



FIELD BOTANISTS of ONTARIO

Newsletter

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Devil's Beggar-ticks (*Bidens coronata*) at Wainfleet Bog –Victoria MacPhail

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President's Message

Spring has officially arrived and when I look out the window it looks like spring, but when I go outdoors it still feels like winter to me. However, this morning when I returned from my morning coffee there was a friend's optimistic message on my answering machine. He had phoned to report that he had seen a Coltsfoot in full bloom. Coltsfoot isn't exactly my favourite flower but they give me a good feeling when they bloom because I know that better things are on the horizon.

As I write this note, our spring event at the Canadian Museum of Nature is on the horizon and by the time you receive your Newsletter, the event will be history. I am sure that it will be a success and I am extremely grateful to Jennifer Doubt, an FBO member who works at the Museum, for the thought and work which she has put into the program. I know that many FBO members will give her their sympathy for having to work with me but such are the hazards of life.

One important aspect of this event is that our two very different organizations are reaching out to each other. Our objectives are different but we have a number of common interests. I am sure that the program will be well received and those people who attend will enjoy the weekend. The other highlight of the weekend, which is not on the program, is the opportunity to meet new friends with similar but different backgrounds than ours. I believe that this opportunity is a real plus.

The field trip program is almost complete as I write this note and it looks like we will have a couple of extra trips in 2011. I believe that Leah and Sarah have done a fine job and that we have a great field trip season to which to look forward.

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Standard source for scientific names and authorities of vascular plants:

Newmaster, S.G., A. Lehela, P.W.C. Uhlig, 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.

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

President

Bill Crowley
19 Burnham Blvd Port Hope ON L1A 4H5
fisheye@eagle.ca
(905) 885-2123

Vice President

Christopher Zoladeski
1220 Nathaniel Cres. Burlington ON L7S 2A6
chriszoladeski@savanta.ca
(905) 637-1760

Treasurer

Bill Draper
35 Hepbourne St. Toronto ON M6H 1K1
william.draper@sympatico.ca
(416) 534-2892

Secretary

Nancy Falkenberg
42 Coco Avenue Richmond Hill ON L4S 2R5
falkenberg@rogers.com
(416) 457-8031

Past President

Sarah Mainguy
RR #3 Guelph ON N1H 6H9
mainrod@sympatico.ca
(519) 822-5221

Membership

Bill McIlveen
13200 Nassagaweya-Equesing Town Line RR1 Acton ON L7J 2L7
wmcilveen@sympatico.ca
(519) 853-3948

Field Trips

Leah Lefler
(519) 837-3429
and Sarah Mainguy (see Past President above)
fbo.trips@gmail.com

Newsletter Editor

Julia Marko Dunn
304 MacNab St. Dundas ON L9H 2K7
jmarkodunn@gmail.com
(905) 628-6108

Associate Editor

Michael J. Oldham, Natural Heritage Information Centre
MNR PO Box 7000 Peterborough ON K9L 1C8
michael.oldham@ontario.ca
(705) 755-2160

Editorial Assistance

Chris Dunn

Contributing Editor

W.D. McIlveen (see Membership above)

Website

Melinda Thompson
plantgirl2002@hotmail.com

Director

Mike McMurtry
michael.mcmurtry@sympatico.ca
(705) 748-5353

Field Trip Reports

Five Points Forest, Ingersoll June 6th, 2010

On an overcast morning in late spring, a good-sized group of keen field botanists converged on the property of Al and Lilianne Driedger along with our trip leader, Dr. Jane Bowles, renowned ecologist and botanist of the University of Western Ontario and Thames Talbot Land Trust (TTLT). The Driedger's property is part of Five Points Forest, a 52 hectare (130 acre) tract of forest and swamp and Provincially Significant Wetland. Five Points Forest is located just southwest of Ingersoll, north of the 401. Jane explained that the property was very generously donated to the TTLT in 2009 by Al and Lilianne Driedger, whose intent was to see the natural features of their property preserved indefinitely. The Driedgers retained the narrow parcel of land that includes their home in the middle of Five Points Forest. As we would see later in the day, the Driedgers are active and passionate stewards of their property and the surrounding forest.

Five Points Forest contains many interesting plant communities and species. A preliminary list of species for the property had been developed based on autumn surveys but spring and summer surveys had not been completed. With the goal in mind of adding as many new species to the plant list as possible, we set off for the day from the laneway the leads to the Driedger's home. We worked our way through a small section of hardwood swamp with a ground layer dominated by Skunk Cabbage (*Symplocarpus foetidus*) mixed in with large ferns; Ostrich Fern (*Matteuccia struthiopteris*), Cinnamon Fern (*Osmunda cinnamomea*), Royal Fern (*Osmunda regalis* var. *spectabilis*) and Lady Fern (*Athyrium filix-femina*), before arriving at an upland forest of Sugar Maple (*Acer saccharum*) and American Beech (*Fagus grandifolia*) situated on a narrow gravel ridge. The ground layer in this section of forest contained several species characteristic of rich woodlands, including:

Northern Maidenhair Fern (*Adiantum pedatum*)
Wild Leek (*Allium tricoccum*)
Wild Ginger (*Asarum canadense*)
Rattlesnake Fern (*Botrychium virginianum*)
White Bear Sedge (*Carex albursina*)
Beechdrops (*Epifagus virginiana*)
Running Strawberry-bush (*Euonymus obovata*)
Lopseed (*Phryma leptostachya*)
Rattlesnake-root (*Prenanthes* sp.)

Shinleaf (*Pyrola elliptica*)
Bloodroot (*Sanguinaria canadensis*)
Starflower (*Trientalis borealis*)
Maple-leaved Viburnum (*Viburnum acerfolium*)
Downy Yellow Violet (*Viola pubescens*)

Some of the more uncommon and interesting species observed in this portion of the forest were:

Wild Licorice (*Galium lanceolatum*)
Poke Milkweed (*Asclepias exaltata*)
Prickly Ash (*Zanthoxylum americanum*).

