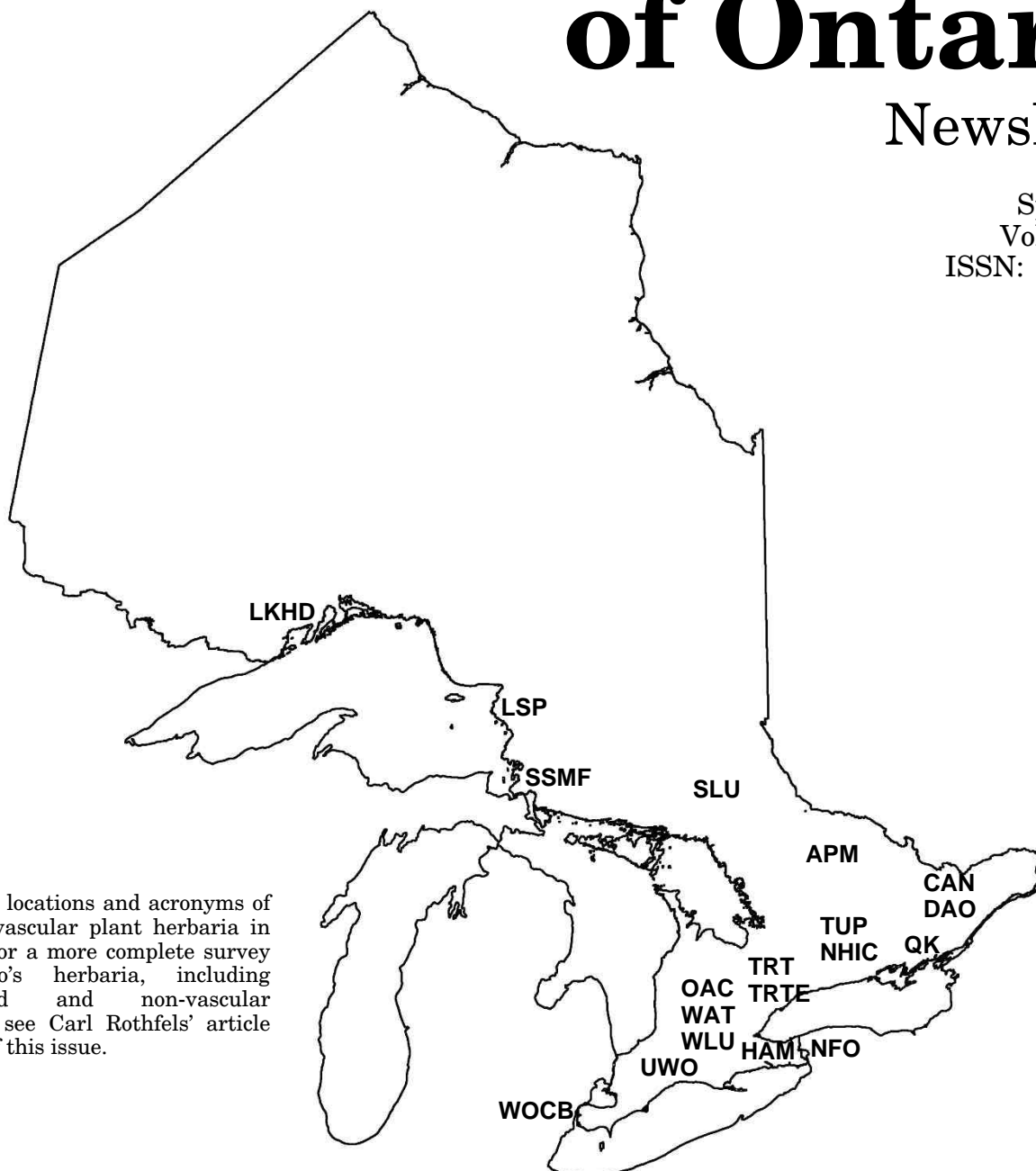


# Field Botanists of Ontario

Newsletter

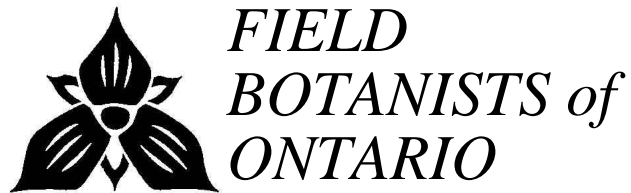
Spring 2003  
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Aproximate locations and acronyms of registered vascular plant herbaria in Ontario. For a more complete survey of Ontario's herbaria, including unregistered and non-vascular collections, see Carl Rothfels' article on page 7 of this issue.

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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.*

**[www.trentu.ca/fbo/](http://www.trentu.ca/fbo/)**

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The **deadline** for submissions for **Volume 16(2) - Summer 2003** is **June 21<sup>th</sup>, 2003**.

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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**Auditor's Report to the F.B.O. Board**

I have examined the accounts of your Treasurer, George Bryant, and have found everything to be in perfect order.

I looked at the bank statements, deposit records, donated honoraria cheques, invoices submitted by the Executives and receipts and have found that everything balances to the bank statements and is accurately described in the Revenue and Expense Statement for 2002.

The Treasurer is to be commended for his use of

accounting software which greatly lessened the auditing effort required.

According to generally accepted accounting principles, the Revenue and Expense Statement submitted accurately represents the transactions and financial picture of the Field Botanists of Ontario from January 1 to December 31, 2002.

Respectfully Submitted  
Ilmar Talvila

Toronto, February 28, 2003.

**Field Botanists of Ontario  
Revenue and Expense Statement  
