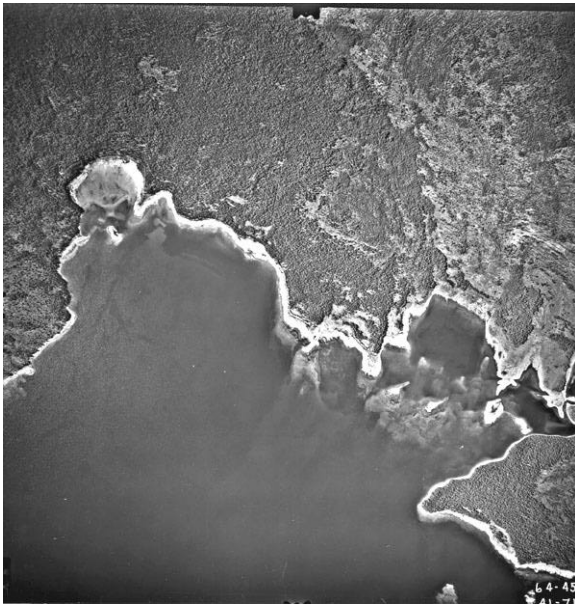


Field Botanists Of Ontario

Newsletter

Winter 1999-2000
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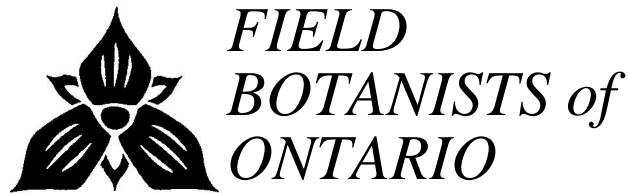
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FIELD BOTANISTS OF ONTARIO NEWSLETTER

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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.

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Standard source for scientific names 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.

Cover photos: **Top-left:** Belanger Bay from air, photo by Judith Jones; **Bottom-left:** Belanger Bay aerial photograph; **Right:** Lance-leaved Coreopsis (*Coreopsis lanceolata* L.), photo by Judith Jones.

Errata:

Joe Johnson has identified two typographical errors in his "Bruce Peninsula in Winter Bloom" article (Summer 1999, Vol. 12(2):8-10). The blooming date for *Viola odorata* L. (Sweet or English Violet) should be December 20th, in 1998, not December 29th. Secondly, the common names for *Vinca minor* L. are missing a comma, and should read "Myrtle, Periwinkle." ❀

-Ed

Obituary - Herb Wagner

W.H. (Herb) Wagner Jr., one of North America's leading fern experts, recently passed away in Ann Arbor, Michigan. Herb is best known for his work on the difficult genus *Botrychium*, though he also worked

and published extensively on many other ferns as well as other botanical topics (for example he co-authored an excellent book on Michigan trees). His impact on North American Botrychium taxonomy is well illustrated by looking at the treatment of this genus in "Flora of North America". This treatment covers 29 species, 14 of which were described by Herb Wagner. Herb worked closely with his wife Florence, and the two of them published many influential papers on fern taxonomy. Dr. Wagner was also known as an excellent educator and motivator, and he will be greatly missed by students, colleagues, and friends. ❀

-M.J. Oldham

See also "A Dune Moonwort" on page 12.

Field Trip Reports:

Walpole Island

July 24th, 1999.

At the best time and location for early flowering prairie flora, we were fortunate to have three leaders: Michael Oldham, Wasyl Bakowsky and Mike Williams of the [Walpole Island] First Nation. Mike and Wasyl provided the botanical background. There are two major remnants of the vast prairie peninsula which once covered south-western Ontario, spreading as far as Toronto's High Park. Ojibway Prairie in Windsor has the greatest number of prairie species. But Walpole Island is bigger, has better habitat, and has extensive wetlands on the south end of island. Walpole has three main plant communities; tall grass prairie, savannas (35-65% forest cover), and woodlands.

Mike Williams reminded us that the Walpole Island First Nations people are responsible for the preservation of the plants. What we see is a reflection of their management. Mike is sometimes bemused by the comments of first-time visitors when he takes them to see one of the world's best tall grass prairies. Having driven for hours through monocultures of corn, soybeans and sugar beets, they are astounded at the richness of Walpole Island. They turn to Mike and suggest, "You have something truly special here—you should be managing it!"

En route to the famous Pottawatami Prairie we traversed a swamp woodland. Unique for Ontario, the dominant trees here were Pin Oak (*Quercus palustris* Muenchh.), Swamp White Oak (*Quercus bicolor* Willd.) and Big Shellbark Hickory (*Carya laciniosa* (Michx.f.) Loudon). On arrival, we were greeted by a Bob-White asserting territorial rights. Walpole Island is the last stronghold in Canada for this quail.

Mike Oldham discussed the history of Pottawatami. We were in the middle of a rich natural prairie which had been burned regularly for hundreds of years. There were many plant species here, virtually all native including many provincially rare (PR). Ironweed (*Vernonia missurica* Raf.) with large purple umbels, dominated one area. Until recently all Ontario plants had been labeled as *V. gigantea* (Walter) Trel. ex Branner & Covas, which also occurs in Michigan. In reviewing



Indian Grass (*Sorghastrum nutans* (L.) Nash), photo by Ed Morris.

herbarium specimens, Mike felt that most, if not all, were *missurica*.

A slight rise in land with drier soils gave advantage to grasses. Here we were able to compare all five of the classic tall grass prairie species. Big Bluestem (*Andropogon gerardii* Vitman) which later would ascend to 3m (10 feet), and Little Bluestem (*Schizachyrium scoparium* (Michx.) Nees) were just starting up. Beginning to flower were Tall Cord Grass (*Spartina pectinata* Link), Switch Grass (*Panicum virgatum* L.) and my favourite, Indian Grass (*Sorghastrum nutans* (L.) Nash), with a rich saffron inflorescence.

Myriads of meadow and prairie flowers were quickly listed:

Aster ericoides L.