Also of interest were three native woodland grasses all growing in the same general area:

Long-awned Wood Grass (*Brachyelytrum erectum*)
Nodding Fescue (*Festuca subverticillata*)
Purple Oat Grass (*Schizachne purpurascens* ssp. *purpurascens*)



Osmunda regalis var. *spectabilis* and tussocks of *Carex crinita* in vernal pool – Brian Miller

A little further on in the same section of hardwood forest, we came across a sizable and very picturesque vernal pool dominated by large and numerous tussocks of Fringed Sedge (*Carex crinita*), Cinnamon Fern and Royal Fern. Spotted Jewelweed (*Impatiens capensis*), Sensitive Fern (*Onoclea sensibilis*), and Skunk Cabbage were abundant around the edges of the pond where there was less water. Trees within the pool were immature and widely spaced consisting primarily of Red Maple (*Acer rubrum*) growing on large rotted logs that had fallen into the pool. Blue Beech (*Carpinus caroliniana*) and immature Yellow Birch (*Betula alleghaniensis*) were occasional associate trees around the perimeter of the pool.

From here, Al Driedger showed us the way to one of his restoration areas where we would see the results of his painstaking and ongoing removal of European Buckthorn (*Rhamnus cathartica*) from the property. Specifically, we observed a dense regeneration area of Ash (*Fraxinus* spp.) and Trembling Aspen (*Populus tremuloides*) seedlings surrounded by a thick Eastern White Cedar (*Thuja occidentalis*) forest. Al explained that a few years prior, the same area was a dense thicket of head-high European Buckthorn and that he spent many hours removing the Buckthorn by a combination of felling and herbicide, followed by hand pulling of the numerous seedlings that grew up afterwards. As a result of this tremendous effort, European Buckthorn is nearly eliminated from this location. Abundant seedlings of Ash and Aspen have grown up in place of the Buckthorn and are now the dominant woody regeneration. Bolstered by this success, the battle against the European Buckthorn invasion continues on other parts of the property.

After lunch, we encountered a number of other interesting species as we made our way through a moist mixed forest on our way to a marsh. Species of note included large patches of New York Fern (*Thelypteris noveboracensis*), Wood's Sedge (*Carex woodii*) mixed in with Pennsylvania Sedge (*Carex pennsylvanica*), and Michigan Lily (*Lilium michiganense*). Of special note was a large and striking example of Blue Ash (*Fraxinus quadrangulata*) to which Jane led us. Blue Ash is provincially rare and listed as a Species of Special Concern in Ontario. It is unique among Ontario's native ash trees in that it has four-sided rather than round twigs. The specimen appeared to be in good health and no evidence of the Emerald Ash Borer was observed.

We arrived at the edge of the marsh, a sedge meadow to be precise. The ground was spongy and unstable underfoot, so we did not explore far into the marsh for fear of doing too much damage. The portion that we did observe contained a number of interesting wetland plant species, including:

Swamp Milkweed (*Asclepias incarnata* ssp. *incarnata*)
Prairie Sedge (*Carex prairea*)
Inland Sedge (*C. interior*)
Swamp Loosestrife (*Decodon verticillatus*)
Water Horsetail (*Equisetum fluviatile*)
Water Avens (*Geum rivale*), and
Rough-leaved Goldenrod (*Solidago patula*)

Many of these species have high coefficients of conservatism values (i.e. they are typically found in high quality/pristine plant communities).

The final area we visited was a Sugar Maple slope forest. One group member pointed out Hitchcock's Sedge (*Carex hitchcockiana*) and explained that the pubescent sheaths are characteristic of this sedge. Others pointed out that some of the Sugar Maple leaves observed in this area had fuzzy undersides, a common characteristic of Black Maple (*Acer nigrum*); however, the overall leaf shape and presence of lobes were consistent with Sugar Maple. Jane explained that pubescence on the underside of Sugar Maple is quite common and that leaf shape is a better distinguishing character. The points on the upper lobes of Sugar Maple leaves are more pronounced and Black Maple leaves are less translucent and tend to droop more. An extensive bottomland-swamp forest dominated by maples (*Acer* sp.) at the base of these slopes was notable for its extensive and pure stands of Skunk Cabbage that formed a dense ground layer in the moist soil.

We made our way back to the meeting location where we went our separate ways, thankful to Dr. Bowles and Al Driedger for showing us around the property. With 117 new species added to the vascular plant list for the property (which now stands at 284), it was a successful and very enjoyable day botanizing in good company and in some high quality plant communities. 🌿

Brian Miller

Toronto Islands August 28th, 2010

Ministry of Natural Resources Ecologist Steve Varga greeted us at the Toronto Islands Ferry Terminal in downtown Toronto, off Bay Street. Steve had graciously volunteered to step in as trip leader for Gavin Miller, who was unable to make it due to a family emergency. Although we missed out on Gavin's expertise, we could not have asked for a better substitute. We were also

accompanied by Bill Crowley, FBO President and a familiar face I have seen on several of the FBO trips I have attended over the past two field seasons. We had a group of just under twenty and were getting ready to depart for Ward's Island, selected for its rich mosaic and diversity of different ecosystem types found on the islands. Ward's Island contains a mixture of all of the ecosystem types found on the islands, from dunes to wet meadows to beach woodlands. We could not have asked for a better day – it was hot and sunny with clear skies and gentle winds.

As we boarded the ferry and began our journey across Lake Ontario to the islands, we were greeted by Double-crested Cormorants diving and swimming in the lake. It is always both surprising and encouraging to find such high-quality natural habitat amongst densely developed urban areas. Steve told us about the ecological importance of the islands, which have been declared an Area of Natural and Scientific Interest (ANSI), and how the City of Toronto and the Toronto and Region Conservation Authority are beginning ecological restoration projects to preserve important island habitat. Although only in their initial stages and not yet as established as the successful work going on at High Park, with time these initiatives should improve and become more substantial. One of the biggest obstacles in stewardship and restoration on the islands is controlling invasive plant species. Much of the developed areas of the island are still manicured lawn that could be naturalized to increase the area of natural habitat.

In addition to a vibrant mix of interesting plant communities, the Toronto Islands are also a great area for birding. Hundreds of spring and fall migrants from warblers to hawks visit the area. This became evident when a funny thing happened during a washroom break. The Field Botanists of Ontario group collided with the Ontario Field Ornithologists group and everyone became quite confused figuring out who was with whom. Everyone was sorted out by declaring themselves either a birder or a botanist. After our break, we began our walk at a small grove of trees bordering a vast area of dunes. Eastern Cottonwood (*Populus deltoides*) is the dominant tree, sand-loving and tolerant to disturbance. Another familiar tree we encountered was Reddish Willow (*Salix X rubens*). Some of the willows we saw were over 100 years old, nearing the end of their lifespan. Willows provide habitat to Canada Geese on the islands. Mother geese nest in the trees and the young can be seen hatching and flopping down to the grass below. Unfortunately, due to their large numbers and resulting ecological impact, geese are routinely rounded up and relocated to places in the U.S.