January 1<sup>st</sup> to December 31<sup>st</sup>, 2002.**

	2002	2001
Bank Balance Beginning	5769.44	5300.45
<b>REVENUE</b>		
Memberships	2301.00	2596.00
Life Memberships	500.00	0.00
Field Trips	1765.00	1310.00
A.G.M.	1517.00	1175.00
Donations	165.00 (1)	185.00
U.S. Exchange	68.41	45.39
Total Revenues	6316.41	5236.39
<b>EXPENSE</b>		
Field Trips	116.32	375.00
Field Trip Refunds	0.00	24.00
Field Trip Honoraria	600.00	725.00
A.G.M. Honoraria	450.00	425.00
A.G.M.	763.86	663.09
Newsletter	1952.75	2018.01
Executive	351.87 (2)	26.73
Liability Insurance	637.20	551.88
Bank Charges	128.90	58.69
F.O.N. Membership	50.00 (3)	50.00
Total Expenses	5050.90	4917.40
Bank Balance Ending	7078.95	5769.44
Increase (Decrease)	1309.51	468.99

NOTES

(1) Trip leaders contributed \$150. honoraria

(2) Includes some 2001 expenses

(3) Cheque not yet cashed

George Bryant, Treasurer

## Field Trip Reports:

### Dewdneys' Newport Forest.

Leaders: Jane Bowles & John Ambrose, September 14<sup>th</sup>, 2002.

On September 14<sup>th</sup>, Kee and Pat Dewdney hosted an FBO field trip to their Newport Forest acreage. After the introductions we headed across a bright sunny meadow, toward a forested area that bordered the River Thames. Jane Bowles of the University of Western Ontario and John Ambrose of Guelph led the way. The meadow was planted with large numbers of native saplings in an attempt to re-establish the forest, but because of the dry summer this required the manhandling of 6 litres of water per sapling, thrice weekly, by Kee! This accounts for the world-beating orange cake Pat served us that day: instant energy for tree irrigators, or in our case hungry hikers. (See Pat, myself, or George Bryant for the recipe; it is well-worth seeking out).

