

# Field Botanists Of Ontario

Newsletter

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Figure 2 from article by W.D. McIlveen. Pressed specimens of Strawberry Clover (*Trifolium fragiferum* L). Specimen on left collected at Windsor, Aug. 19, 1995. Specimen on the right collected in Halton on Aug 28, 1991.

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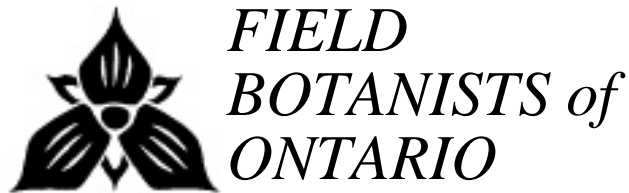
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**FIELD BOTANISTS OF ONTARIO NEWSLETTER**

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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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The **deadline** for submissions for **Volume 14(3) - Fall 2001** is **October 21, 2001**.

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.

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## Field Trip Reports

### Bruce Peninsula

Running a little late and after a quick exchange of "I thought YOU had the directions?!?" Carole Ann and I finally approached our meeting place only to find our group waiting--in a light drizzle. Such is the situation when you find yourself getting elected to do the field report write-up. After giving an apology and an excuse we quickly reorganizing into car-pooling groups and were off to our first destination, Dorcas Bay-Tobermory Bog.

With our group 16 strong and only a short distance from where we had parked, Jeremy was quickly pointing out a number of interesting plants, such as the Alaska Orchid (*Piperia unalascensis* (Spreng.) Rydb.) and Death Camas (*Zigadenus elegans* Pursh ssp. *glaucus* (Nutt.) Hulten). We then began exploring an area with a patchwork of interesting habitats such as treed and open alvars, coastal fen and a bog. Having just finished weeks of field work in this area Jeremy was incredibly familiar with this plant community revealing lots of detail about flowering time, distribution and ecology. Numerous calciphiles such as Cespitose Bulrush (*Scirpus cespitosus* L.), Bird's-eye Primrose (*Primula mistassinica* Michx.), and Crawe's Sedge (*Carex crawei* Dewey) spread out in a carpet of green occasionally broken by patches of limestone pavement. After a short cloud-burst of rain we meandered into part of the Tobermory Bog where we found a photogenic patch of Tall White Bog Orchid (*Platanthera dilatata* (Pursh) Lindl. ex Beck) in peak flower, and shortly thereafter some One-flowered Cancer Root (*Orobanche uniflora* L.) also in flower--snap-snap went the shutters. Returning out onto the alvar for another look at the scattered flowering Tuberosus Indian Plantain (*Cacalia plantaginea* (Raf.) Shin) we settled for lunch by the lake.

With the sun now occasionally shining Jeremy led us along the rocky shore and pointed out the few plants brave enough to etch out a survival in this harsh wave and ice battered habitat. I was surprised at some of the species present here such as dwarf Boneset (*Eupatorium perfoliatum* L.), Philadelphia Fleabane (*Erigeron philadelphicus* L.), and Northern Bog Violet (*Viola*



*nephrophylla* Greene). Small crevices and dimples on the bedrock held enough soil and moisture to keep these guys going. Heading inland from the shore Jeremy brought our attention to the gradual changes in plant composition. For example, a low pan area just behind the rise in the coast allowed for an increase in moisture and the associated species composition quickly changed.

After a quick stop to look at Dwarf Mistletoe (*Arceuthobium pusillum* Peck), which can be locally abundant parasitizing preferable Black but also White Spruce, we headed for Singing Sands beach and the FON Nature Reserve. With the weather now quite pleasant and our group a bit drier we headed for the beach. *En route*, the mixed pine forest on sandy soils revealed a number of interesting plants including a huge patch of Dwarf Lake Iris (*Iris lacustris* Nutt.), a flowering Hill's Thistle (*Cirsium hillii* (Canby) Fern.) and Starry Solomon's Seal (*Maianthemum stellatum* (L.) Link.). Once at the lake we unfortunately did not get to hear the strange hum which locals say can often be heard at Singing Sands beach. However, the collection of Sea Rocket (*Cakile edentula* (Bigel.) Hook.), Sand Cherry (*Prunus pumila* L.) and Kalm's St. John's-wort (*Hypericum kalmianum* L.) pretty well made up for it. Walking back to the parking lot Jeremy pointed out the interesting linear growing patterns of Baltic Rush (*Juncus balticus* Willd.), a nice quick field characteristic. With that we concluded a great day of exploring some of the interest features of the Bruce Peninsula. 🏞️

Dirk Janus

### A Fern Trip with Nels and Jean Maher

FBO Annual Meeting at Red Bay, Bruce County on June 23<sup>rd</sup>, 2001.