Heath Aster

Desmodium canadense (L.) DC

Canadian Tick-trefoil

Helenium autumnale L.

Sneezeweed

Lysimachia quadriflora Sims

Prairie Loosestrife

Lobelia spicata Lam.

Pale-spiked Lobelia

Pycnanthemum virginianum (L.) Durand & Jackson ex

Fern. & Robinson

Virginia Mountain-mint

Zizia aurea (L.) Koch

Golden Alexanders

Uncommon, but not PR, was Prairie Thistle (*Cirsium discolor* (Muhlenb. ex Willd.) Spreng. A native species, it is distinguished from Bull Thistle (*Cirsium vulgare* (Savi) Ten.) by a silvery leaf undersurface and pale pink flowers. Other PR species here were:

Asclepias sullivantii Engelm. ex A. Gray

Sullivant's Milkweed

Liatris spicata (L.) Willd.

Spiked Blazing Star

Lythrum alatum Pursh

Winged Loosestrife

Solidago rigida L.

Stiff Goldenrod

Past-flowering, the milkweed was identified by erect, clasping leaves and a large pink mid vein. Interspersed amongst the many rare species was the invasive non-native White Sweet-clover (*Melilotus alba* Medik.). Mike [Oldham] mentioned that this plant is a major problem in midwestern prairies. An annual clover pull would probably be beneficial.

A delightful find and a first for most participants was Viscid Bushy Goldenrod (*Euthamia gymnospermoides* Greene). First discovered on Ojibway Prairie only a few years' ago, the plant had previously been confused with the omnipresent Grass-leaved Goldenrod (*Euthamia graminifolia* (L.) Nutt.). *E.*

gymnospermoides is noticeably different with a shiny glandular viscous inflorescence and narrower leaves with one main vein. Unlike *E. graminifolia*, which starts to flower in early July, our plants were not yet out. A novelty here was what I call the blue White Blue-eyed Grass (*Sisyrinchium albidum* Raf.), PR. A prairie Blue-eyed Grass, elsewhere it is white flowered, but in Ontario it is usually blue flowered. Mike Oldham was worried. While observing a superb display of prairie flora, he muttered, "Where are the sedges?"

Following lunch we visited Altman Road Prairie. A lovely Black Oak savanna, the area is best known in spring for the thousands of Small White Lady's Slippers (*Cypripedium candidum* Muhlenb. ex Willd.). Now the most impressive flower was Rough Blazing Star (*Liatris aspera* Michx.). More of a shade species than its sibling species, it is distinguished by bigger, coarser white-tipped bracts. Grassland species noted here in flower included:

- Anemone cylindrica* A. Gray
Thimbleweed
- Asclepias tuberosa* L.
Butterfly Weed
- Aster oolentangiensis* Riddell
Sky Blue Aster; Azure Aster
- Coreopsis tripteris* L.
Tall Coreopsis
- Desmodium glutinosum* (Muhlenb. ex Willd.) Alph. Wood
Pointed-leaved Tick-trefoil
- Euphorbia corollata* L.
Flowering Spurge
- Galium boreale* L.
Northern Bedstraw
- Helianthemum bicknellii* Fern.
Rockrose
- Helianthus giganteus* L.
Tall Sunflower - with very purple stems!
- Lespedeza capitata* Michx.
Round-headed Bush-clover
- Phryma leptostachya* L.
Lopseed
- Smilax lasioneura* Hook.
Carrion-flower
- Solidago juncea* Aiton
Early Goldenrod
- Solidago ohioensis* Riddell
Ohio Goldenrod
- Solidago speciosa* Nutt.
Showy Goldenrod
- Tradescantia ohioensis* Raf.
Ohio Spiderwort
- Viola sagittata* Aiton
Arrow-leaved Violet
- Zizia aurea* (L.) Koch
Golden Alexanders

Just beginning to flower was Blood-red or Field Milkwort (*Polygala sanguinea* L.). Apparently it is not PR, but it should be.

Wasył drew us aside and suggested that this was as nice a savanna as you would find in Ontario. The Black Oaks looked well-established but where was the regeneration? Wasył then proceeded to scratch at the soil under some Bracken (*Pteridium aquilinum* (L.) Kuhn). What should have been a small root system under an oak seedling was exposed as a large (15 cm.) block of wood. Wasył explained that Black Oaks form "grubs" or "plates", chunks of callous tissue, some of which could be 100 years old. When the right fire conditions prevail, the oak then has a major head start in forming a sapling.

We stopped at a wet, calcareous fen-like site characterized by Grass-of-Parnassus (*Parnassia glauca* Raf.) and Sticky Tofieldia (*Tofieldia glutinosa* (Michx.) Pers.). In quick order Mike spotted Tall Nut-rush (*Scleria triglomerata* Michx.), only known from Ojibway and Walpole, Low Nut-rush (*Scleria verticillata* Muhlenb. ex Willd.), and Hairy Fimbristylis (*Fimbristylis puberula* (Michx.) M. Vahl), the latter was found only in the last ten years from two sites on Walpole Island. All three sedges were border-line microscopic, with Low Nut-rush looking much like a white-tipped insect pin. Mike, feeling much better, then went on to point out Bicknell's Sedge (*Carex bicknellii* Britton), a very rare member of the *Ovales* group. For the non-graminophiles, Pink Milkwort (*Polygala incarnata* L.), only known from Walpole and Ojibway Prairie, was a treat.

In the late afternoon, we sojourned to Sand Pits: a delightful meandering track. Interesting roadside plants included Horse Nettle (*Solanum carolinense* L.), a weed here but native farther south, Wild Indigo (*Baptisia tinctoria* (L.) Vent.), Wild Lupine (*Lupinus perennis* L.), and Yellow False Foxglove (*Aureolaria flava* (L.) Farw.). Here, we made a remarkable non-observation - despite the variety of habitats throughout the day, we had not recorded any Poison-ivy (*Rhus radicans* L.)!

