Field Botanists Of Ontario

Newsletter

Spring 1998
Volume 11(1)

ISSN: 1180-1417

Pitcher's Thistle (*Cirsium pitcheri* (Torr. ex D.C. Eat.) Torr. & A.Gray).
Photo by Keith Winterhalder.

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FIELD BOTANISTS of ONTARIO

FIELD BOTANISTS OF ONTARIO NEWSLETTER

Published quarterly by the FBO; ISSN: 1180-1417.

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The **deadline** for submissions for **Volume 11(2) - Summer 1998** is **June 1st, 1998**.

Standard source for scientific names of vascular plants:

Morton, J.K. and J.M Venn. 1990. A Checklist of the Flora of Ontario: Vascular Plants. University of Waterloo Biology Series Number 34. 218 pp.

Field Trip Reports:

Salmon River Alvar.

June 7th, 1997

The Salmon River alvar is an extensive area of flat limestone pavement on the Napanee Plain. It is partly covered by Red Cedar (*Juniperus virginiana* L.), partly by grasses and sedges and in some spots simply by bare rock with *Nostoc*, a blue-green alga (Cyanophyta). Judging by his enthusiasm, it is probably one of Wasyl Bakowsky's favourite botanizing sites. Before we started, Wasyl gave us an introduction to the area. One of the richer alvars in Ontario, Salmon River was recently declared an Area of Natural and Scientific Interest. The site supports many rare plant species, most exotic of which could be Mousetail (*Myosurus minimus* L.). This plant was rediscovered a few years ago at Salmon River alvar by Paul Catling after not being reported in Ontario for a 100 years. Our search image was to be a flowering stalk about 2-6 cm high, projecting from moss covered pavement patches.

Wasyl then wheeled about 180 degrees, penetrated the cedar tangle facing us and suggested that we all follow him. Sheila Thomson kindly suggested we tread on the "clints" (flat-topped limestone) while avoiding the "grykes" (limestone cracks). The trip was off to a great start.

Some plants observed here included:

Arabis hirsuta (L.) Scop. (in limestone cracks)
Rock-cress

Asplenium trichomanes L.
Maidenhair Spleenwort

Cerastium arvense L.
Field Chickweed

Euphorbia commutata Engelm.
Tinted Spurge

Panicum philadelphicum Bernh. ex Trin.
Panic Grass

From the Red Cedar area we emerged onto an open barren area with rock pavement, scattered Bur Oak (*Quercus macrocarpa* Michx.), Prickly-ash (*Zanthoxylum*

americanum Miller), Smooth Sumac (*Rhus glabra* L.), and various sedges. Eastern Towhees, Nashville Warblers, and a Black and White Warbler provided a musical background. Wasyl expressed concern that the really dry spring may have held things back. Notable alvar specialists and rarities observed here included:

Anemone virginiana L.
Tall Anenome; Thimbleweed

Bouteloua curtipendula (Michx.) Torr.
Side Oats Grama

Corydalis aurea Willd.
Golden Corydalis

Draba reptans (Lam.) Fern.
Carolina Whitlow-grass

Ranunculus fascicularis Muhl. ex Bigel.
Early Buttercup

Senecio pauperculus Michx.
Balsam Ragwort

Scutellaria parvula Michx.
Smaller Skullcap [Illustration on next page.]

Veronica peregrina L.
ssp. *xalapensis* (Kunth) Pennell [“the hairy one”]
Purslane Speedwell

Side Oats Grama has brilliant red stamens and spikelets which droop along one side of the culm. Wasyl observed that at one time there had been 800 square kilometres of prairie and savanna in southern Ontario. Many more species followed (See table):

Sedges are one of Wasyl’s special loves and he has the crowd-pleasing knack of providing both scientific and common names for them. They included:

Carex communis L.H. Bailey
Common Sedge

Carex eburnea Boott
Ivory-White Sedge

Carex foenea Willd.
Hay Sedge

Carex formosa Dewey
Handsome Sedge

Carex pensylvanica Lam.
Pennsylvania Sedge

Carex richardsonii R. Br.
Richardson’s Sedge

Pride of place went to Juniper Sedge (*Carex juniperorum* Catling, Reznicek, & Crins)[1] which was in full flower. Just described in 1989, this plant has now been recorded from only a handful of sites in the world, two of which in Ontario. Salmon River is the type locality where it has now been found at several spots.

Following an old wagon trail, we entered a Hydro right of way. Here the patches of bare limestone pavement were quite extensive. Bill McIlveen was down on his hands and knees apparently studying the mosses when he exclaimed, “Wasyl, I think I have your plant.” Wasyl leapt to the ground and immediately concurred—Bill had discovered a new subpopulation of Mousetail. A member of the Ranunculaceae, the plant looked more like a tiny green cattail. More plants were found as more people hunkered down to survey the moss carpets until about 50 individuals were counted. Most