In the meadow we found Tall Sunflower (*Helianthus giganteus* L.), hybridized to some extent with Jerusalem Artichoke (*Helianthus tuberosus* L.). Shortly after that, near the meadow/woodland border, Jane made the first sightings of Wingstem (*Verbesina alternifolia* (L.) Britton), and further into the woodland we found Wingstem in much larger stands. The Wingstem was surprisingly prolific and impressive, and this was undoubtedly the botanical highlight of the visit for most of us. We caught the plants at the peak of their flowering and the tall yellow flowers lent a definite sense of the exotic, growing here at the northern limit of their range. Even the more experienced among us had not seen this species in such large numbers in Ontario.

We subsequently encountered [an] Ontario rarity: Sweet Joe-Pye-Weed (*Eupatorium purpureum* L.), which lacks the hollow stem of the more familiar Spotted Joe-Pye-Weed (*E. maculatum* L.); Bladdernut (*Staphylea trifolia* L.), identified by its drooping, bladder-shaped fruits; Wood Sage (*Teucrium canadense* L.); and Rice Cutgrass (*Leersia oryzoides* (L.) Sw.), which had not previously been identified at this site. Woodland Sunflower (*Helianthus divaricatus* L.), which had finished flowering at the time of our visit, was a welcome but more familiar sight for me, since it grows in the Rouge River Valley where I live. But further down the trail we made other significant finds, including:

*Carex emoryi* Dewey  
Emory's Sedge  
*Carpinus caroliniana* Walter  
Hornbeam or Blue Beech  
*Carya cordiformis* (Wagenh.) K. Koch  
Bitternut Hickory  
*Fraxinus quadrangulata* Michx.  
Blue Ash  
*Taenidia integerrima* (L.) Drude  
Yellow Pimpernel  
*Platanus occidentalis* L.  
Sycamore

As we emerged from the other side of the woodland, we found a stand of Cup Plant (*Silphium perfoliatum* L.) growing in the open ground near the Thames. Newport Forest is one of the few locations where this plant can be found wild in Ontario. Though I had seen Cup Plant in several wildflower gardens, I had never encountered it in the field. Another significant find was the Chinquapin Oak (*Quercus muehlenbergii* Engelm.) that we encountered on the trail back to the meadow, though we found a much larger specimen later in the day, in a section of woodland bordering Fleming Creek.



Sassafras (*Sassafras albidum* (Nutt.) Nees).  
Photo by Wasyl Bakowsky.

One more discovery that attracted great interest was a 12 year old sapling of Sassafras (*Sassafras albidum* (Nutt.) Nees), growing under a small hydro tower not far from Fleming Creek. Jane suggested that a bird had seeded the tree from a location, across the River Thames, with the endearing name of Skunks Misery. I found myself wondering if the skunks caused the birds exodus and what could have caused their ill-humour.

Pat and Kee's objectives at Newport Forest are not just to minimize the number of alien invaders, but to attempt a restoration of the beech/maple forest, assuming the future climate remains stable. Kee's wider objective is to buy adjacent land, connect Newport Forest with Skunks Misery, and create one continuous conservation area of 6000 to 8000 ha (15,000 to 20,000 acres). The negotiations have begun. I congratulate Pat and Kee on this visionary project. And I am sure it will brighten up those skunks! ♣

Larry Gaitskell

### Dutton-Dunwich Prairie.

Leader: Mike Oldham, September 14<sup>th</sup>, 2002.

This nine hectare tract is found in the township of Dutton-Dunwich and is bisected by the Coyne Road. The right-of-way contained two [railway] tracks, one of which was removed in 1992. For directions to this prairie, see one of the web pages listed with the citations.