Mike and Wasył had one more ace. Directing us over a ditch and through a thick stand of Common Reed (*Phragmites australis* (Cav.) Trin. ex Steud.), we were dwarfed by a superb patch of Prairie Dock (*Silphium terebinthinaceum* Jacq.). With the sky reaching to the horizon in all directions, we could feel that this was native prairie, little changed in centuries. Many thanks to Mike Oldham, Wasył Bakowsky, and Mike Williams. 🌿

George Bryant

Bronte Creek Prairies and Savanna

Saturday 21st, August 1999.

The weather was perfect, slightly overcast, breezy with some sun, and 24 degrees Celsius. Bill McIlveen and Ken Ursic were our guides with Steve Smith providing valuable assistance. Anthony Goodban, scheduled to lead the trip, was unable to attend. He sent along a description with the following key points.

•The prairie/savanna elements naturally persist along the dry valley rims and portions of the valley walls that have slumped. Maintenance of the hydro lines has served to keep certain areas open. The Chinquapin Oak woodland with a complement of prairie/savanna species occurs at several locations along the valley wall. These communities were not previously described from the park and they also represent a new community type in southern Ontario's Ecological Land Classification (ELC).

•Other than High Park, Bronte Creek's prairie and oak woodland are the best examples of prairie-like vegetation in Site District 7-4. Bronte Creek is the best example of valley-related prairie vegetation in the Site District.

•The park is committed to managing the significant vegetation. A combination of woody vegetation control (Witch-hazel, Buckthorn, Round-leaved Dogwood, Grey Dogwood) and prescribed burns will likely be the main management tools employed. Protective measures will be employed to protect the relict invertebrate populations (i.e. burn in sections, not the whole site). Monitoring will be used to determine the relative success of any management efforts.

Our field trip started off in an Old Field system on the rim of the Bronte Creek Valley. Some of the species on the upland sites were:

Arctostaphylos uva-ursi (L.) Spreng.
Common Bearberry

Aster oolentangiensis Riddell
Azure Aster

Carya ovata (Miller) K. Koch
Shagbark Hickory

Ceanothus americanus L.
New Jersey Tea

Cornus rugosa Lam.
Round-leaved Dogwood

Cornus foemina Miller
Red Panicked Dogwood

Desmodium glutinosum (Muhlenb. ex Willd.) Alph. Wood
Pointed-leaved Tick-trefoil

Euonomus obovata Nutt.
Running Strawberry-bush

Gaylussacia baccata (Wangenh.) K. Koch
Black Huckleberry

Hamamelis virginia L.
Witch-hazel

Helianthus divaricatus L.
Rough Woodland Sunflower

Juniperus virginiana L.
Eastern Red Cedar

Lespedeza hirta (L.) Hornem.
Hairy Bush-clover

Lespedeza intermedia (S. Watson) Britton
Intermediate Bush-clover

Quercus alba L.
White Oak

Quercus muehlenbergii Engelm.
Chinquapin Oak

Quercus velutina Lam.
Black Oak

Rosa carolina L.
Swamp Rose

Symphoricarpos albus (L.) S.F. Blake
Snowberry

Viburnum acerifolium L.
Maple-leaved Viburnum

It was interesting to note there was widespread regeneration of *Quercus alba*, a sight all too rare in a place called Oakville. Black Locust (*Robinia pseudo-acacia* L.) had been planted along the valley rim and is reproducing freely.

Views from the valley rim were magnificent. Descending the slope we viewed the interesting transition from mesic forest to the floodplain. In eroded cuts along the slope we saw profiles of the Queenston red shale. A big surprise was a small stand of Bladder-nut (*Staphylea trifolia* L.) along the edge of the trail. I have been growing and planting Bladder-nut for eleven years and this was the first time I had ever seen it in the wild.

In the floodplain we saw a Sycamore (*Platanus occidentalis* L.) with a DBH (diameter at breast height) of 181.4 cm (71.4 inches). Thanks to Bill for carrying the fabric measuring tape. In the vicinity we saw Fox Grape (*Vitis labrusca* L.) and Thicket Creeper (*Parethenocissus inserta* (A. Kern.) Fritsch). Nearby we also saw Black Maple (*Acer saccharum* Marsh. ssp. *nigrum* (Michx. f.) Desmarais) growing with Blue Cohosh (*Caulophyllum thalictroides* (L.) Michx.) and Scouring-rush (*Equisetum hyemale* L.). In our travels we also saw a Serviceberry (*Amelanchier laevis* Wieg.) with a DBH of 36.6 cm (14.4 inches).

En route to lunch we walked into a hornet's nest, figuratively speaking. A group of local residents with the Bronte East Preservation Association were circulating a petition to halt a proposed development on the eastern portion of Bronte Creek Provincial Park. Part of the proposal includes a major golf course. If you would like more information contact Chris Mercer of the BEPA (tel. 905-844-1374). Having just witnessed the many rare, specialized habitats along the way, we were a sympathetic audience.

As usual with FBO trips, fellow travelers made the trip enjoyable and very informative. The area is well worth visiting. We accessed the site from Upper Middle Road West, just west of Bronte Regional Road 25. 🌲

David Orsini
Humber Valley, Toronto

Postscript

The late summer rains this year made the fungi finds on the trip quite numerous. Thanks to Richard Aaron for pointing them out and providing the following list of fungi observed during the field trip.

Agaricus sp.

Calocera cornea (B)

Calvatia gigantea (A)

Daedaleopsis confragosa (A)

Fomes fomentarius (A)

Irpex lacteus (A)

Lycoperdon applanatum (A)

Lycoperdon pyriforme (A)

Marasmius capillaris (B)

Marasmius oreades (A)

Marasmius rotula (A)

Mycena corticola (C)

Phellinus gilvus (A)

Phlebia sp.

Pleurotus ostreatus (A)

Polyporus albellus (*Tyromyces chioneus*) (A)

Polyporus squamosus (A)

Sphaerobolus stellatus (A)

Trametes versicolor (A)

Trichaptum biforme (A)

A Lincoff, G. 1981. National Audubon Society Field Guide to North American Mushrooms, Alfred A. Knopf.