Scientific Name	Common Name	Comment
Arabis divaricarpa A. Nels.	Rock Cress	
Bromus kalmii A. Gray	Kalm’s Brome Grass	
Epilobium ciliatum Raf.	Sticky Willow-herb	
Galium asprellum Michx.	Rough Bedstraw	
Galium boreale L.	Northern Bedstraw	
Hedeoma hispidum Pursh	Mock Pennyroyal	
Hedyotis longifolia (Gaertn.) Hook.	Long-leaved Bluets	
Helianthus strumosus L.	Pale-leaved Sunflower	
Juncus dudleyi Wieg.	Dudley’s Rush	
Lonicera dioica L.	Climbing Honeysuckle	
Minuartia michauxii (Fenzl) Farw.	Rock Sandwort	
Monarda fistulosa L.	Wild Bergamot	
Myosotis verna Nutt.	Spring Forget-me-not	
Potentilla arguta Pursh	Prairie Cinquefoil	[in flower; pinnate leaflet]
Potentilla recta L.	Rough-fruited Cinquefoil	[palmate leaflets]
Rosa acicularis Lindl.	Prickly Wild Rose	
Sanicula marilandica L.	Black Snakeroot	
Solidago ptarmicoides (Nees) B. Boivin	Upland White Aster	
Sporobolus vaginiflorus (Torr. ex A. Gray) Torr. ex Alph. Wood	Ensheathed Dropseed	
Zizea aurea (L.) Koch	Golden Alexanders	

[1] *Carex juniperorum* is only known from the Salmon River area in Ontario, plus a few sites in southern Ohio and northern Kentucky. *-M.J. Oldham (ed.)*

Smaller Skullcap (*Scutellaria parvula* Michx.)
by Mary Celestino

plants were still in bud. Those that were in flower seemed to have patches of yellow dusting. With a hand lens this dust proved to be petals. Few people looked up then to note a Red-tailed Hawk, with a Red Squirrel in its talons, soar overhead to land at its nest on a Hydro tower.

After lunch we motored a few kilometres to another site on the alvar. This site was another mixture of Red Cedar forest and open barrens. New plants observed here included:

Acinos arvensis (Lam.) Dandy
Mother-of-Thyme

Agrostis scabra Willd.
Ticklegrass

Alyssum alyssoides (L.) L.
Pale Alyssum

Berteroa incana (L.) DC.
Hoary Alyssum

Bromus tectorum L.
Downy Chess

Carex merritt-fernaldii Mack.
Merritt-Fernald's Sedge

Celtis occidentalis L.
Hackberry

Geum triflorum Pursh
Prairie Smoke (in fruit)

Polygala senega L.
Seneca Snakeroot

On our way back to the vehicles, several of us, temporarily lost from the main group, were fortunate to study a beautiful Smooth Green Snake and then a Nighthawk's nest with egg. Wasyl said this just proved how rich the area was. For many of us, the day also will be rich in memories, thanks to Wasyl's enthusiasm and knowledge.

George Bryant

AGM Trip to Albion Falls.

Welcome to the talus slope forests of Albion Falls. The Falls is a part of King's Forest Park in Red Hill Valley, Hamilton. I had been looking forward to this trip since hearing about it a few months back. It was a chance to meet some more FBO members and especially our leader, Anthony Goodban. I certainly wasn't disappointed by Anthony's botanical knowledge; he did an excellent job.

Anthony, being the brilliant individual he is, brought along a video camera and an assistant to film our botanical trip. Now before I go any further I have to say this is a great idea that is worth considering for future trips. I am unable to attend many of the trips the FBO offers, but would love to see what happened. It might be difficult to organize, but this could be an incredible tool for learning new plants as well.

One of the reasons I came on this trip was to see the exotic invaders that I have been having nightmares about down in Niagara. Well, I wasn't disappointed. I think we ought to video tape our favourite natural areas because at the rate these alien monsters are moving we won't have much left in a few years.

The day was hot and muggy as we descended into the valley. For me there was a wide range of species that I had never identified before. Species such as:

Allium tricoccum Ait.
Wild Leek

Aster lateriflorus (L.) Britton
One-sided Aster

Bromus latiglumis (Shear) A. Hitchc.
Tall Brome

Eupatorium rugosum Houtt.
White Snakeroot

Hybanthus concolor (T. Forster) Spreng.
Green Violet

Zanthoxylum americanum Mill.
Prickly Ash

Another plant that sticks out in my mind was the Poke Milkweed (*Asclepias exaltata* L.). I'm a confirmed monarch butterfly addict and have therefore taken a great personal interest in the milkweeds. Now I wonder, being a woodland species, whether this milkweed ever sees the caterpillar of the Monarch?

The forest seemed to be dominated by Sugar Maple (*Acer saccharum* Marsh.), White Ash (*Fraxinus americana* L.), Black Oak (*Quercus velutina* Lam.), White Oak (*Quercus alba* L.), and Red Oak *(Quercus rubra* L.). We spent most of our time down in the forest before emerging to eat lunch and moving on to the escarpment rim community.

I admit this is the whole reason I came. Thanks to Mary Gartshore, Larry Lamb, and Steve Varga, prairie has become my obsession and I can't learn enough about this community. In fact while I've got you all on the line, I would like to invite anyone interested in botanical forays into a newly discovered savanna/prairie in Niagara to give me a call at (905) 935-1789. Every Monday evening we go out in search of the lost pieces.

Most of the rim had been mown until recently and now it was being naturalized. I was a bit surprised to see it so overgrown. Anthony did tell us that there were some plans to open the area up to allow the rim/ savanna species a chance to survive. We started off by looking at a stand of Chinquapin Oak (*Quercus muehlenbergii* Engelm.). Along the Niagara Gorge rim we have what Steve Varga has termed a Chinquapin Oak Savanna. I wonder how common that type of savanna is? Other species encountered were:

Diervilla lonicera Mill.
Bush-honeysuckle

Staphylea triflolia L.
Bladdernut

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

Vaccinium angustifolium Ait.
Lowbush Blueberry

Viburnum rafinesquianum Schultes
Downy Arrow-wood

This is the first time that I've seen Snowberry that wasn't in a nursery. Another first for me was seeing the Bush-honeysuckle.

