award

As the Field Botanists of Ontario has now been around for a number of years and is now reaching a stage of maturity, the executive of the organization had been pondering how to recognize the contributions made to botany in general but more specifically to botanical studies in the field within Ontario. In the end, it was decided that deserving individuals should be given suitable recognition in an award made on an annual basis at the FBO AGM. Selecting a name for the award was a relatively easy decision. The name chosen was the "John Goldie Award" in recognition of the efforts and contributions made by John Goldie in his wanderings through Ontario in the early 1800s. Those early contributions are outlined in the accompanying article. It seems appropriate that recognition of those early contributions should live on through the name and granting of this award.

The first recipient to receive the award was selected by the FBO executive. The name of the recipient will be made known and the prize will be awarded at the AGM to be held at Owen Sound in September 2007. Future winners will be selected through a nomination process to be described later but FBO members will be encouraged to put forward the names of worthy individuals to receive the prize in future years.