Schweinitz's Umbrella Sedge (*Cyperus schweinitzii*) – Holly Stover (HS)

We then began our exploration of the dunes. Steve informed us that Great Lakes cottonwood dunes are a globally endangered (G1) habitat. As he told us this, I watched the beachgoers and people out for strolls and recreation and wondered if anyone was aware or appreciative of this. Although easily damaged from human activity, dunes are resilient if intervention occurs and areas are reclaimed and protected. Dune succession begins with its fundamental grass, Maram Grass (*Ammophila breviligulata*), which binds and stabilizes the soil, allowing other plants to colonize the substrate. Within the dune ecosystem, Steve introduced us to the rare Schweinitz's Umbrella Sedge (*Cyperus schweinitzii*), Tall Goldenrod (*Solidago altissima*) and the non-native Bouncing Bet (*Saponaria officinalis*). We also observed Wild Grape (*Vitis riparia*), Eastern Helleborine (*Epipactis helleborine*), Common Milkweed (*Asclepias syriaca*) and Sand Dropseed (*Sporobolus cryptandrus*). Sand Dropseed is native to sand dunes and sand barrens and distinguished from other dropseeds by its fringed ligule. The seeds of *S. cryptandrus* are retained in its sheath, providing a long-term food source for migrating birds. Rushes occupying the dunes included Dudley's Rush (*Juncus dudleyi*), Baltic Rush (*Juncus balticus*) and Jointed Rush (*Juncus articulatus*). Dominant grasses of the dunes (other than Maram Grass) include Canada Wild Rye (*Elymus canadensis*), whose long awns distinguish it from the non-native Quack Grass (*Elymus repens*), and Canada Blue

Grass (*Poa compressa*), distinguished from Kentucky Blue Grass (*Poa pratensis*) by its flat stem. Another indicator dune plant is the widespread Tall Wormwood (*Artemisia campestris*), a biennial plant producing a basal rosette of leaves the first year then a tall flowering stalk the following year. The dunes host an interesting group of horsetails – the common Variegated Horsetail (*Equisetum variegatum*), Scouring Rush (*Equisetum hyemale*) and also a hybrid horsetail called Nelson's Horsetail (*Equisetum X nelsonii*), which is a cross between Smooth Horsetail (*Equisetum laevigatum*) and Variegated Horsetail. Nelson's Horsetail is dominant in the wet meadow habitat and distinguished from its parent species by its microfibrils – leaf-like structures that are fringed at the nodes in this hybrid species. Moving onto larger woody plants, we found bountiful Red Osier Dogwood (*Cornus sericea*) as the dominant understory shrub.

Moving along our trail, we proceeded to a wet meadow habitat. Here we found a stand of European Birch (*Betula pendula*), an introduced species spreading throughout wet areas on the islands. The tree was introduced by planting and has been spreading naturally throughout the island ever since. Along our path, we observed more *Juncus balticus*, Sandbar Willow (*Salix exigua*) and Heart-leaved Willow (*Salix eriocephala*). Heart-leaved willow is distinguished by its many pinecone-shaped galls created by the gall midge that uses the willow as a host. A local ecotype of Switch Grass (*Panicum virgatum*) unique to the region was seen in several dense clusters throughout the sandier regions of the habitat. Gray Goldenrod (*Solidago nemoralis*) and Narrow-leaved Goldenrod (*Euthamia graminifolia*) occurred in several places throughout our walk, as well as Boneset (*Eupatorium perfoliatum*). In marshy areas occurring in the wet meadow, we observed the problematic Purple Loosestrife (*Lythrum salicaria*) and stands of cattail (*Typha* spp.). Red and White Clover (*Trifolium pratense*, *T. repens*) occurred on many of the disturbed areas bordering well-travelled paths. A variety of forbs was found in the wet meadow, captivating the group, such as the orchid Nodding Ladies Tresses (*Spiranthes cernua*), Small-flowered Gerardia (*Agalinus paupercula*), Silverweed (*Potentilla anserina*), and Fringed Gentian (*Gentianopsis crinita*) preparing to flower (some early ones were out). Thousands of Fringed Gentians and Small-flowered Gerardias grow on the islands, representing the largest populations known in the region. Further on the walk we saw Canada Blue Joint (*Calamagrostis canadensis*), native Field Mint (*Mentha arvensis*), Woolly Sedge (*Carex pellita*/*C. lanuginosa*), and Canada Anemone (*Anemone canadensis*).

Along the beach, we observed rare coastal species that can be found on the Eastern Seaboard, remnants from after de-

glaciation when the Champlain Sea, which once covered easternmost Ontario, allowed coastal species to colonize the Great Lakes. Rare Atlantic species included Bushy Cinquefoil (*Potentilla paradoxa*), Sea Rocket (*Cakile edentula*), and Seaside Spurge (*Chamaesyce polygonifolia*). These species are severely threatened on the island due to the raking of the beach that occurs every year, devastating their populations. Only one Sea Rocket plant was found, with no trace of the other two species that once occurred on this beach. Actions are being taken by Steve and others concerned to stop the beach raking, but the damage may be too great and actions may be too slow to prevent the extirpation of these species from the area. Along the beach, we also saw Indian Hemp (*Apocynum cannabinum*), European Elm (*Ulmus minor*), two varieties of Evening Primrose (*Oenothera* spp.), Virginia False Dragonhead (*Physostegia virginiana* ssp. *virginiana*), and Canada Tick-trefoil (*Desmodium canadense*).

Later in the day, we visited a lagoon around the wooden bridge that links Ward's Island to Algonquin Island. There we saw a number of aquatic plants including: Three-square (*Schoenoplectus pungens*), River Cyperus (*Cyperus bipartitus*), Star-grass (*Heteranthera dubia* – we even got to see its small yellow star shaped flowers on a stranded plant), Bullhead Pond Lily (*Nuphar variegata*), Coontail (*Ceratophyllum demersum*), Slender Naiad (*Najas flexilis*), and Flat-stemmed Pondweed (*Potamogeton zosteriformis*). To round off this aquatic extravaganza we saw a mink swim by, land on the shore next to us, and then scamper off. Mink have recently come back to the Islands in a big way, as have beavers.