Botanists have a reputation for moving slowly, but Nels said right off that this would be a listing trip like bird watching. How many ferns could we see in a day on the Bruce? We started in the yard behind Red Bay Lodge where Jean had seen a fern that they recognized as Mingan Moonwort (*Botrychium minganense* Victorin), a rarity to start our day. It was in a little cage with a hole for pictures, and I had to lie down to take it. We ran up quite a list on roadsides near the lodge in







Bird's-eye Primrose (*Primula mistissinica* Mixhx.).  
Photo by Ed Morris, Belanger Bay, Manitoulin Is.

coniferous and mixed forest. Lots of warblers were singing as we stopped our cars to look at ferns. At each stop Nels explained how to identify or separate species, and told us something of their life history and distribution. Crested Shield Fern (*Dryopteris cristata* (L.) A.Gray), with its laddered pinnae and embossed veins was our first find. Immediately, we were confronted with the problem of hybrids in the form of Boots Fern, a cross between *D. cristata* and *D. intermedia* (Muhl. ex Willd.) A. Gray. Lady Fern (*Athyrium filix-femina* (L.) Roth. ex Mert.) was next, and Nels compared the black stubble on the stipe to shaven legs with the hair growing out again. New York Fern (*Thelypteris novaboracensis* (L.) Nieuwl.) with its doubly tapered fronds reminded me of Professor Dymond's remark many years ago about New York burning the candle at both ends. The related Marsh Fern (*Thelypteris palustris* Schott), with fronds facing in all directions was next. Then we saw all the *Osmundas* in sequence beginning with a photogenic clump of Royal Fern (*O. regalis* L.) in a pond, continuing with Cinnamon Fern (*O. cinnamomea* L.) in very good fruiting condition, followed by Interrupted Fern (*O. claytoniana* L.). We learned how to distinguish the sterile parts of the latter two species. Along the way we encountered Sensitive

Fern (*Onoclea sensibilis* L.), whose spores disperse in winter, and Oak Fern (*Gymnocarpium dryopteris* (L.) Newman), like tiny bracken that we were to later compare with Robert's Fern (*G. robertianum* (Hoffm.) Newman).

Having spent our early hours near the west shore, we now drove to Hope Bay on the east shore to visit a wooded site near Cathedral Woods. Here we saw a suite of less familiar species, some of which are characteristic of this area. There were impressive stands of the robust Male Fern (*Dryopteris filix-mas* (L.) Schott) and Goldies Fern (*D. goldiana* (Hook. ex Goldie) A.Gray). Most impressive were excellent and numerous specimens of Northern Holly Fern (*Polystichum lonchitis* (L.) Roth) and Hart's-tongue Fern (*Asplenium scolopendrium* L.) on a limestone outcrop, both of which (in Ontario) are virtually confined to Bruce and Grey counties. We took a few minutes to examine a Common Wood Fern (*Dryopteris intermedia* (Muhl. ex Willd.) A.Gray), and were told how to distinguish it from *D. carthusiana* (Vill.) H.P. Fuchs. Unfortunately, we didn't find the latter. Fragile Fern (*Cystopteris fragilis* (L.) Bernh.) was sparingly present among many Bulblet Ferns (*Cystopteris bulbifera* (L.) Bernh.). Young Bulblet Ferns are broader at the base of the frond, and tapered to the tip, whereas fronds of Fragile Ferns are more parallel-sided. I realized that I had often confused these species. A now empty Hermit Thrush nest was nestled among the ferns at this wonderful site.