That was the end of a good day and now we were off to Brock University for dinner with the rest of the participants. The following day Steve Varga, myself and some of my botanizing friends went out on our excursion, and rediscovered Kalm's Brome (*Bromus kalmii* A. Gray) and Bush Clover (*Lespedeza violacea* (L.) Pers.) along the rim of the Niagara Gorge. These have not been seen for at least 50 years and were believed to have been extirpated. I guess that accidental grass fire last year paid off!

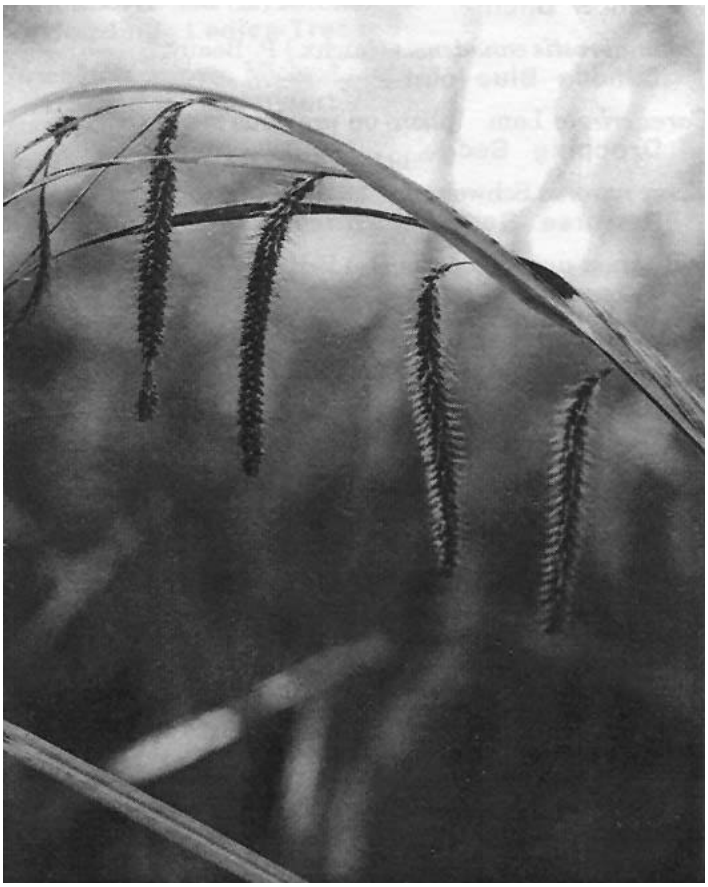
Mark D. McDonell

The Glen Major Oak Ridges Moraine Forest and Goodwood Southeast Area of Natural and Scientific Interest.

The Oak Ridges Moraine north of Toronto still supports impressive tracts of forest. The value of large, unbroken tracts is becoming increasingly clear as more forests are fragmented by service corridors, roads and, most disturbingly, adjacent development. Larger tracts of forest are thought to be able to better maintain the quality of native plant and animal communities, as "edge" influences decrease with increasing interior-to-edge ratio and increasing area. On August 17th, 1997, Steve Varga led a trip to two areas on the Oak Ridges Moraine which amply demonstrated that an interconnected series of woodlands, wetlands and plantations is greater than the sum of its parts.

The newly acquired Metropolitan Toronto Region Conservation Authority (MTRCA) Glen Major property has not yet been studied extensively, and one of the purposes of the trip was to develop a list of plants for the area. The species assemblage is characteristic of dry, moraine forests, including dominants such as White Pine (*Pinus strobus* L.), Red Maple (*Acer rubrum* L.), Sugar Maple (*Acer saccharum* Marsh.) and Red Oak (*Quercus rubra* L.), with an understory of Beaked Hazel (*Corylus cornuta* Marsh.). The understory and ground layer include many species of northern forests, which Steve noted is one of the most valued characteristics of the Oak Ridges Moraine forests. For example, northern elements include the coniferous character of the pine forest itself, and such species as Maple-leaved Viburnum (*Viburnum acerifolium* L.), Twin-flower (*Linnaea borealis* L. ssp. *longiflora* (Torr.) Hultén), Shinleaf (*Pyrola elliptica* Nutt.), and Starflower (*Trientalis borealis* Raf.). Tree Club-moss (*Lycopodium dendroideum* Michx.), growing throughout the understory, is also characteristic of the Oak Ridges Moraine forest. The forest appears to be on the order of 75 - 80 years old, as judged by the age of the pines (which is easy to see by simply counting whorls of branches).

Some areas of natural forest have been replaced by



Drooping Sedge (*Carex crinita* Lam.)
photo by Ed Morris

pine plantation. However, conservation of plantations can have the effect of enhancing the forest rather than degrading it, even though plantations are man-made in origin. Pine plantations fill in "gaps" in the forested landscape, reducing edge, and can often harbour unusual species. The Regionally rare species Pipsissewa (*Chimaphila umbellata* (L.) Barton ssp. *cisatlantica* (S.F. Blake) Hultén) is found in the pine plantation adjacent to the Glen Major forest.

A small opening near the road provides habitat for another native plant community which bears affinities with prairie communities more commonly found further south, but is becoming increasingly rare in open, sandy areas on the Moraine. This habitat supports, for example, Hay Sedge (*Carex foenea* Willd.), Bergamot (*Monarda fistulosa* L.), Sand Violet (*Viola adunca* Smith) and Long-headed Anemone (*Anemone cylindrica* A. Gray).