This area is very diverse in plant composition and contains plants rarely found away from the shore areas of the Great Lakes. The area is rich in provincially rare and endangered prairie plants such as the Compass Plant (*Silphium laciniatum* L.), Grey-headed Coneflower (*Ratibida pinnata* (Vent.) Barnh.), Ohio Goldenrod (*Solidago ohioensis* Riddell), Blazing star (*Liatris spicata* (L.) Willd.), and Pale Purple Coneflower (*Echinacea pallida* (Nutt.) Nutt.). The

more abundant grasses at the site included such species as Big Bluestem (*Andropogon gerardii* Vitman), Indian Grass (*Sorghastrum nutans* (L.) Nash), and Cord Grass (*Spartina pectinata* Link).

Our leader, Mike Oldham, began with a quick discussion of the grasses located along the roadside as we headed up to the rail line. A number of grasses were present, both native and weedy species. As we walked closer to the rail line, we began to see our first clumps of Big Bluestem, some of which had been mown.

The property is dissected by Coyne Road, and for the first part of our tour we headed into the west section. As it was so late in the season, there were a number of species of goldenrods present. We examined specimens of Tall Goldenrod (*Solidago altissima* L. var. *altissima*)--hairy from the top to the bottom of stem), Gray-stemmed Goldenrod (*Solidago nemoralis* Ait.)--very short species with grey stem, Ohio Goldenrod (*Solidago ohioensis* Riddell)--large basal leaves, and Rough Goldenrod (*Solidago rugosa* Ait. ssp. *rugosa*). Two of these species are often found in prairies; *Solidago nemoralis* and *Solidago ohioensis*.

As we walked along the trail admiring the clumps of Little Bluestem (*Schizachyrium scoparium* (Michx.) Nash), Mike divulged that the Ontario Natural Heritage Information Centre (NHIC) may begin recognizing and tracking two species of *Schizachyrium* in Ontario. Currently in Ontario *Schizachyrium* is found in two distinct habitats, prairies and shoreline areas. Dune Little Bluestem, Shore Bluestem or Seacoast Bluestem (*S. littorale* (Nash) Bickn.) formerly (*Schizachyrium scoparium* var. *littorale* (Nash) Gandhi & Smeins) [occurs in Ontario on dunes and sandy shores of the lower Great Lakes.] It is very similar to *Schizachyrium scoparium* (Michx.) Nash, but can be distinguished by bent or winged stems at the base [as opposed to erect in *S. scoparium* var. *scoparium*].

We stopped to look at some very minute and inconspicuous specimens of Long-spiked Three-Awn Grass (*Aristida longespica* Poir. var. *geniculata* (Raf.) Fern.). This small Three-Awn Grass is very rare in Ontario (S2) and is found in open sandy prairies. We were also lucky enough to glimpse a few clumps of Fringed-top Bottle Gentian (*Gentiana andrewsii* Griseb.) in the damper sections along the side of the rail trail. The Gentian was one of the few things that was flowering this late in the season.

A further walk along the trail to a wet meadow section of the prairie rewarded us with a look at some Blazing Star (*Liatris spicata* (L.) Willd.), which were just past flowering. The wet meadow was dominated by Twig-rush (*Cladium mariscoides* (Muhl.) Torr.). Mike talked about the different species of sedges and rushes (*Scirpus*, *Juncus*, *Rhynchospora*) and how *Scirpus* has been recently split into several genera (FNA Volume 23).

Mike Oldham noted several times that the prairie had changed a great deal since the last time he had visited it, mainly in an increase in the number of woody plants. The site has been neglected for some years and a great deal of woody vegetation has grown into the prairie.

After a quick break for lunch we ventured over to the east side of the prairie. The West Elgin Nature Club in partnership with the Elgin Stewardship Council leased 3 kilometres of abandoned railroad right-of-way in this section of the property. A prescribed burn was performed in 2000, but poor weather conditions have [prevented subsequent burns.] Some cutting of woody vegetation was visible in the east section of the prairie.

The first notable plant we encountered on the east side of the prairie was Compass Plant (*Silphium laciniatum* L.). The large dissected leaves of the Compass Plant almost always align themselves with north and south. Early travelers across



Ohio Goldenrod (*Solidago ohioensis* Riddell).  
Photo by Wasyl Bakowsky.

the central plains used this plant to help give them direction. There is some question whether this population is adventive in Ontario, but it is accepted [by the NHIC] as native due to the presence of other unique prairie species.