We had lunch at Lion's Head Beach Park enjoying the scenery of wooded hills and cliffs and the picturesque bay. Then Nels took us to part of the Bruce Trail and, announcing that we needed some exercise to work off our lunch, he set off at a brisk pace. Jean brought up the rear and used her whistle to slow down the leaders and let the rest catch up. We walked for about 40 minutes on a series of trails until we came to a rock thickly covered with Walking Fern (*Asplenium rhizophyllum* L.) that grows new fronds from the tips of old ones creating a dense tangle. Along the way we found Smooth Cliff-brake (*Pellaea glabella* Mett.) on an interior limestone wall; we didn't need to scale a cliff to see it! This and the Walking Fern are escarpment specialties. We also picked up the very common Marginal Shield Fern (*Dryopteris marginalis* (L.) A.Gray) and Ostrich Fern (*Matteuccia struthiopteris* (L.) Tod. As a special treat, Nels took us further to see a remarkable patch of 19 Large Round-leaved Orchids (*Platanthera macrophylla* (Pursh) Lindl.). There was much ooh-ing and aah-ing and cameras clicking.

When we got back from this hike, we made a number of short stops as we traveled up the Peninsula. The first was a site for the tiny and rare Wall Rue (*Asplenium ruta-muraria* L.) on a rock face. On a limestone alvar we were shown Robert's Fern (*Gymnocarpium robertianum* (Hoffm.) Newman) growing out of a crack and Green and Maidenhair Spleenworts (*Asplenium trichomanes-ramosum* L. and *A. trichomanes* L.) growing in crevices. At Crane River picnic grounds we added Slender Cliff-brake (*Cryptogramma stelleri* (S.G. Gmel.) Prantl.), and by Highway 6 we saw Purple-stemmed Cliff-brake (*Pellaea atropurpurea* (L.) Link). Our last stop was at Stoke's Bay Cemetery. where hundreds of tiny Northern

Adder's-tongue (*Ophioglossum pusillum* Raf.) were growing in the lawn. Some had been cut short by a lawn mower but we found some intact specimens. At various points during our trip we had seen Bracken (*Pteridium aquilinum* (L.) Kuhn) and Rattlesnake Fern (*Botrychium virginianum* (L.) Swartz) and some of the group saw Common Polypody (*Polypodium virginianum* L.) at the Walking Fern site.

Nels told us that if time permitted he could have taken to see several other species. As it was, in seven hours, with time out for lunch, he had shown us 31 species of ferns and one hybrid: a pretty remarkable feat. Thanks to his intimate knowledge of places and ferns in the Bruce we had a very successful trip on a fine summer day.

References for this trip include the Fern Checklist by Nelson Maher which we were all given and The Ferns of Bruce and Grey Counties, Ontario published by the Owen Sound Field Naturalists. 🌿

Bruce & Ann Falls

## Features:

### **Cowslips in Canada**

Joan Crowe

The Cowslip (*Primula veris* L.) is a relation of the common Primrose (*P. vulgaris* L.) in which the cluster of drooping flowers is elevated on a stalk about 10 cm high. The flowers are also much smaller than in a Primrose (or garden Primula), and are darker yellow with orange spots in the throat. Both the Cowslip and the Primrose occur throughout much of Europe, except the extreme southeast, but the range of the Cowslip extends further north and east into Scandinavia as far as Finland. This may account for the fact that the Cowslip seems to have established itself in isolated spots in Canada. Joe Johnson is familiar with it from Nova Scotia and it occurs on the Bruce Peninsula. There is no mention of it in Gleason & Cronquist's "Manual of the Vascular Plants of the Northeastern United States and Adjacent Canada" or in Newcomb's "Wildflower Guide" which seems to indicate that it is not found in the States to any extent.

In the United Kingdom it is much less common than the Primrose and is usually found in small groups on the edge of meadows. Joe Johnson recalls a similar distribution in Nova Scotia. On the Bruce Peninsula, it seems to crop up in old orchards. In one site in Eastnor Township, there is probably the biggest spread of it to be found anywhere in the world! Joe remembers seeing this first in the 1970s, but since then it has spread until it now covers several hectares. For two or three weeks in May it presents a carpet of deep yellow blossoms. It appears to have started in an old orchard, but has spread into the adjacent meadow and up along the trail until it finally peters out where the shade of the forest becomes too dense for it. This location fits perfectly the habitat description found in Oleg Polunin's "Flowers of Europe" viz. "Meadows, pastures, open woods". The Primulas generally seem to favour calcareous areas and

by crossing the Atlantic the Cowslip seems to have finally found the perfect home. It would be interesting to know if there are any other places in Ontario where it has been similarly successful. 🌿

### **Strawberry Clover (*Trifolium fragiferum* L.) New to Ontario.**

W.D. McIlveen

On August 28, 1991, I stopped along the road in north Halton, Halton Regional Municipality, while doing some personal biological inventories in the area. By chance, I spied an unusual plant growing along the roadside, although I had the distinct feeling that I had seen it some other place in the distant past. I collected a specimen for examination and ultimately identified it as Strawberry Clover (*Trifolium fragiferum* L.).