This was a great field trip; at the end of the day I had a more in-depth perspective of sand dune plant ecosystems and an appreciation of the biodiversity and significance of the Toronto Islands. Rare plants and ecosystems can be found throughout Ontario, even in urban areas, as demonstrated by this trip. It is important to be aware of this and include the conservation of natural areas in urban zones just as much as pristine wilderness. The perseverance of unique and rare species of plants and ecosystems despite ongoing increasing pressures from human development is encouraging and should always be remembered as a beacon of hope for the future and motivation to continue to strive to protect what natural heritage we have left despite the challenges of environmental issues today. This will be my last field trip for a while until I return to Ontario after I finish graduate studies. I have greatly enjoyed my experiences with the FBO and I will miss the field trips! I have met many kind and intelligent people working in the botany and environmental field on FBO trips and it has been a great

experience. I look forward to attending trips when I move back to Ontario. Bye for now! 🌿

Holly Stover



A walk through Tawny Cottongrass (*Eriophorum virginicum*) at Wainfleet Bog– Michelle Purchase (MP)

Wainfleet Wetlands September 18th, 2010

On a sunny September day, 24 FBO members got together to explore the wetlands of Wainfleet township, under the expert guidance of Mike Oldham (NHIC) and Albert Garofalo (Welland). Mike had provided us with a list of possible plants to be seen on the trip, which was quite helpful as it saved us trying to puzzle out the correct spelling of Latin names. Indeed, we identified well over 115 species in our investigations of three habitats: beach, abandoned quarry, and bog.

It was a delight to start at a sandy beach alongside the broad, blue expanse of Lake Erie. Sand dunes and areas of limestone pavement (bedrock outcrops) presented an interesting mix of species, such as Sea Rocket (*Cakile edentula*), which has a two-part fruit to aid in dispersal: one part is shaped like a boat and can float on water while the other part remains on the plant until it dries and then disperses on land. Trailing Wild Bean (*Strophostyles helvola*) was seen in both fruit and flower. Generally only found on the lakeshore and in sandy areas, its fruit look

like smooth beans, while the compound leaves are leathery. Winged Pigweed (*Cycloloma atriplicifolium*) disperses like tumbleweed when it dries in the fall, while Rough Cockle-bur (*Xanthium strumarium*) attaches its fruits to passing animals. Purple Sandgrass (*Triplasis purpurea*) is an uncommon sand-loving grass with purple stems, while Big Bluestem (*Andropogon gerardii*) was a more recognizable sight, particularly with its “turkey-foot” seed heads.

Rusty Flatsedge (*Cyperus odoratus*), Straw-coloured Flatsedge (*Cyperus strigosus*), and Three-square (*Schoenoplectus pungens*) were the most interesting sedges seen. Several *Juncus* species were seen and key identification features shared. Baltic Rush (*Juncus balticus*), has a big, robust inflorescence that comes out of the side of the stem like *J. effusus* (lamp rush, not seen), but has a softer stem and more relaxed inflorescence than *J. effusus*; *J. balticus* plants are also rhizomatous and tend to grow in a straight line versus a clump. Torrey’s Rush (*Juncus torreyi*), have very large, rounded heads, and usually grow in clusters along shorelines, often in wet habitats. Dudley’s Rush (*Juncus dudleyi*) is similar to *J. tenuis*, but the ligule is stiff at the base and has a hard

knob/bump when the leaf is pulled away, versus a thin, membranous ligule in *J. tenuis* that breaks apart when the leaf is pulled.



Sea Rocket (*Cakile edentula*) - Victoria McPhail (VM)



FBO members at the bog – VM

Along the shoreline edge were Eastern Cottonwood (*Populus deltoides*) trees, which are known to be early stabilizers of dunes, Red Oak (*Quercus rubra*), which are often found alongside cottonwoods, and Sand-bar Willow (*Salix exigua* aka *S. interior*), with its characteristic narrow

leaves and shallow teeth. Climbing Bittersweet (*Celastrus scandens*), Eastern Ninebark (*Physocarpus opulifolius*) and Heart-leaved Willow (*Salix eriocephala*) rounded out the list of interesting woody plants.

After a large patch was found, discussion ensued about how to identify the native versus non-native forms of Common Reed (*Phragmites australis*). Generally (80-90% of the time), the native variety has red internodes, like a barber pole, which are particularly noticeable on the lower part of the stem, while the introduced variety has a more uniform yellow-green colour. The native variety “acts nice” as a co-dominant with other species in rich wetlands, while the introduced variety is invasive, widespread and generally forms more dominant, large clumps. The colour of the inflorescence (red vs. yellow-brown) is not indicative of the species.

The big excitement came when we were able to see Swamp Rose Mallow (*Hibiscus moscheutos*), an S3 provincially ranked and “Special Concern” species. This location is the only known population on the Lake Erie shoreline in Niagara. As well, Mike tentatively identified a plant as Japanese Bindweed (*Calystegia pellita*), a rare weed in the US that he had never seen in Ontario before and which is known from very few provincial records.

When we moved onto the abandoned limestone quarry site, many introduced non-native species were seen. Hyssop-leaved Loosestrife (*Lythrum hyssopifolia*) is a non-native known only from three or four locations in Ontario, with tiny fruits in the axils of leaves. Slender Flatsedge (*Cyperus bipartitus*) and Brown Flatsedge (*Cyperus fuscus*) were two very similar, small sedges found growing close to the ground: the former is native with reddish-brown inflorescences, while the later is non-native with black inflorescences. This alvar-like site was edged by a shallow lake, which contained two species of *Najas*: Slender Naiad (*N. flexilis*), a native broad-leaved naiad that is not obviously toothed, and Brittle Naiad (*N. minor*), an introduced species with narrower, toothed leaves.