On the second part of the trip, Steve led the group to some unexplored kettles near the Goodwood Southeast Upland Area of Scientific and Natural Interest. Kettles are steep-sided depressions left by melting blocks of glacial ice, which often harbour interesting species with northern affinities; occasionally they contain fens or bogs. In this case, study team members found a northern shrub marsh; dominated by species such as:

Aronia melanocarpa (Michx.) Elliott
Chokeberry

Betula allegheniensis Britton
Yellow Birch

Calamagrostis canadensis (Michx.) P. Beauv.
Canada Blue-joint

Carex crinita Lam. (photo on previous page)
Drooping Sedge

Carex retrorsa Schwein.
Retrorse Sedge

Dulichium arundinaceum (L.) Britton
Three-way Sedge

Osmunda cinnamomea L.
Cinnamon Fern

Picea mariana (Miller) Britton, Sterns & Pogg.
Black Spruce

Viburnum cassinoides L.
Wild Raisin

One southern species was found as well: Southern Manna-grass (*Glyceria septentrionalis* A. Hitchc.), at the ecotone between woods and marsh.

It is this juxtaposition of northern and southern elements which makes the Oak Ridges Moraine so valuable; due, in large part, to the continuing efforts of the Ministry of Natural Resources and others to maintain the contiguity and integrity of forests there. Accurate inventories of the diverse habitats on the Moraine can only enhance baseline data, which allow effective monitoring of management strategies for vegetation and wildlife susceptible to edge effects.

Sarah Mainguy

Features:

An Unique Fen Community near Forks of the Credit Provincial Park, Regional Municipality of Peel.

Daniel T. Kraus

Introduction

During field investigations conducted near the Forks of the Credit Provincial Park, a seepage fen was identified along the banks of the Credit River. This system is unique in the Region; its preliminary inventory has resulted in several additions to the flora of Peel. As the site was visited during the spring and early fall of 1997, it is expected that summer field visits would identify additional species.

The fen is located near the Forks of the Credit Provincial Park, and has developed along a plateau in a ground water seepage area. It is approximately 1 ha in size.

While fens are common in Ontario, these systems are very rare in southern Ontario (Reddoch 1983; Riley 1988; Bakowsky 1996) and the site district (OMNR 1993). As a wetland type, this system is quite restricted in Peel Region. Reference is made to one small fen area (< 1 ha), 1 km west of Caledon Lake near Alton (Webber 1984). The Caledon Lake fen is characterized by low shrub cover, primarily Leatherleaf (*Chamaedaphne calyculata* (L.) Moench), unlike the Forks of the Credit fen which is dominated by graminoid species.

Community Descriptions

Based on the draft Ecological Land Classification (ELC) System (Lee *et al.* 1997), this fen is classified as a Low Sedge-Clubrush Graminoid Open Fen. The primary fen extends north along the river to an eroding slope. Tree cover is low to moderately dense, and is characterized by Eastern White Cedar (*Thuja occidentalis* L.). A smaller Horsetail Mineral Meadow Marsh, dominated by Variegated Horsetail (*Equisetum variegatum* Schleicher ex Fried. Weber & Mohr ssp. *variegatum*) occurs along a cart path north of the primary fen.

Within the primary fen area, five general associations were recorded. More detailed community descriptions and mapping are on file with the author.

1. Open Rush: Most of the open fen is characterized by a low rush. Due to the timing of the collections, this species could not be identified with certainty. Other species within this association include Variegated Horsetail and Bog Goldenrod (*Solidago uliginosa* Nutt.).

2. Hudson's Bay Clubrush: The southern area of the fen is dominated by Hudson's Bay Clubrush (*Scirpus hudsonianus* (Michx.) Fern.). This species has a very restricted range in southern Ontario. The closest recorded site is along the slopes of the Holland River in York (Varga pers. comm. 1998). Bog Goldenrod and

Mud Sedge (*Carex limosa* L.) were also recorded from this unit.

3. Marl Ponds: A linear pond system has developed along the eastern edge of the plateau (perhaps as the result of a cart path). Water in the pond is approximately 10-15 cm deep, and the marl sediment exceeds 1 m. The most noteworthy species in this unit is Horned Bladderwort (*Utricularia cornuta* Michx.), a strong fen indicator. Stoneworts (*Chara* spp.; Charophyta) are macrophytic algae common in the marl ponds.

4. Open White Cedar Fen: The central portion of the fen is characterized by scattered Eastern White Cedar (*Thuja occidentalis* L.), which account for approximately 50% canopy closure. Many of the trees appear stunted (< 10 cm dbh, 5 m in height) and their growth is restricted to small hummocks, generally 50 cm above the water level. This is the most diverse association in the fen because of variations in micro-topography. Herbaceous species of note include:

Aster borealis (Torr. & A. Gray) Prov.
Bog Aster

Equisetum variegatum Schleicher ex Fried. Weber & Mohr ssp. *variegatum*
Varigated Scouring Rush

Liparis loesellii (L.) Rich.ex Lindl.
Fen Orchid

Lobelia kalmii L.
Kalm's Lobelia

Spiranthes cernua (L.) Rich.
Nodding Ladies-Tresses

Scirpus hudsonianus (Michx.) Fern.
Hudson's Bay Clubrush

5. Coniferous Organic Swamp/Fen: The ecotone at the northern edge of the fen is characterized by Eastern White Cedar (50-75% canopy closure) with a dense understory of Variegated Horsetail. Tall Green Orchid (*Platanthera hyperborea* (L.) Lindl.), Nodding Ladies Tress and Yellow Ladies Slippers (*Cypripedium calceolus* L.) also occur in this unit.