Strawberry Clover is not included in either the Morton and Venn Ontario plant checklist [5] or in the Ontario Plant List [6], therefore the present report appears to be the first record of the species for Ontario. It is also missing from several other regional floras in North America as well as local floras. It is included in Britton and Brown 1952 [2], but not in the earlier 1913 edition [1]. It is also listed in Gleason and Croquist [4]. The plants found are also consistent with the illustration in Martin [4]. The species is native to Eurasia and north Africa [2, 3], and is known elsewhere in Canada only from southern British Columbia [7].

In appearance, the flowering plant has rather inconspicuous, small, pink flower heads quite typical of clovers (Figure 1). The seed head, however, is quite distinct being a fuzzy sphere, sort of resembling a dirty cotton ball on a stick (Figure 2, see cover of newsletter). A more technical description is given by Gleason [2]. "Creeping perennial with the habit and foliage of *T. repens*, peduncles becoming 8-15 cm long at maturity. Heads globose or ovoid, 10-15 mm in diameter at anthesis. Flowers 6-7 mm long, corolla rose pink. Calyx at maturity becoming reddish, greatly enlarged, strongly reticulate, and gibbous on the upper side, the lower lip scarcely altered."

The details of the first sighting and collection are that site was on the east side of the 1st Line 1.1 km north of Sideroad 25 (Regional Road 12) in the former Nassagweya Twp., now part of the Town of Milton, Halton Regional Municipality. Grid co-ordinates are UTM 17 571400 4821700 NAD 27. An estimated 200 plants were growing scattered over a distance of about 50 metres on the roadside allowance immediately adjacent to the carriageway. The edge of the road at this location is periodically mowed but at a height above normal lawn turf. Subsequent recorded site visits on August 8, 1992, July 24, 1993, and most recently on June 29, 2001, indicated the species was still present although the number of plants is likely lower than seen previously.

I also found the species by chance in Windsor, Essex County, on Aug. 19, 1995. The site is located no more than 100 metres west of the entrance to the Springgarden Road ANSI on the south side of Springgarden Road (UTM 17 330600 4681300 NAD 27).



Approximately five plants seen there for the second Ontario record and the first for Essex County. A specimen collected at this location is included in Figure 2 (see cover of newsletter). The site consisted of mowed turf grass on the street allowance. The following year, that site was destroyed in the installation of water lines (or similar construction activity). It is possible that the species may have seeded itself in the adjacent area prior to the site disturbance and thus may still be present.

Strawberry Clover is reported as "becoming established in lawns at several scattered stations in our range" [2] and "becoming established as a lawn-weed here and there in our range" [3]. This fits well with the conditions found with the Ontario specimens. The recumbent growth habit of the species is likely the main reason that it is able to persist in areas that are subjected to periodic mowing. The habitat indicated for the British sites indicates 'stiff soils, mostly south and east England' [4]. The two sites in Ontario include considerably disturbed soils that have a fair component of clay. Both sites are relatively moist.

At present, several specimens are located in my personal collection. They will eventually be deposited with one or more of the recognized herbaria in our area. As the species not a native and showing no evidence of significant spreading from the sites of discovery, concern over its welfare or as an ecological problem is not warranted at this time. Botanists are encouraged to be mindful of the possibility of discovering other locations for the species in Ontario. 🏡

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4. Martin, W.K. 1965. The concise British flora in colour. Eubury Press and Michael Joseph, London. 231 pp.
5. Morton, J.K., and J.M. Venn. 1990. A checklist of the flora of Ontario. University of Waterloo Biology Series, Waterloo, Canada. 218 pp.
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7. Scoggan, H.J. 1978. The Flora of Canada. Part 3. National Museum of Canada, Ottawa, Ontario, Canada.