B Barron, G., 1999. Mushrooms of Ontario and Eastern Canada, Lone Pine Publishing.

C Bessette, Bessette & Fischer. 1997. Mushrooms of Northeastern North America, University of Syracuse Press.

Carden Alvar

September 11th, 1999

"We are now in the richest, highest quality part of the whole Carden alvar," Mike Oldham declared, as we admired a 10 m sward of flowering Little Bluestem. Slightly lower in elevation was an equally large patch of Northern Dropseed, (*Sporobolus heterolepis* (A. Gray) A. Gray) and beside that grew Shrubby Cinquefoil (*Potentilla fruticosa* L.), the dominant shrub now one month past its flowering peak. All grassland except for distant lines of trees growing along cracks in the bedrock.

Using aerial photos, Mike had located this 15 hectare (37 acre) open patch of shattered limestone clinkers about 1 km north of Shrike Road. Unstable footing probably discouraged cattle from grazing this area, thereby encouraging a rich native flora. Alien species were virtually absent on the pristine site. The absence of old scorched stumps indicated that forest fires had not played a part in maintaining the open character of this alvar, at least for the past century. Closer in, we observed swaths of classic alvar and prairie specialists - many past-flowering were identified by vegetative characters.



Death Camass (*Zigadenus elegans* Pursh), photo by Ed Morris. This specimen was photographed in the foothills of Alberta, making it ssp. *elegans*. Ontario's plants belong to ssp. *glaucus* (Nutt.) Hulten.

Arabis hirsuta (L.) Scop.

Hairy Rock Cress - the 1.25 m (4 foot) brown stalks were very conspicuous, probably because grazing cattle avoided them.

Bromus kalmii A. Gray

Kalm's Brome - very hairy leaves, also found on prairie sites.

Carex crawei Dewey

Early Fen Sedge - alvar specialist.

Carex richardsonii R. Br.

Prairie Hummock Sedge - alvar specialist.

Ceanothus herbaceus Raf.

Narrow-leaved New Jersey Tea - less common with shiny, narrow leaves.

Danthonia spicata (L.) P. Beauv. ex Roem. & Schult.

Poverty Grass

Deschampsia cespitosa (L.) P. Beauv.

Tufted Hairgrass - shoreline-loving and thereby distinguished from rock-loving (*D. flexuosa* (L.) Trin.).

Minuartia michauxii (Frenzl) Farw.

Rock Sandwort

Muhlenbergia glomerata (Willd.) Trin.

Marsh Timothy - calciphile, wetlands.

Panicum philadelphicum Bernh. ex Trin.

Philadelphia Panic-grass - distinguished by a terminal inflorescence confined to the top half of plant.

Penstemon hirsutus (L.) Willd.

Hairy Beardtongue

Polygonum douglasii Greene

Douglas' Knotweed

Potentilla arguta Pursh

Tall Cinquefoil

Rhus aromatica Aiton

Fragrant Sumac

Senecio pauperculus Michx.

Balsam Ragwort - now only the dark green spatulate basal leaves persisted.

Solidago ptarmicoides (Nees) B. Boivin

Upland White Aster

Zigadenus elegans Pursh

Death Camass - a real calciphile.

Our route back to Shrike Road took us through a higher, much-grazed, shrubby pasture. Here we observed a disjunct population of the largely carolinian Dodge's Hawthorn (*Crataegus dodgei* Ashe) characterized by leathery leaves and obovate lobes. A stand of Fringed Blue Aster (*Aster ciliolatus* Lindl.) straying south of the preferred Shield habitat was admired. With a hand lens, the leaf margin cilia were obvious. Species of the alvar here which tolerate heavy grazing included:

Echium vulgare L.

Viper's Bugloss - an exotic which forms very attractive masses in late June.

Geum triflorum Pursh

Prairie Smoke - the quintessential Carden Alvar species.

Monarda fistulosa L.

Wild Bergamot

On previous scouting trips, Mike had discovered a Black Widow spider and several Smooth Green Snakes. Regrettably, he was unable to produce the former, but a beautiful specimen of the latter was probably a 'life herp' for many.

Three non-native plants are worth mentioning. We observed Spotted St. John's-wort (*Hypericum perforatum* L.) throughout; this is one species that can be a problem invasive in alvars. Slender Vetch (*Vicia tetrasperma* (L.) Schreb.) is a very delicate legume with lovely seed pods. Seldom encountered and when so, it is often noted as an isolated individual. A big stand of Spiked Sedge (*Carex spicata* Hudson) by the cattle corral was significant; of the 200-plus carices in Ontario, this is one of very few European species. Features include dark-brown perigynia and succulent leaves.

Following lunch we explored West Alvar Road which features expanses of flat limestone bedrock pavements. In proximity were three little known mints. In fruit only were Rough Pennyroyal (*Hedeoma hispidum* Pursh) and American Dragonhead (*Dracocephalum parviflorum* Nutt.). In flower was an alvar obligate, False Pennyroyal (*Trichostema brachiatum* L.). Anyone trying

to identify these plants with the two popular field guides (Newcomb and Peterson) would be frustrated. False Pennyroyal only is covered and only in Peterson. Early Buttercup (*Ranunculus fascicularis* Muhlenb. ex Bigel.), which splashes yellow over the dun backdrop in April, was now identified only by its narrow basal leaves.

On the algae-covered pavement, Mike pointed out a distinctive thalloid liverwort, *Riccia sorocarpa* Bisch., most evident in fall. Here also at its only location on the alvar occurred Rock Spike-moss (*Selaginella rupestris* (L.) Spring.). Since this species is not a calciphile, normally growing on granite, Mike deduced that the soil must have an acidic component here.