The fen area is generally surrounded by upland Eastern White Cedar. The stands are generally dense (90% canopy closure). A more open dry meadow area with scattered trees occurs just south of the fen.

Floristics

Over 150 vascular plant species were identified within and adjacent to the fen in 1997. The following plant species may have some level of regional significance based on the preliminary status designations assigned by Webber (1984), and more recent status assessments from adjacent regions (Riley, 1989).

Potentially Significant Species Recorded from the Forks of the Credit Fen.

Species	Regional Sites (from Webber 1984)
Aster borealis (Torrey & A. Gray) Prov.† **Bog Aster**	<3
Equisetum scirpoides Michx. **Dwarf Scouring Rush**	4-10
Equisetum variegatum ssp. *variegatum* **Varigated Scouring Rush**	4-10
Carex cryptolepis Mack. **Northeastern Sedge**	<3
Carex limosa L.† **Mud Sedge**	<3
Eriophorum viridi-carinatum (Engelm.) Fern. **Green-Keeled Cotton-Grass**	<3
Liparis loesellii (L.) Rich.ex Lindl. **Fen Orchid**	4-10
Lobelia kalmii L.† **Kalm's Lobelia**	<3
Scirpus hudsonianus (Michx.) Fern. **Hudson's Bay Clubrush**	no record
Solidago uliginosa Nutt.† **Bog Goldenrod**	4-10
Spiranthes cernua (L.) Rich. **Nodding Ladies-Tresses**	<3
Utricularia cornuta Michx.† **Horned Bladderwort**	no record

†Fen indicator species (Riley, 1989).

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Development Planned for Carter Bay, Manitoulin Island.

Judith Jones

Carter Bay, on the south shore of Manitoulin Island, is the site of some beautiful, large, "big bay" dunes (Bakowsky 1997). For many years Carter Bay has been a favourite place for botanists, picnickers, campers, and people looking for a quiet get-away. Now there is a large development in the works there, and the future of the dune ecosystem is uncertain.

The dunes at Carter Bay support some very notable species such as:

Ammophila breviligulata Fern.
Beach Grass [maritime plant]

Anemone multifida Poir. ex Lam.
Red Anemone [western disjunct]

Cakile edentula (Bigel.) Hook.
Searocket [maritime plant]

Cirsium pitcheri (Torr. ex D.C. Eat.) Torr. & A.Gray
Pitcher's Thistle [Great Lakes endemic; see cover.]

Elymus lanceolatus (Scribner & J.G. Smith) Gould ssp. *psammophilus* (J.M. Gillett & Senn) A.Löve
Great Lakes Wheat-grass [Great Lakes endemic]

Lathyrus japonicus Willd.
Beach Pea [maritime plant]

Many other beauties grow there, such as Bluets (*Hedyotis longifolia* (Gaertn.) Hook.) and Sand Cherry (*Prunus pumila* L.) in the sun, Mitrewort (*Mitella nuda* L.) and various Coralroots (*Corallorhiza* spp.) in the shady parts, and Pitcher-plant (*Sarracenia purpurea* L.) and Sundew (*Drosera rotundifolia* L.) in the wet places between dunes. There are also interesting beetles to be seen, such as the Beach Tiger Beetle (*Cicindela hirticollis*). On the dunes individuals of this species have the same colouration as those in the arctic. In short, Carter Bay is a place where you can see quite a lot in a relatively small area.

The last 10 years of ownership limbo at Carter Bay have not been good for its sensitive features. In the past, a development plan failed at Carter Bay and left behind a mess. Many people had bought lots in an unapproved subdivision, and found they could not get a building permit. Nothing visible happened there for many years, and with no clear ownership presence, the dunes became perceived as a public place where anything goes--free camping, rampant ATV use, and large quantities of garbage and broken glass were the results. The Calypso Orchid (*Calypso bulbosa* (L.) Oakes) used to thrive there, but someone built a latrine on top of the site and wiped out the entire population. The owners were unable to keep a lock or a gate that would stand up to the demand of people trying to get to the dunes.

The new development project at Carter Bay, which is already underway, proposes 600 homes, a golf course, polo grounds, hotel and meeting centre, skiing and hiking trails and a fishing lodge, all in a gated community. The development encompasses a huge area which stretches from the Carnarvon Township line in the east, to the middle of Timber Bay in the west, and includes Hammond Point, Rathbun Bay, Jenkins Point and Hughson Bay in addition to Carter Bay itself. So far several lots have been sold (mostly to people from the Manitoulin-Sudbury region), ski trails are up and running, and a hydrology study has been done to configure water and sewer services to the lots.

Carter Bay Dunes covered with Sand Cherry (*Prunus pumila* L.). Photo by Keith Winterhalder

The developer, Arend Van Vierzen, of the company Earth Clean 2000, claims to be an "eco-developer". He bases this statement on the fact that his developments generally have fewer lots than the largest possible number ("under-developing"), and that he markets to an ecologically-minded clientele, mostly of wealthy Europeans. He has said that he intends to protect Carter Bay's dunes, although how this will come about has not yet gelled into a concrete plan. However, Van Vierzen is working with the Planning Partnership, out of Barrie.