Heading up the quarry edge, we observed non-native honeysuckles and key features were again shared: Tatarian Honeysuckle (*Lonicera tatarica*) has no hairs on the leaf, while Bella Honeysuckle (*L. x bella*) has some hairs, and Morrow’s Honeysuckle (*L. morrowii*) has many hairs. The climb up the cliff side was steep in places, but we were rewarded with seeing a nice patch of Ebony Spleenwort (*Asplenium platyneuron*), as well as Eastern Red Cedar (*Juniperus virginiana*), Gray Dogwood (*Cornus racemosa*), and Wild Bergamot (*Monarda fistulosa*). Numerous other species were seen along the quarry floor and adjacent cliff top.

Finally, we reached the bog* (*we discussed whether it is a “true” bog or not by Ecological Land Classification or Ontario Wetland Evaluation System criteria, but no consensus was made). In 1908, the Department of Defence mapped the area and it was almost entirely open except for a Black Spruce-Tamarack (*Picea mariana-Larix laricina*) area in the middle. Since then, European White Birch (*Betula pendula*) has invaded and today it is a forested bog, with virtually no living spruce or tamarack left. It used to be one of the largest bogs in southern Ontario, and is now the only bog left in the Niagara Region. Fires set by accident burned for years and years through the 3 m of peat overtopping deep clay soils and rock; peat extraction actually began in an attempt to stop the fires, and continues today in some areas.

Typical bog plants were seen, such as Leatherleaf (*Chamaedaphne calyculata*), Round-leaved Sundew (*Drosera rotundifolia*), Tawny Cotton-grass (*Eriophorum virginicum*), Dense Cotton-grass (*Eriophorum vaginatum* ssp. *spissum*), Sheep Laurel (*Kalmia angustifolia*), Labrador Tea (*Ledum groenlandicum*), Marsh St. John’s Wort (*Triadenum* sp.), and many others.

Several rare species were found including Yellow Screwstem (*Bartonia virginica*; S2), Carey’s Smartweed (*Polygonum careyi*; only record for Carolinian zone), as

well as provincially rare Woodland Flax (*Linum virginianum*; S2)), which may be a new record for the area.

Four different species of *Bidens* were seen, all growing conveniently within a couple feet of each other too. Devil’s Beggar-ticks (*Bidens frondosa*) has divided leaves, and no ray flowers; Three-lobe Beggar-ticks (*B. tripartita*) has single leaves and no ray flowers; Southern Tickseed (*B. coronata*) is a provincially rare (S2) plant with divided leaves, and showy ray flowers; Nodding Beggar-ticks (*B. cernua*) has single leaves, showy flowers, and is lower-growing than *B. coronata*.

Bristly Dewberry (*Rubus hispidus*) and Small Bristleberry (*Rubus setosus*) were compared as they grew along the trail; the former is creeping and three-lobed with shiny leaves, while the latter is more uncommon, bigger, five-lobed (although sometimes three-lobed), with recurved prickles. Other interesting plants seen included Black Chokeberry (*Aronia melanocarpa*), Canada Rush (*Juncus canadensis*), Lamp Rush (*Juncus effusus*), Water Purslane (*Ludwigia palustris*), Hickey’s Clubmoss (*Lycopodium hickeyi*), Pokeweed (*Phytolacca americana*), Clearweed (*Pilea* sp.), Mermaid Weed (*Proserpinaca palustris*), Pin Oak (*Quercus palustris*), Swamp White Oak (*Quercus bicolor*), Glossy Buckthorn (*Rhamnus frangula*), Cottongrass Bulrush (*Scirpus cyperinus*), and Lance-leaved Violet (*Viola lanceolata*).



Group photo at Wainfleet Bog – VM

While botanists do have a tendency to concentrate only on those organisms with cell walls, over the course of the day we did notice some animals. The drifts of Zebra Mussel shells (*Dreissena* sp.) along the shore served as evidence of the spread of this invasive species in Lake Erie. It was also the time of year of Monarch (*Danaus plexippus*) migration, with over 15 individuals seen at the beach and four more at the quarry, in addition to one Viceroy (*Limenitis archippus*) at the beach, and several unknown caterpillars at both sites. Eastern Gartersnake (*Thamnophis sirtalis sirtalis*) was seen at both the beach and quarry, while a Ribbon Snake (*Thamnophis sauritus*) was seen at the bog. Fossils of animals long dead were also seen in the limestone and, to the dismay of many FBO members, ATV-riding humans were also seen along the quarry edge. At the end of the day, the field trip participants were tired, but happy with all that they were able to see. 🌿

Victoria MacPhail

Continued from inside cover...

The AGM will be in Carolinian Canada with our headquarters for the weekend in Simcoe. I have spoken to our dedicated vice president, Chris Zoladeski, and learned that he has only two problems. One is to select sites for our field trips. Evidently, he has too many good locations to choose from and is having a real problem making the selections. What a great problem to have! The other problem is much more difficult. What is he going to wear to the banquet? Should he come in formal attire, informal attire, or casual attire???? You have my sympathy, Chris.

I hope that all FBO members have a great summer and that we cross paths from time to time.

Best wishes,

Bill

Correction:

The photos associated with the Mushrooms and Other Fungi trip report (Vol. 22.4, pg. 6) should have been credited to Michelle Purchase and Ash Baron. I apologize for the error.

Julia (Editor)

NEW RECORDS FOR *LISTERA OVATA* FROM THE CREDIT RIVER WATERSHED AND REGION OF PEEL NATURAL AREAS INVENTORY PROJECT

Two colonies of the non-native *Listera ovata*, Egg-leaf or European Common Twayblade, were discovered during the 2010 field surveys for the Credit River Watershed and Region of Peel Natural Areas Inventory Project.

The Natural Areas Inventory is a project of Credit Valley Conservation in partnership with the Halton/North Peel Naturalist Club, the South Peel Naturalists' Club, Toronto and Region Conservation Authority, the Region of Peel and the City of Brampton.

On June 15, 2010, I discovered a colony of approximately 20 to 30 plants on private land in the north part of the Town of Caledon in Peel Region, southeast of Orangeville. This location is in the middle of a concession block approximately 0.5 km from the nearest road. The plants were in full bloom and ranged from about 15 to 40 cm in height. They were scattered over an area of approximately 4 to 6 m². Several of the plants were observed to have variegated leaves.