Social hour may have been beckoning, but not before Mike escorted us to a Sugar Maple forest growing on a tumbled limestone boulder substrate. At the roadside we were shown Wall Lettuce (*Mycelis muralis* (L.) Dumort.), a scarce Eurasian yellow composite. By clambering on all fours, we entered the forest to view a secret patch of Walking Fern (*Asplenium rhizophyllum* L.). Those who made it back to the road joined in thanking Mike Oldham for showing us many facets of a very special Ontario landscape.▲

George Bryant



Walking Fern (*Asplenium rhizophyllum* L.), photo by Ed Morris.

Feature:

Belanger Bay purchased by Nature Conservancy of Canada.

Ed Morris & Judith Jones

Recently, the Nature Conservancy of Canada (NCC) purchased a large tract of land on the west end of Manitoulin Island. The tract centres around Belanger Bay and runs from the west side of Quarry Bay in the west, to Christina Bay in the east, including parts of Burnt Island Harbour. Participants in the 1998 FBO field trip to Manitoulin Island will remember the latter sites (see Vol. 11(2):4-8). The land was purchased from a pulp and paper company (Donohue) in order to protect a sizable area of Manitoulin alvar, and associated flora and fauna. The purchase included more than 6300 ha

(15 600 acres) (Riley 2000). A further 270 ha (666.5 acres) were donated by Donohue at Quarry Bay, and 306 ha (754.9 acres) were donated at Christina Bay (Riley 2000). When the dust settled, nearly 69 km² (26.6 square miles) of land and roughly 20 km (12.4 miles) of shoreline (not all contiguous) fell under control of the NCC (Stacey 2000). The acquisition of so much shoreline is in itself a great thing, since Great Lakes shores are tremendously threatened by development. There are plans to make much of the land into a provincial park, with the most sensitive alvar areas becoming a nature reserve (the designation which has the highest level of protection in the provincial park system). The Federation of Ontario Naturalists will own part of the area as its own private nature reserve that will not be part of the provincial park.

Three 40.5 ha (100 acre) lots beside the Misery Bay Provincial Nature Reserve, which have a conservation easement on them, were donated by Donohue to NCC as part of the deal. The lots are intended to become part of the existing nature reserve.

Alvars are areas of flat, limestone bedrock with spotty or no soil covering. They can be subject to extreme temperature and drought cycles. The vegetation and wildlife which inhabit these land forms are hardy and unusual compared to those of the surrounding landscape. A variety of human uses can degrade or destroy alvars; both of Manitoulin Island's airports were built on alvars, lumber companies may stack lumber in these naturally open areas, aggregate companies may develop quarries on alvars, and some alvars are even used as range land to take advantage of agricultural tax laws.

Most of Belanger Bay was rezoned to be a quarry in the early 1990's. The zoning still stands. There are other small quarries on the Island, some on alvars, some not. Pressure to exploit Ontario's remaining alvars (or any other land form where limestone is at or near the surface) will only increase as demand for cement and aggregate increases to meet Ontario's expanding population. You might think that the western tip of Manitoulin Island is an unlikely place for an aggregate company to locate a quarry, given the great distance between Manitoulin and large markets such as Chicago or the Greater Toronto Area. However, a quarry already



Alvar opening and Jack Pine woodland at Belanger Bay, photo by Judith Jones.

exists to the west of the Belanger Bay tract, and it rivals the largest quarries of southern Ontario in size. Undoubtedly, other sites on Manitoulin have been and will be evaluated for quarrying by both large and small aggregate companies.

The alvar openings in the area are of a pavement type - bare dolostone with alvar plants growing out of cracks and very shallow patches of organic soil. This ecosystem supports a wealth of mosses and lichens as well. In spite of some evidence of human usage, there are almost no Eurasian weeds present. There are many rare vascular plant species present including:

<i>Cirsium hillii</i> (Canby) Fern.		
Hill's Thistle	G3	S3
<i>Cirsium pitcheri</i> (Torr. ex Eaton) Torr. & A. Gray		
Pitcher's Thistle	G3	S2
<i>Hymenoxys herbacea</i> (Greene) Cusick		
Lakeside Daisy	G2	S2
<i>Iris lacustris</i> Nutt.		
Dwarf Lake Iris	G3	S3
<i>Liatris cylindracea</i> Michx.		
Blazing Star	G5	S3
<i>Pellaea atropurpurea</i> (L.) Link		
Purple Cliff-brake	G5	S3
<i>Sporobolus heterolepis</i> (A. Gray) A. Gray		
Prairie Dropseed Grass	G5	S2
<i>Woodsia oregana</i> D.C. Eaton		
Western Woodfern	G5	S3

The alvars at Belanger Bay are highly diverse and contain many plants which are mostly confined to alvars (ie: don't occur in other habitats, at least in Ontario), although some have affinities to arctic-alpine and prairie regions.

<i>Allium schoenoprasum</i> L.		
var. <i>sibiricum</i> (L.) Hartm.		
Chives	G5T5	S4
<i>Carex scirpoidea</i> Michx.		
Scirpus-like Sege	G5	S5
<i>Poa alpina</i> L.		
Alpine Bluegrass	G5	S4
<i>Zigadenus elegans</i> Pursh		
Death Camass	G5	S4

Other rare organisms are found there, including rare land snails -- some of which may even be new to science (Reschke *et al.* 1999).

Perhaps the diversity of the Belanger Bay alvars is best illustrated by the following list of rare community types which are found at the site:

Little bluestem grassland*	G2	S2S3
Tufted hairgrass wet grassland	G2	S2S3
Creeping juniper-shrubby cinquefoil pavement	G2	S2
Non-vascular pavement	G2	
Juniper shrubland*	G3	S2
Poverty grass dry alvar grassland		
Scrub conifer / dwarf lake iris shrubland*	G1G2	
Mixed conifer / common juniper woodland*	G2?	S2

* denotes best representative sites in Great Lakes basin. From (Reschke *et al.* 1999; Riley 1999).

Much of the land in the acquisition is forested. Some of it is alvar woodland, meaning a thinly treed community where the soil is shallow and bedrock is often exposed. A lot of the forest has pine species as the dominant trees - especially jack pine. There is evidence that there may be ancient cedars present. So far one stunted cedar has been dated to more than 225 years old.