Figure 1: Strawberry Clover specimen collected on June 29, 2001 at site of the first discovery in Halton. Photo by W.D. McIlveen.

## Does Dwarf Lake Iris (*Iris lacustris* Nutt.) Reproduce Sexually?

Edward R. Morris<sup>†</sup>

Last summer while working for Ontario Parks, I was given the opportunity to assist Judith Jones conduct inventory and assessment work for one of Ontario Parks newest and most exciting parks, on Manitoulin Island. The property was leased by Ontario Parks from the Nature Conservancy of Canada (NCC). Previously in this newsletter (Vol. 12, No. 4 - Winter 1999), we referred to the property as "Belanger Bay," since some of the best alvars occur just north of that Bay. However, that name didn't do justice to the actual size of the park. The NCC's proposed name for the park was "Her Majesty, Queen Elizabeth II, The Queen Mother - M'Nidoo M'Nissing." Not surprisingly, the name often got shortened to "Queen Mum" around our office, while Judith preferred "Spirit Island," a translation of the Ojibway "M'Nidoo M'Nissing."

One of our tasks was to map a large population of Dwarf Lake Iris at Belanger Bay. Judith commented

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**Figure 1:** Dwarf Lake Iris (*Iris lacustris* Nutt.).

that, although these flowered prolifically in May, she had never seen this species produce a seed capsule. In the current field season, I made a point of visiting the park in mid-May and mid-June. The species did bloom prolifically indeed, making quite a display (Figure 1). I spent a few minutes watching bumble-bees travel from one Fringed Polygala (*Polygala pauciflora* Willd.) to the next, completely ignoring the much more numerous Iris. This is far from a conclusive observation, but noteworthy nonetheless.

When I returned in June, and the Iris had all but finished flowering, I could see no evidence of swollen ovaries on any plant (Figure 2). I did observe that in places where the thin, stoney soil had been disturbed, Iris had either recolonized, or more likely had survived



**Figure 2:** Spent flowers and no sign of swelling ovaries on Dwarf Lake Iris

and reproduced asexually (Figure 3).

These observations leave me with more questions than answers. Can *Iris lacustris* reproduce sexually? If so, what conditions--environmental or otherwise--are necessary for it to occur? Is there some sort of self-pollination avoidance feature of the plant that prevents genetically similar individuals from cross-pollinating? Are all individuals in the park genetically identical? Did the plant co-evolve with a specialist pollinator which no longer exists in west Manitoulin?

Are the answers to these questions vital to conserving this globally rare species (G3)? For the moment, I believe Ontario Parks' management planning process can offer adequate protection to this species. In fact, there are other globally rare species in the park that are much less resistant to disturbance than *Iris lacustris*. However, I would like to know if others have made similar observations. 🌱 .



**Figure 3:** Dwarf Lake Iris persisting in disturbed soil.

## Letters:

To Judith Jones' excellent Field Trip Report about the Moss Workshop of September 16th, 2000, led by Joan Crowe, I would like to add the following:

The property that we explored, the Long Swamp, was donated to the Nature Conservancy [of Canada] by Joan and Walter Crowe in November, 1999. It encompasses an area of 93.8 acres.

Dorothy Tiedje



I was wondering if you could provide any links or info regarding the legality of offering wild-collected plants for sale in Ontario. Is it legal to sell wild-collected plants from your own property? I raised this issue with someone considering selling woodland violets, but don't really have the facts at hand. Any information would be appreciated. Perhaps my 'righteous indignation' is misguided!

R. Bradley  
terracompta@hotmail.com

*Perhaps someone is more familiar with this topic than I. However, this is an issue of interest to many in the FBO.*  
-Ed.

## Notices:

### **Field Trip Registration Glitches**

In the last issue I included field trip registration forms. It is usually a mad scramble for all involved to prepare these in time for the spring newsletter, and there is usually one or two typos made that don't get picked-up in proof-reading. This year, I typed in the wrong postal code for Tyler Smith, one of our field trip coordinators. Although he had been receiving registration forms, it is possible that some went astray. I apologize for this.▲

-Ed



Right: Princess-pine (*Lycopodium obscurum* L.)