We spent some time searching for Pale Purple Coneflower (*Echinacea pallida* (Nutt.) Nutt.) which is known to be present at the site, but we were unable to locate it. In the absence of this, we cut across the prairie to the rail line, in order to examine the populations of Field Thistle (*Cirsium discolor* (Muhl. ex Willd.) Spreng.) growing there. This species of thistle is differentiated by the dense white hairy undersides of its leaves. It is generally found along railroads and with species that have prairie affinities.

Since prairie areas are so rare in Ontario, the flora and fauna associated with them are also uncommon in the province. Approximately 20% of plants designated as rare in Ontario are associated with prairie sites. It was a great pleasure to see some of these species in their native habitat. ♣

Melinda J. Thompson

Flora of North America Editorial Committee (eds.) 2003. *Flora of North America North of Mexico. Volume 23: Magnoliophyta: Commelinidae (in part): Cyperaceae.* Oxford University Press, New York, NY. 640 pp.

<http://www.fes.uwaterloo.ca/resources/ecology/projects/prairie/places/dunwich.html>

<http://www.naturallyelgin.org/duttonprairie.shtml>

## **Bruce Peninsula Geology and Landforms.**

Leader: Daryl Cowell, October 19<sup>th</sup>, 2002.

A windy, showery autumn day found a group of nine intrepid botanists gathered on the corner of Dyers Bay Road ready to start learning something about the complicated geological history of the Bruce Peninsula. Daryl Cowell of North-South Environmental was our leader. He has a long acquaintance with this area of more than thirty years, from his first experiences while working on his Master's thesis to his recent acquisition of a permanent home in Tobermory. With Phil Kor, [a conservation geologist with the Ministry of Natural Resources], he published a paper in 1998 entitled "Evidence for catastrophic subglacial meltwater sheetflood events on the Bruce Peninsula." No one could have been more qualified to help us understand the various phenomena we were about to see. Daryl was accompanied by Norbert Woerms, a consultant specializing in hydrogeology, who was able to add much to our understanding of these features. From the diagram Daryl gave us we could see that the Peninsula is basically a layered formation of sedimentary rocks dating from the shales and siltstones of the Queenston formation (Upper Ordovician c.430 m.y.a.) to the hard dolostone caprock of the Guelph formation (Upper Silurian c. 400 m.y.a). Outcrops of all these rocks can be seen at various places along the peninsula.

Our first stop was at the Minhinnick Side Trail (Bruce Trail) which leads over the dolostone of the escarpment to a point where the Devil's Pulpit can be seen. This is a typical "sea stack" or "flowerpot" created by Glacial Lake Nipissing undercutting the softer layers beneath the hard dolostone caprock, first forming caves (of which there are still a number along the escarpment) and leaving an isolated pillar when the [cave] roof collapses. The trail with a ladder provided leads down over the steep cliff and the scree slopes to the shingle beach. On the way Daryl showed us an excellent example of a solution cave, still being hollowed out by the stream rushing through it. Some of the less claustrophobic took turns to wriggle in with Daryl to get a close-up view. It was also possible to distinguish older rock layers on the way down, such as the Fossil Hill Formation. Some botanists were somewhat distracted by the multitude of mosses on the dripping cliffs and the lush ferns growing on the scree. It was also a good area for lichens. Down on the beach Daryl pointed out where the stream from the solution cave spurted out from the rocks. With careful observation it was possible to see that the volume of water was considerably less than in the cave, as the stream had diverged and water was coming out through the cracks at a number of different points. Among the smooth stones on the beach a variety of rocks could be distinguished. There was a huge chunk of siltstone full of fossils and some excellently preserved examples of coral.