Management and allowable uses of the area are under discussion. The alvars will definitely be a protected as a nature reserve, with restricted allowable uses. Other areas may allow hiking trails, skiing, etc. -

that is yet to be determined. The local snowmobile club has opened a road allowance going east-west through forested part of the property, which is good in that it moves the snow machine traffic off the alvar, but it does create a new corridor through the bush that was not there before.

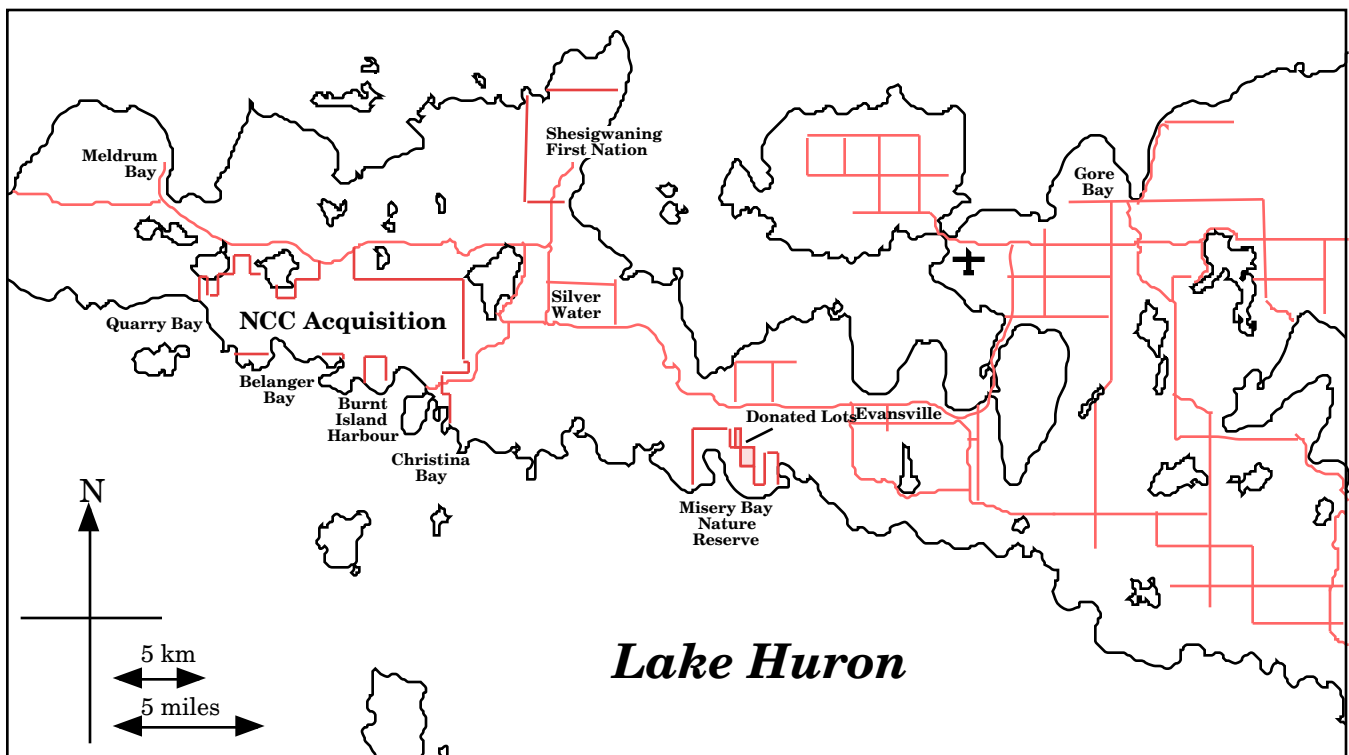
Since the land is privately owned by the NCC, visiting the site without permission is discouraged. The FBO will try to organize a field trip to this site in cooperation with the NCC if there is sufficient interest. 🌲

Citations

Reschke, C., Reid, R., Jones, J., Feeney, T. and Potter, H., 1999. Conserving Great Lakes Alvars. Final technical report of the International Alvar Conservation Initiative. The Nature Conservancy, Chicago, Illinois.



Dwarf Lake Iris (*Iris lacustris* Nutt.), photo by Judith Jones.



West Manitoulin Island, Apx. Scale 1:400 000

Riley, J. 1999. Alvares - Manitoulin - Belanger and Quarry Bays, Press Release, Nature Conservancy of Canada, 2 pp.

Riley, J. 2000. Nature Conservancy of Canada, Toronto, Ontario. Personal Communication

Stacey, A. 2000. Nature Conservancy of Canada, Guelph, Ontario. Personal Communication.

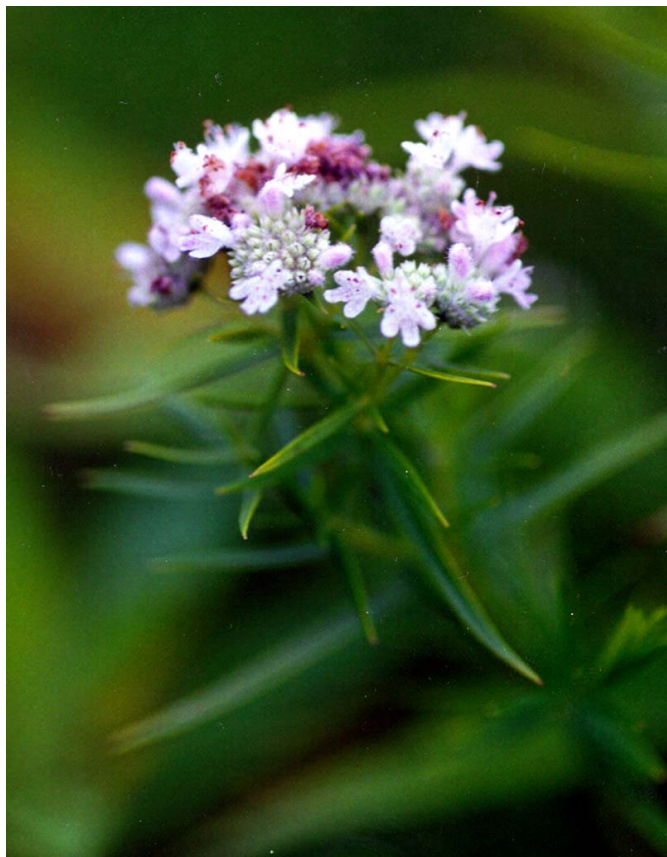
Letters:

Comments on George Bryant's Field Trip Report of East Point Park, Toronto.