These orchids were growing in a young mixed forest with a predominance of Sugar Maple (*Acer saccharum*), White Ash (*Fraxinus americana*), Black Cherry (*Prunus serotina*) and White Birch (*Betula papyrifera*) in the partially open canopy and Balsam Fir (*Abies balsamea*), Sugar Maple, Eastern Hemlock (*Tsuga canadensis*), Trembling Aspen (*Populus tremuloides*) and White Cedar (*Thuja occidentalis*) in the understory. Ground flora associates included sedges (*Carex arctata*, *Carex pedunculata*), Dwarf Raspberry (*Rubus pubescens*), White Baneberry (*Actaea pachypoda*), Sensitive Fern (*Onoclea sensibilis*), Lady Fern (*Athyrium filix-femina*), and Creeping Partridgeberry (*Mitchella repens*). There was a light leaf litter over the moist clay loam soil. A voucher specimen was collected and deposited in the herbarium (HAM) of the Royal Botanical Gardens in Burlington.

On June 14, 2010, Bob Curry discovered a colony on private land south of the hamlet of Brisbane in the Town of Erin, Wellington County. Of approximately 50 plants observed, about 15 plants were blooming. This colony was about 200 m from the nearest road, although much closer to a private residence. It was located in a mid-aged, fresh-moist mixed forest with mineral soils. The canopy consisted of Balsam Fir, White Birch, White Cedar, and Sugar Maple with White Cedar, Balsam Fir and Black Cherry in the sub-canopy. The understory of Balsam Fir and White Cedar was at 10-25% coverage. A sparse ground flora of 0-10% coverage included several fern and

sedge species, Eastern Helleborine (*Epipactis helleborine*), Common Dandelion (*Taraxacum officinale*), and mosses. Documenting photos were taken and sent to the herbarium (HAM) of the Royal Botanical Gardens in Burlington.



***Listera ovata* in Wellington County – Bob Curry**

These records are the fourth and fifth known occurrences of *Listera ovata* in North America (Natural Heritage Information Centre website). The other three occurrences are also in Ontario (Whiting & Catling, 1986): 1) near Red Bay on the Bruce Peninsula in Bruce County, found in 1968; 2) in Puslinch Township in Wellington County, discovered in 1980; and 3) in Oxford County, discovered in 1984. Of interest is that the five known occurrences are all a significant distance apart although they are all generally located in south-central Ontario.

Listera ovata is a common Eurasian species found in many kinds of habitats throughout Europe into Siberia and India (Flora of North America (FNA) website). It is considered an aggressive weed in Europe and has the potential to become a weedy species in North America similar to *Epipactis helleborine* (FNA website).

European Common Twayblade is a relatively large and distinctive plant with its two large leaves and tall spike of greenish flowers. Excellent photos of this non-native orchid can be seen on Walter Muma's Ontario wildflowers

website (<http://ontariowildflowers.com>) and the Orchid Society of the Royal Botanical Gardens website (<http://www.osrbg.ca>).

Due to the relatively large size of these two colonies, it is likely that they have existed here undiscovered for some years. Botanists and naturalists should be on the lookout for this conspicuous and weedy orchid.

Acknowledgements

Thanks to Dawn Renfrew of Credit Valley Conservation and Mike Oldham of the MNR Natural Heritage Information Centre for reviewing this article and for their helpful comments and suggestions. Dawn Renfrew also provided vegetation community data for the Wellington County site. Thanks also to Bob Curry, breeding bird surveyor for the Natural Areas Inventory, for the report on his discovery of the orchid and for permission to use his photos. 🌿

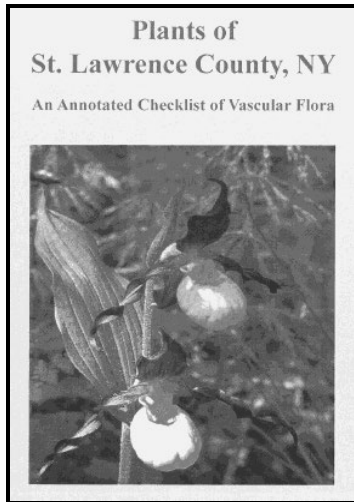
Charles Cecile

(<http://www.creditvalleyca.ca/NAI/index.htm>)

References

- Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 16+ vols. New York and Oxford
Website: <http://www.efloras.org>
- Natural Heritage Information Centre, Ontario Ministry of Natural Resources, Peterborough, ON
Website: <http://nhic.mnr.gov.on.ca/>
- Whiting, R.E. and P.M. Catling. 1986. Orchids of Ontario: An Illustrated Guide. The CanaColl Foundation, Ottawa, Ontario. xii + 169 pp.

Book Review



***Plants of St. Lawrence County, NY: an annotated checklist of vascular flora* by N. C. Eldblom and A. M. Johnson**

Bloated Toe Publishing, New York, 2010
(available for \$22.95 from the publisher at
<http://books.bloatedtoe.com/st-lawrence-flora.html>)

This book wins the prize for having the grossest publisher's name of any botanical work in recent memory. Happily, that is pretty much the only off-putting part of this interesting and worthwhile effort.

The book follows the familiar format of such regional efforts, with an explanatory introduction that sets the biophysical and investigative context, and then conducts a species-by-species review of over 1300 vascular plant taxa. All this is accomplished quite well. What makes it especially valuable for Ontario botanists, however, is that it reviews the area adjacent to a particularly poorly known portion of the province. St. Lawrence County, New York is situated across the St. Lawrence River from the lands between Mallorytown (eastern St. Lawrence Islands National Park) in Leeds & Grenville County and Cornwall in Stormont, Dundas and Glengarry County. Even better, extending from the Adirondack Park (the southeastern third of the County) to the river, this study area includes habitats and flora representative of those on the Canadian side of the river.

The two authors have spent the better part of 30 years examining the flora here. Their project - as regional floras

typically are - is clearly a labour of love that is based on thousands of hours of their time. The text is enriched with observations concerning identification, phenology, regional distribution, and population trends of particular species resulting directly from those extensive field studies. Importantly too, voucher specimens supporting all important records have been deposited with the state herbarium (NYS).

It must be said, however, that some deficiencies exist. A serious one is the lack of a geological and land form review in the book's introduction. Soil characteristics are critical to explaining plant distribution and abundance, of course, but the introduction lacks so much as a map illustrating the distribution of bedrock types or surface materials. No overall discussion of the critical relationship between geology and vegetation in the study area is provided.