At one point in the winter of 1996-97, Van Vierzen offered to "donate" the dunes to the Manitoulin Nature Club (MNC), a local field naturalist club and member of the Federation of Ontario Naturalists (FON). Since the MNC was in no position to handle such a donation, a spin-off group created a steering committee to form an incorporated land trust to take the donation. After several meetings with the developer, the land trust found that he agreed to donate the dunes to them only after they paid $120,000. The MNC also approached the FON about taking the dunes, but the FON felt that the dune area might not be defensible as a nature reserve once surrounded by development, and that there were too many unresolved issues, such as the local municipality's role in managing the dunes.

Carnarvon Township has been proceeding very carefully with the project. It has been very wary to accept anything that may bring a financial liability, since it doesn't want to end up with something that will turn out to cost a lot further down the line. Some of the main concerns are landfill usage, sewage lagoon construction, road maintenance and, finally, access to

the dunes. Council members feel that all roads in the subdivision must be public and ungated, and the dunes must remain accessible to everyone. The developer is very unhappy about this because he feels it will jeopardize his ability to control the "ecological" quality of the subdivision.

Because there was already an approved plan of subdivision at Carter Bay, the Ministry of Municipal Affairs and Housing (MMAH) had not asked for any amendments to the Manitoulin Official Plan for the first phase of the project. Now, because of concerns from the township, locals, and naturalist community, the MMAH has asked Earth Clean 2000 to make a new application for the subdivision, and this will require review by the Manitoulin Planning Board. The Planning Board or the developer can then push the procedure to a hearing at the Ontario Municipal Board, if necessary, as a result of the review.

There are very mixed feelings about the development among local people. Many people feel the development will bring much needed jobs and economic activity, while others feel the project scale is too large for the Island, will harm a valuable sensitive area or will take away their access to a place of sentimental value. Many people here intensely dislike the idea of a gated community, even as these communities become more and more popular elsewhere in Canada. Still others fear such a large development, which could ultimately become the largest community on Manitoulin Island, will end up creating a new commercial centre that will take business away from existing retail operations.

A small group of people, myself included, feel that the dunes will probably be better protected behind a gated community, and that with owners visibly present, most of the reckless damaging activity will dry up. That will leave the dunes at risk mainly from the regular users who live on the lots surrounding the dunes. An intelligent management strategy should be drawn up to deal directly with this type of usage, and it should include well-placed boardwalks and educational sessions with a (yet-to-be-formed) cottagers' association. It can be hoped that these people who were attracted to the area because of the dunes will see the necessity of working for their protection.

The application for the plan of subdivision and amendment to the Manitoulin Official Plan is in the works.

Comments can be directed to:

Manitoulin Planning Board,
Gore Bay, Ontario.
P0P 1H0

or

Carnarvon Township Municipal Office,
Mindemoya, Ontario.
P0P 1S0

or to the developer

Arend Van Vierzen,
Earth Clean 2000,
R.R. #1, Spring Bay, Ontario.
P0P 2B0

If you have questions, feel free to e-mail me at **jutene@kanservu.ca**.

Bakowsky, W.D., 1997, Rare Communities of Ontario: Freshwater Coastal Dunes. Natural Heritage Information Centre Newsletter. 4(1):5-8.

In addition to dunes, the Carter Bay site also contains limestone outcrops, mixed-wood forests, and stoney beaches. Photo by Keith Winterhalder.

Recent Botanical Discoveries in Ontario.[1]

Mike J. Oldham, John K. Morton, and Joan M. Venn

The 1997 field season resulted in several new species being added to the provincial flora, although most are non-native. The only possibly native addition we have heard about this year is the discovery of Spiny Naiad (*Najas marina* L.; Najadaceae) by Marianne Stainback of Erindale College from a lake north of Kingston, Frontenac County (specimens at TRTE). Since Spiny Naiad has long been known from several locations in New York state, just south of Lake Ontario (Stuckey 1985); the Kingston area record could be a previously overlooked native occurrence of this aquatic. Alternately the presence of Spiny Naiad in Ontario could be due to a recent introduction by natural (e.g. migrating waterfowl) or artificial (e.g. boat traffic) means.

Some interesting non-native additions to the Ontario flora (i.e. species not listed in John Morton and Joan Venn's 1990 "A Checklist of the Flora of Ontario: Vascular Plants") have been made in recent years. Bill Crins found a population of Turquoise Berry (*Ampelopsis brevipedunculata* (Maxim.) Trautv.; Vitaceae) in Halton Regional Municipality (specimen at TRTE), and Sean Blaney found Hyssop-leaved Loosestrife (*Lythrum hyssopifolia* L.; Lythraceae) at the edge of an agricultural field near Belleville, Hastings County

[1] This article is based on two articles which appeared in recent issue of the Natural Heritage Information Centre (NHIC) Newsletter (Oldham, M.J. 1997. 1997 Ontario botanical highlights. NHIC Newsletter 4(1):2-3, and Morton, J.K. & J.M. Venn. 1997. Two legumes from Manitoulin Island, new to North America. NHIC Newsletter 4(1):3).

(Blaney *et al*. 1997). Dan Brunton recently reported the discovery of Woodland Angelica (*Angelica sylvestris* L.; Apiaceae) in the Ottawa area (Brunton 1997), and Paul Catling and others document the occurrence and spread of Autumn-olive (*Elaeagnus umbellata* Thunb.; Elaeagnaceae) in the province (Catling *et al*. 1997). Some of these species have the potential to become problem weeds, at least locally, in Ontario.