In this communication, Alan Procter adds some point-form field notes (and excellent photos) of his own to augment those given in a field trip report that appeared in the FBO newsletter one year ago [Volume 11(4):3-5 (Winter 1998-1999)]. -Ed

My August 1999 rambles in the Park revealed several things:

•Spiked Blazing Star (*Liatris spicata* (L.) Willd.), ranked S3 and vulnerable in Newmaster *et al.* (1998), is thriving on sites elsewhere than by the railroad, [possibly] challenging the theory of steam locomotives



Slender-leaved Mountain-mint (*Pycnanthemum tenuifolium* Schrad.), photo by Alan Procter.

and beds of cinders;

•Besides the almost abundant white form of Bottle Gentian (*Gentiana andrewsii* Griseb. forma *albiflora*) are a half dozen of the regular blue form in a harshly open site;

•While I cannot speak for the Large Purple Agalinis (*Agalinis purpurea* (L.) Pennell), ranked S1, that Mr. Bryant recorded, I can for the Slender-leaved Agalinis (*A. tenuifolia* (Vahl.) Raf.) ranked SU (status uncertain or status unranked)¹;

•Another site has False Dragonhead (*Physostegia virginiana* (L.) Benth.), ranked S4, growing near its northern limit, according to Scoggan (1978);

•In one open areas there are patches of Slender-leaved Mountain-mint (*Pycnanthemum tenuifolium* Schrad.) northward of sites listed in Scoggan, and ranked S3 in Newmaster.

Unquestionably, the Park is a botanical treasure. Should it not be designated as an Environmentally Sensitive Area? Otherwise someone might think it a good place, say, for allotment gardens. Actually, someone has. In the depths of the Park is a fine stand of Marijuana (*Cannabis sativa* L.), ranked SE1 in our favourite new reference (Newmaster *et al.* 1998).♣

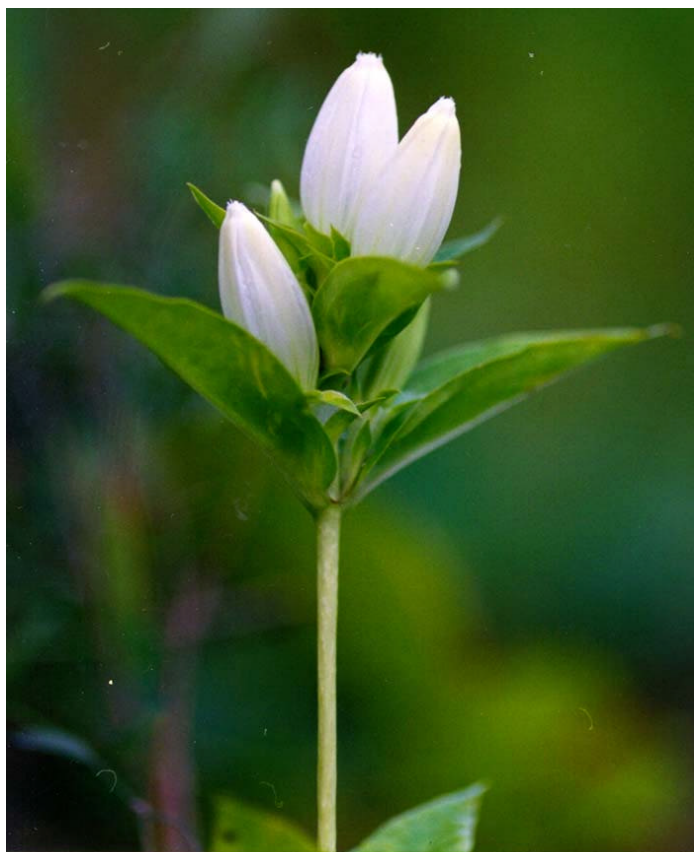
Alan Procter

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.

Scoggan, H.J. 1978. The Flora of Canada. National Museum of Canada: Vols. 1-4. Natl. Mus. Nat. Sci. Publ. Bot. No. 7. Ottawa, ON. 1711 p.

¹ There is a bit of confusion re. *Agalinis purpurea* in Ontario. I think the real *A. purpurea*, in the strict sense, is a rare species, primarily occurring in prairies in SW Ontario (e.g. Walpole Island, Windsor Prairie). The two common Agalinis species are *A. tenuifolia* (Vahl) Raf. and *A. paupercula* (Gray) Britton, both of which are ranked S4 in Ontario at the species level. Both of the commoner species have at least two Ontario varieties, and the status of these varieties is poorly known (and they are ranked SU). To complicate things further *A. paupercula* has been called *A. purpurea* var. *paupercula* and *A. purpurea* var. *parviflora*, so some reports of *A. purpurea* actually refer to *A. paupercula*! These three Ontario species are not that difficult to distinguish: *A. purpurea* in the strict sense has really large flowers (3-4 cm, almost twice as big as the other two); *A. tenuifolia* has very long pedicels (1-3 cm) and small flowers (1-1.5cm), while *A. paupercula* has short pedicels (2-5 mm) and small flowers (1.5-2cm). There are also two similar, but very rare species in the province (*A. skinneriana* (Alph. Wood) Britton and *A. gattingeri* (Small) Small ex Britton & A. Brown). At East Point Park, *A. tenuifolia* and *A. paupercula* are expectable, but *A. purpurea sensu stricto* would be surprising, but not out of the question given the other prairie species present.♣

-M.J. Oldham
(Associate Editor)



Bottle Gentian (*Gentiana andrewsii* Griseb. forma *albiflora*), photo by Alan Procter.