This contributes directly to another significant deficiency, the virtual absence of phytogeographic interpretations. While potential Champlain Sea relicts (including post-sea dune species), Atlantic Coastal Plain disjuncts, and even Tall-grass Prairie relicts are noted as rare or unique occurrences, there is neither recognition of this fact nor explanation offered. Indeed, if the Champlain Sea is mentioned at all in the book, I missed it. That is a shame, as a phytogeographic assessment would have been both interesting and valuable.

The individual species accounts are quite good. Annotations beyond a brief determination of status and distribution are highly variable, however, apparently based on what was seen as particularly interesting about that species. Some address identification features employed, others note phenological observations. Directions on where to go to see certain species (a terrific feature) are common, as are comments on local distribution. Refreshingly, the authors admit when they are fuzzy or downright unsure of particular identifications. Invasive species seem to be a particular interest (concern) and are especially thoroughly addressed.

The authors have made a good effort to be up-to-date with the nomenclature (a tough job these days) though some fairly long-in-the-tooth concepts do slip through (e.g. *Ranunculaceae* and *Amelanchier*). These and other decisions are supported by information from an exceptionally comprehensive, annotated reference section. It is excellent, thus making the almost invisible reference to the Flora of North America volumes, the basis for much of the nomenclature employed here, more perplexing.

The book itself is well designed, with a beautiful photo of *Cypripedium parviflorum* in full flower on the cover. A centrefold of colour photos of other species is offered. This relatively expensive addition does not add much, however; and perhaps that expense could more profitably have been applied to providing coloured landform/geology maps. The text font is clear and large enough to be quite readable. Reading would have been significantly aided by the insertion of a blank line between each entry, however. Yes, that would have added 1,300 lines to the length of the book but would also save a lot of eyestrain for readers now forced to pick out the bolded names commencing each entry from within the continuous flow of text within each family.

Inevitably, some individual entries raise the eyebrows of an Ontario field botanist. These include:

- *Selaginella apoda/eclipes* - the discrimination of these two taxa within *S. apoda* (s. l.) is described as a recent event but it occurred over 30 years ago (1977) - ample time to have sorted out which taxon it is that occurs across St. Lawrence County (it undoubtedly is *S. eclipes*)
- Is *Nuphar rubrodiscum* really frequent here? It is typically considered a rare taxon wherever it is reported and there is no suggestion as to why St. Lawrence County might be different
- In light of the revision of all Ontario records of *Epilobium hornemanni* south of Lake Superior to other taxa, the report from Morristown, St. Lawrence County seems unlikely

Some of these sorts of questions and glitches are inevitable in a large compendium, of course, and do not detract from the overwhelmingly convincing and useful species treatments.

The book wraps up with a series of appendices which include such unusual but interesting elements as a town by town listing of floristic diversity, including a species/square mile calculation for each. The utility of that density figure is weakened by the inclusion of all species - surely only the density of native taxa is relevant - but appropriately adapted, this might prove to be a useful tool for providing a geographic expression of floristic diversity.

As suggested off the top, Plants of St. Lawrence County is an excellent contribution to the floristic literature of the Great Lakes - St. Lawrence region. It is a welcomed and useful addition to my library and is recommended to field botanists working on either side of the great river. 🌿

Daniel Brunton

The duff layer

New Michigan Flora Website
 Visit Michigan Flora Online at
<http://michiganflora.net/>

The goals of the Michigan Flora Website are to present, in a searchable and browsable form, the basic information about all vascular plants known to occur outside of cultivation in the state. This includes, unlike the published Michigan Flora, the spore bearing vascular plants (ferns, horsetails, club mosses, etc). Information available includes maps showing the distribution of all the species in the state (by county), keys to all the families, genera, and species, brief discussions about the species, including habitats, nativity, date of first collection of aliens, and in some cases, photos and notes helpful to identification beyond the features noted in the keys. Tabular material available for all species includes common name, synonyms linking the name to the published volumes of Michigan Flora, coefficient of conservatism, the coefficient of wetness and the wetness index, whether native or alien, and the physiognomy (annual, biennial, perennial; tree, shrub, vine, forb, grass, sedge, fern). 🌿

MICHIGAN FLORA ONLINE. A. A. Reznicek, E. G. Voss, & B. S. Walters. February 2011. University of Michigan. Web. 3-30-2011.
<http://michiganflora.net/home.aspx>.

Has Sea Buckthorn escaped?

Sea Buckthorn (*Hippophae rhamnoides* L.) seems to be a gift from the gods. It is a deciduous shrub with dense, stiff, and very thorny branches with silvery green lanceolate leaves and orange berries. It can be used for medicine, cosmetics, food, erosion control, windbreaks, soil improvement, firewood, and as an ornamental. This shrub appears to have a very broad ecological amplitude and grows from hot desert regions of Pakistan to the snow line in the Himalayas. It has been cultivated successfully throughout a large area of North America and in most Canadian provinces. In parts of the Canadian prairies, it has escaped from cultivation. Around Calgary, extensive and dense impenetrable thickets have developed in stream valleys and have displaced the rich diversity of native plants. In Calgary, it is currently known to have escaped from dozens of locations. It is probably because of these

reports (articles in magazines and on the web) that we have received questions about its status in the rest of Canada. Some invasives go through a stage of becoming very rare but very successful locally; then they explode across the landscape. It has been suggested that Sea Buckthorn may be one of these. We are not sure that this is true but certainly we need more information. We are developing a database on this plant and we would very much appreciate knowing if you have seen it in a wild situation. 🍄

Dr. Paul Catling & Ms. Gisèle Mitrow

Gisèle Mitrow
William Saunders Building #49, Maple Drive
Ottawa, Ontario, Canada K1A 0C6
613-759-1363; 613-759-1599;
Gisele.Mitrow@agr.gc.ca

Dr. Paul Catling
William Saunders Building #49, Maple Drive
Ottawa, Ontario, Canada K1A 0C6
613-759-1373; 613-759-1599;
Paul.Catling@agr.gc.ca



Fabulous Fall Fungi

This three-day workshop at Queen's University Biological Station is open to all those wishing to develop/improve their mushroom identification skills. Field and lab work will be accompanied by discussions on natural history, ecology, and edible & medicinal uses. Time will also be spent looking at slime moulds. Suitable for all levels, from complete beginner to advanced. This is the perfect opportunity to increase your FQ (Fungal Quotient). Dates: Sept 28-30. Cost: \$250 (includes meals, accommodation and instruction).