Fieldwork by Natural Heritage Information Centre staff resulted in the discovery of three new adventive plants for the province in 1997. An early spring check of fairgrounds in southwestern Ontario by Mike Oldham and Allison Cusick resulted in the discovery of Hard Grass (*Sclerochloa dura* (L.) P.Beauv.; Poaceae) at single sites in Kent and Lambton Counties (specimens at DAO, MICH). This small, spring-flowering grass has been found with increasing frequency in southern Michigan, northern Ohio (A.W. Cusick & R. Rabeler pers. comm. 1997), and elsewhere in north-central North America (Brandenburg *et al*. 1991), particularly in fairgrounds and ballparks, so its discovery in nearby Ontario was not a complete surprise.

In northwestern Ontario Wasyl Bakowsky and Mike Oldham found two western species along railways in Kenora District: Golden Bean (*Thermopsis rhombifolia* (Nutt.) Richards; Fabaceae) and Little Ground Rose (*Chamaerrhodos nuttallii* Pickering; Rosaceae) (specimens at MICH, NHIC). The former is a common plant further west in the prairie provinces (Budd & Best 1964) and states, but is not listed in standard floras covering northeastern North America (e.g. Fernald 1950, Gleason 1952, Gleason & Cronquist 1991). Little Ground Rose was previously known in the Great Lakes region only from Isle Royale, Michigan, where it was presumed to be native and was described by Fernald as the endemic var. *keweenawensis*. Voss (1985), however, expresses doubt about the distinctiveness of Michigan plants from plants in the main part of the range further west. At the Ontario site, *Chamaerrhodos* grows in cinders and gravel of an abandoned air strip adjacent to a railway and not in nearby natural habitat.

In June of 1987 John Morton and Joan Venn found a colourful mass of vetch (genus *Vicia*; Fabaceae) by the Greenbush Road south of Little Current on Manitoulin Island. It was similar to the common Tufted Vetch (*Vicia cracca* L.) but had larger more showy flowers and longer, narrower leaflets. It keyed out to Fine-leaved Vetch (*Vicia tenuifolia* Roth) in Flora Europaea (Tutin *et al*. 1964-1980). However, because there are several similar *Vicia,* confirmation of the identification was needed. Fortunately *Vicia tenuifolia* has an unusual chromosome number (2n=24) amongst this group of species. In 1990 seeds were collected from the Greenbush locality and Cliff Crompton at Agriculture Canada (DAO) in Ottawa grew some of these and determined the chromosome number to be 2n=24, thus confirming the identity of our material. The plant grows abundantly in the tall grass and scrub over about 50 yards of roadside.

In 1996 Morton and Venn found another unfamiliar legume on Manitoulin Island by Highway 6 near Sheguiandah, growing in the tall grass of the broad road allowance at the edge of the forest at the entrance to the Lewis Trail. The plant was an erect bushy perennial herb about 2 feet high with bright purple flowers turning blue as they faded. There was a lot of it extending over about 20 yards. It looked like a pea or vetch (*Lathyrus* or *Vicia*) but lacked tendrils. We were eventually able to identify it on a recent visit to the library and herbarium at the Royal Botanical Gardens, Kew, England. It proved to be *Lathyrus niger* (L.) Bernh. ssp. *niger,* the Black Pea. The vouchers are in JKM (currently in WAT) and in DAO.

Both these plants are new to Ontario (Morton & Venn 1990) and apparently to Canada (Scoggan 1978-1979) and North America (Kartesz 1994). Both are obviously aliens, being native in Europe. It is probable that the *Vicia* was introduced with fodder or a seed mix. The *Lathyrus* was probably planted in this locality. It is occasionally grown in gardens in Europe and may have been introduced by the late Mr. Murray who operated a market garden at Sheguiandah for many years and was an avid plantsman and knowledgeable botanist. Both plants are well established perennials and likely to persist. Specimens of both species are deposited at WAT.

In 1997 Sarah Mainguy and Wasyl Bakowsky found a second Ontario population of Prairie Violet (*Viola pedatifida* Don; Violaceae) near Brantford, Brant County, and Karen Cedar found the third recent Ontario record of Slender Bush Clover (*Lespedeza virginica* (L.) Britton; Fabaceae) and the second Ontario record of Few-flowered Nut-rush (*Scleria pauciflora* Muhl.; Cyperaceae) in the Ojibway Prairie area of Windsor, Essex County. While conducting research on a sand pit near Barrie, Mark Browning of the Ministry of Natural Resources in Peterborough discovered a population of Side-oats Grama (*Bouteloua curtipendula* (Michx.) Torr.; Poaceae), the first Simcoe County record of this rare prairie and alvar grass. Ongoing fieldwork at prairie remnants in southwestern Ontario by Al Woodliffe and Ross Brown resulted in new sites for Missouri Ironweed (*Vernonia missurica* Raf.; Asteraceae) which recent fieldwork is finding to be more common in the province than Tall Ironweed (*Vernonia gigantea* (Walter) Trel.; Asteraceae)

During fieldwork for the International Alvar Conservation Initiative (Anonymous 1995) on Great Cloche Island, Manitoulin District, Mike Oldham collected a small, pale-flowered Agalinis, which was assumed to be Narrow-leaved Agalinis (*Agalinis tenuifolia* (M. Vahl) Raf.; Scrophulariaceae). Later examination of the specimen by Tony Reznicek and subsequently by Agalinis expert Judith Canne-Hillker found it to be Gattinger's Agalinis (*Agalinis gattingeri* (Small) Small; Scrophulariaceae) (not *Agalinis skinneriana* (A. Wood) Britton as reported in Oldham 1997). Manitoulin District is a considerable range extension for this rare plant, previously known in the province only from Walpole Island, Lambton County, and an old record from Glen Morris, Brant County.