Joan Crowe on Gilbert White.

December 2, 1999

Dear Ed,

When we were in England this summer, we paid a visit to Gilbert White's house in Selborne. He was a very interesting character who, in the late eighteenth century, wrote the first natural history book of the modern age. It was in the form of letters to a naturalist friend. He spent his whole life in one village and was a shrewd observer of all aspects of nature. The house was on the edge of the escarpment face of the North Downs. He built a zig-zag walk up the face which is still there today. Hart's Tongue Fern clings to the chalk, and the view over the valley is much the same as it was two hundred years ago. I bought the book when I was in college but never really read it. Our visit inspired me to tackle it again and I found it fascinating. One paragraph struck me particularly and it might prove food for thought two hundred and twenty two years later!

The Natural History of Selborne by Gilbert White, Letter XL, July 2nd, 1778.

The standing objection to botany has always been, that it is pursuit that amuses the fancy and exercises the memory without improving the mind or advancing any

real knowledge; and, where the science is carried no further than mere systematic classification, the charge is but too true. But the botanist that is desirous of wiping off this aspersion should by no means be content with a list of names; he should study the plants philosophically, should examine the powers and virtues of efficacious herbs, should promote their cultivation; and graft the gardener, the planter, and the husbandman on the phylogist. Not that system is by any means to be thrown aside; subservient to, not the main object of pursuit.

When you analyze this piece, it is amazing how many of these attitudes are still with us today and how little things have changed. 🌱

Sincerely,

Joan Crowe
Owen Sound

Publication Notices:

Goldenrods of Ontario (Third Edition) needs a reviewer.

Semple, J.C., G.S. Ringius, and J.J. Zhang. 1999. **The Goldenrods of Ontario: *Solidago* L. and *Euthamia* Nutt. (3 ed.)** University of Waterloo, Biology Series, No: 39:1-90.

This latest edition of the Goldenrods of Ontario provides an updated classification of Ontario's goldenrods based on published and unpublished studies of morphology, cytology, and chloroplast DNA analyses. The most visually striking addition to this edition are the six full pages of colour photographs of goldenrods and their relatives.

A complimentary copy has been sent to the FBO, and is available to anyone who volunteers to write a review for our newsletter. Members who have agreed to review other books for the newsletter are not eligible until draft copies of review manuscripts have been received by the editor. If you are interested in obtaining this review copy, write to the editor (address on inside front cover). Otherwise, you may order a copy from:

University of Waterloo - Biology Series,
Department of Biology,
University of Waterloo,
Waterloo, Ontario.
N2L 3G1

The price is \$15.00 plus \$5.00 S&H and GST, which comes to \$21.40. Please specify your preferred binding: spiral or perfect. Make cheques payable to "University of Waterloo - Biology Series."

-Ed

Wilson, E.O. 1999. **Biological Diversity: The Oldest Human Heritage.** New York State Museum, Albany, NY. pp. 58

Published by the New York State Biodiversity Research Institute and the New York State Museum, this introduction to conservation biology is intended to educate young people about the importance of biodiversity today, the threats to it and what we can do about these threats.

The cost of this book is \$4.50 (US) plus S&H.

write to: New York State Museum, Publication Sales,
Room 3140, CEC, Albany, NY 12230

surf to: <http://www.nysm.nysed.gov>

email: nysmpub@mail.nysed.gov

phone: (518) 402-5344



Holt, M., 1999. **Vascular plants of Simcoe County.**

The publication lists over 1500 plants occurring in Simcoe County. Latin name, Common name, & Provincial status (S Rank) are indicated for each plant. Cost is \$20.00 Contact the author at:

E-mail: holtm@bconnex.net

phone: (705) 835-5741



Magee, D.W., and H.E. Ahles. 1999. **Flora of the Northeast: a Manual of the Vascular Flora of New England and Adjacent New York.** University of Massachusetts Press, Amherst. 1213 pages. (ISBN 1-55849-189-9)

This new flora covers all the New England states plus eastern New York (including Long Island). It contains county dot distribution maps for most species, as well as keys and some line drawings. Most Ontario plants are covered by this flora (although some midwestern and far northern species are not) and the flora will be useful to botanists in northeastern North America.

A Dune Moonwort:

Given the recent lunar events (full moon on winter solstice in December 1999, and lunar eclipse in mid-January 2000), it is appropriate to fill the last column with a Moonwort picture I took two summers ago on an FBO trip to the Pic River Mouth Sand Dunes (Area of Natural and Scientific Interest), near Pukaskwa National Park. This specimen was growing among a sparse stand of Scouring-rush (*Equisetum hyemale* L.), under a sparse stand of a rare form of Balsam Poplar (*Populus balsamifera* L. var. *cordata*). The genus *Botrychium* was recently revised by the Wagners and other systematists (eg: Wagner and Wagner 1990a,b), and since differentiating species is very difficult, I won't identify it any further than *Botrychium* subgenus *Botrychium*. I purposely did not collect a specimen; there were less than a handful at the site. Given the habitat and presence of so many other interesting species in the dune system (Franklin's Lady-slipper, in particular), these plants may warrant closer examination. ♣

Ed Morris

See also "Obituary - Herb Wagner" on page 2.

Anonymous. 1983. Pic River Mouth Sand Dunes, Area of Natural and Scientific Interest. Ontario Ministry of Natural Resources. ISBN 0-7729-4003-7

Wagner, W.H. Jr. and Wagner, F.S. 1990a. Moonworts (*Botrychium* subg. *Botrychium*) of the Upper Great Lakes Region, U.S.A. and Canada, with descriptions of two new species. *Contrib. Univ. Mich. Herb.* 17:313-325.

Wagner, W.H. Jr. and Wagner, F.S. 1990b. Notes on the fan-leaflet group of moonworts in North America with descriptions of two new members. *Am. Fern J.* 80(3):73-81.