Details: www.queensu.ca/qubs/events.html.

Koffler Scientific Reserve Nature Walks and Workshops

Koffler Scientific Reserve at Joker's Hill (King Township) organizes and offers events targeted toward natural and botanical interests throughout the year. The Nature Walks are free, and led by University of Toronto researchers in ecology and biology. The one-day Workshops are taught by local experts, are \$60, and include lunch. For registration and more information, visit <http://ksr.utoronto.ca> or email ksr.info@utoronto.ca

Nature Photography Workshop

Garry Conway : April 23, 9:30 am – 4:30 pm
Expand your photographic experience and discover your creativity with award-winning nature photographer Garry Conway. This workshop provides an encouraging and informative environment for learning photography. Bring your camera – suitable for all levels of experience. For more information on Garry Conway, visit <http://gconwayphoto.com>.

Maximum: 20. Registration opens April 1, 2011.

Wildflowers on the Cusp of Summer Workshop

Richard Aaron: June 4, 9:30 am – 4:30 pm
Late spring is a time of great floral abundance at the Koffler Scientific Reserve. We will spend the day honing our identification skills as we discuss ecology, natural history, plant lore, and the meanings of the common and scientific names. Suitable for all levels of experience. Bring your favourite wildflower field guide(s). For more information on Richard Aaron, visit <http://natureknowledge.weebly.com>.

Maximum: 16. Registration opens May 15 2011.

The Secret Lives of Summer Wildflowers Workshop

Richard Aaron: July 16, 9:30 am – 4:30 pm
Explore summer's vast botanical richness with naturalist Richard Aaron. The focus will be on wildflower identification and discussions on their natural history, ecology, and lore. Suitable for everyone else who loves nature. Bring your favourite wildflower field guide(s). For more information on Richard Aaron, visit <http://natureknowledge.weebly.com>.

Maximum: 16. Registration opens June 15 2011.

Spring Wildflower Nature Walk

Peter Kotanen: May 28, walks at 11 am and 1:30 pm.
Objects of beauty, flowers are in fact plants' means to carry out their evolutionary imperative — reproduce! Join University of Toronto Mississauga professor and noted botanist Dr. Peter Kotanen for an engaging look at the sex lives of plants.

Free. Registration opens May 1, 2011.

27 March 2011

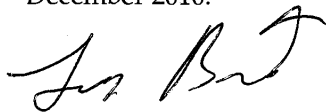
To: The President and Members, Field Botanists of Ontario

FINANCIAL REVIEW
Field Botanists of Ontario

I have reviewed the financial statements and books of record of the Field Botanists of Ontario, as prepared by your Treasurer Bill Draper, for the year ending 31 December 2010.

In the course of this review, I examined the bank statements, bank deposit records, donated cheques, board expenses and all receipts. It is my conclusion that the accounts balance with the bank statements and are accurately described in the Revenues and Expense Statement for 2010. Any questions arising from the review of the accounts have been explained by the Treasurer entirely satisfactorily to me.

I have verified the accounts and do confirm that the statements as presented accurately reflect the financial position of the Club for the year ending 31 December 2010.



George Bryant,
89 Constance Street,
Toronto Ontario
M6R 1S7
g.bryant@sympatico.ca

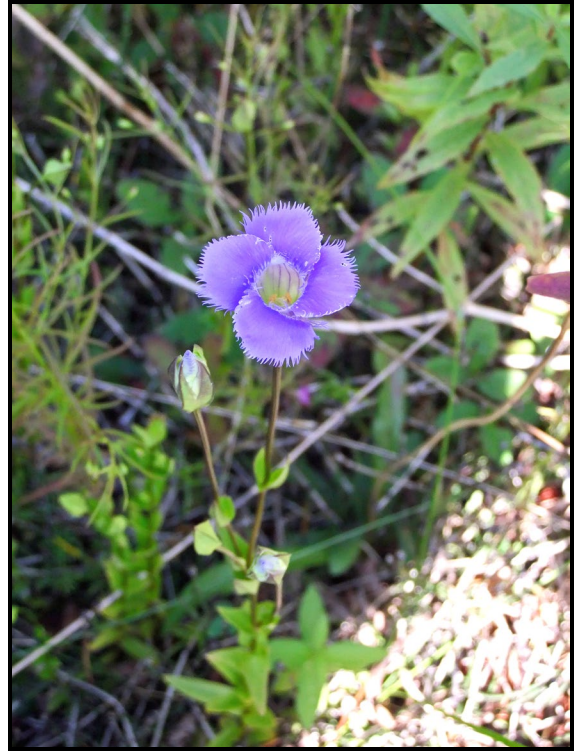
Field Botanists of Ontario
Revenue and Expense Statement
January 1, 2010 - December 31, 2010

	2010
Bank Balance Beginning	\$15,489.67
Revenue	
Life Memberships	\$250.00
Field Trips	\$2,805.00
Annual General Meeting	\$1,590.00
Donations	\$789.00
US Exchange	\$0.00
Bank Credit	\$16.69
Bank Interest	\$0.00
Newsletter Float	\$0.00
Membership 2010	\$3,045.50
Total Revenues	\$8,496.19
Expenses	
Field Trips	\$539.64
Field Trip Refunds	\$0.00
Field Trip Honoraria	\$1,400.00
AGM Honoraria	\$400.00
AGM Expenses	\$1,193.98
Newsletter Expenses	\$3,268.03
Newsletter Honorarium	\$200.00
Membership Expenses	\$341.12
Executive	\$134.96
Liability Insurance	\$928.80
Bank Charges	\$41.19
Returned Cheque	\$0.00
FON Membership	\$0.00
Newsletter Float	\$0.00
Total Expenses	\$8,447.72
Bank Balance Ending	\$15,538.14
Gain	\$48.47

W. Draper, Treasurer



**Tawny Cotton-grass (*Eriophorum vaginatum*) at Wainfleet Bog
- VM**



**Fringed Gentian (*Gentianopsis crinita*) on the Toronto Islands -
MP**



Toronto skyline from Toronto Islands - HS