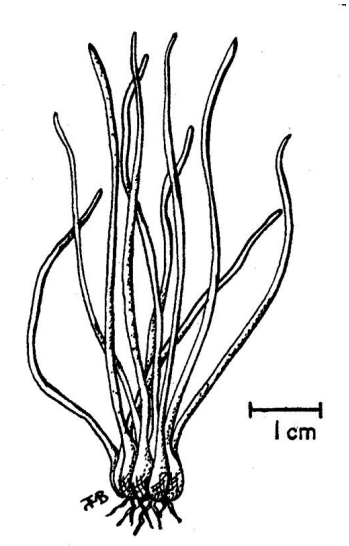
Another exciting find was made by Gary Allen in the Minesing Swamp. Alerted to the presence of a possible Eastern Prairie White Fringed Orchid x Purple Fringed Orchid hybrid (*Platanthera leucophaea* (Nutt.) Lindl. x *P. psycodes* (L.) Lindl.; Orchidaceae), seen in the swamp

in the 1960's by Tony Reznicek, Gary found a plant which appeared to be this undescribed hybrid. A later visit to the swamp with Paul Catling and Vivian Brownell resulted in the discovery of several more hybrid plants and over 100 plants of the globally and provincially rare Eastern Prairie White Fringed Orchid. The hybrid will be formally described by Paul Catling.

Fieldwork on cliff, barrens and prairie sites in northwestern Ontario by Wasyl Bakowsky and Mike Oldham resulted in the first northwestern Ontario records of three provincially rare native plants (Oldham 1996a): Leonard's Small Skullcap (*Scutellaria parvula* Michx. var. *leonardii* (Epling) Fern.; Labiatae), Long-scaled Tussock Sedge (*Carex haydenii* Dewey; Cyperaceae) and Prairie Dropseed (*Sporobolus heterolepis* A. Gray; Poaceae). Oval-leaved Milkweed (*Asclepias ovalifolia* Decne.; Asclepiadaceae), a species not seen in the province in more than three decades (Oldham 1996b), was found at Ingolf, Kenora District. Examination by Tony Reznicek of a 1996 Sable Island Provincial Nature Reserve, Lake of the Woods, pinweed collection revealed it to be Strict Pinweed (*Lechea stricta* Leggett; Cistaceae), the first confirmed Ontario record, rather than the more expectable Intermediate Pinweed (*Lechea intermedia* Leggett).

This past summer the American Institute for Biological Sciences (AIBS) meetings were held in Montreal and a number of Ontario botanists were able to participate. Dan Brunton attended and led an early August post-conference fieldtrip for a number of Quillwort (genus *Isoetes*) enthusiasts. They managed to see all 11 Ontario quillwort taxa in one 24 hour period, including both provincial populations of the nationally endangered Appalachian Quillwort (*Isoetes engelmannii* A. Br.; Isoetaceae). At one site in Haliburton County the group found seven taxa including a new Ontario population for Tuckerman's Quillwort (*Isoetes tuckermanii* A. Br.) and the largest population of the rare *Isoetes* x *hickeyi* W.Taylor&N.Luebke hybrid (*Isoetes echinospora* Dur. x *I. lacustris* L.) known anywhere in North America. Dan reports that this quillwort diversity is probably unmatched anywhere on the continent. A memorable day for this international group of isoetologists!

This article is adapted from two articles which recently appeared in the Natural Heritage Information Centre newsletter (Morton & Venn 1997, Oldham 1997). Thanks to the following individuals for contributions to this article: Gary Allen, Wasyl Bakowsky, Peter Ball, Mark Browning, Dan Brunton, Judith Canne-Hilliker, Bill Crins, Allison Cusick, Paul Pratt, Richard Rabeler, Tony Reznicek, and Al Woodliffe.



Deep-water Quillwort (*Isoetes lacustris* L.)
by Jane Bowles

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Letters & Notes:

Checklist available for Misery Bay Provincial Park.

For people interested Misery Bay Provincial Park (on Manitoulin Island), there is now a vascular plant checklist available, for the park, prepared by John Morton, Joan Venn, and Judith Jones. The cost of the booklet is $5.00 plus $1.50 shipping and handling. The FOMB also produce a newsletter. Write to the address below to order your checklist or enquire about the FOMB.

Friends of Misery Bay,
c/o Doreen Bailey,
R.R. #1 Box 55,
Evansville, Ontario
P0P 1E0.

Invitation to Visit Pukaskwa National Park.

Robin Promaine of Pukaskwa National Park, near Wawa, has volunteered to lead a botany tour of that park. At least some of the organization would have to be done by participants. Most likely the outing would examine dune and arctic-alpine species, such as Franklin's Lady's-slipper (*Cypripedium passerinum* Richardson). For an additional fee to cover transportion by boat (at least $25 per head), Oiseau Bay could be visited. It boasts dozens of arctic-alpine species as well as Pitcher's Thistle (*Cirsium pitcheri*; see cover of this newsletter). Anyone interested in attending such a trip should contact Robin Promaine at (807) 229-0801 ext. 227 or Robin_Promaine@pch.gc.ca Since we received this message just after we finished filling our list of field trips for 1998, I don't think it would be fair to ask Ken and Sarah to add this to their workload. However, the invitation has been extended, and I (Ed) highly recommend seeing this part of Ontario, perhaps in June when Pink Lady's-slipper, Virginia Blue-bells, and Twin-flower are in bloom, not to mention the plethora of lichens which cover the north.