Looking to the north we had a good view of Cabot Head and it was possible to see the formation as part of the Silurian reef. Not only had this whole area been under the sea, but that it was also at the equator so it was the tropical sea which covered most of present-day North America at that time. Subsequently, millions of years of sediments buried the reef and it was the effect of glaciation that exposed it again. It was here that Daryl introduced us to the new theory that much of the sculpting that can be seen is not simply due to the grinding effect of rocks being moved by the ice, but that there was a very short but very dynamic period when water, accumulating over a great distance underneath the receding ice, emerged with enormous force creating vortices which scoured the rocks out at various points. It was possible to see this clearly along the edge of the escarpment from this viewpoint. Unfortunately, a short sharp shower dampened everything and lunch became a stand-up affair for most participants.

Those who really felt the necessity to take the weight off their feet were decidedly dampened. Back up at the top and on the way back to the Dyers Bay road we stopped to look at a disappearing stream which is very characteristic of karst [landforms].

On returning to the highway, we stopped off at the Federation of Ontario Naturalist's alvar reserve, beloved of botanists in the spring and summer. Daryl prefers the term "karst pavement." The jointing and etching of the surface are all caused by the acid effect of carbon dioxide in solution on basic limestone (calcium carbonate) or dolostone (calcium and magnesium carbonates) since they were first exposed after glaciation 10 to 12 thousand years ago. This process is accentuated by surface vegetation, which is mostly mosses and lichens, but grooves are also created by tree roots tunneling through the rock and then decaying and disappearing when the tree dies. Certainly, vascular plants which grow here have to be adapted to very high pH and very extreme conditions of temperature and moisture.

Our last stop was at Singing Sands, not to look at the fen, but to examine the interesting formations along the beach. The surface etching in this area is extreme. The shore is literally pock-marked, but it is also possible to discern smooth grooves and whale-back formations believed to have been created by the pressurized water. There are also some neat examples of potholes: perfect cylinders in the limestone created by igneous erratics being swirled around in a vortex of water. Daryl also pointed out to us the variety of lakes and wetlands found on the peninsula. The general trend is for water to move from east to west. Some lakes are in fluvial karst where water levels fluctuate enormously throughout the year. Others are "normal" lakes and do not have this kind of fluctuation. The tendency has been for the area to have been drying out ever since the retreat of the ice, so many of our swamps and fens were originally lakes. The levels of Lake Huron and Georgian Bay are also far below those of glacial Lake Nipissing, this coupled with the effect of isostatic rebound has combined so that old beaches, sand dunes and wave cut caves may all be found well above today's lake shores.

There was a great deal to take in on one day's expedition, but the fact is that botany is determined to a large extent by the underlying geology and it is important for botanists to have some knowledge of it. Interestingly, in the nineteenth century there was a great deal of flexibility between the two disciplines in university which was of great advantage to naturalists like Henslow and Darwin. It is also comforting to know that there is nothing straightforward about classification in the non-living world, boundaries between units of classification are just as fuzzy as they are among living things. There are times when it seems that plant classification is simplicity itself in comparison! Daryl certainly gave us a lot to think about and we very much appreciate his generous donation of his time, and also his and his wife Judy's hospitality at the end of the day. 🌸

Joan Crowe

Kor, P.S.G. and D.W. Cowell, 1998. Evidence for catastrophic subglacial meltwater sheetflood events on the Bruce Peninsula, Ontario. *Canadian Journal of Earth Science*, 35:1180-1202.

## **Feature:**

### **Synopsis of Ontario Herbaria.**

#### **Contribution from Royal Botanical Gardens #110**

Carl Rothfels, Royal Botanical Gardens

#### **Synopsis of Ontario Herbaria**

This article has two main goals. The first is to “open” the world of herbaria to access by amateur Ontario botanists<sup>1</sup>. Herbaria often have a mythical and slightly intimidating aura about them, at least to those who don’t use them regularly, and many active botanists are not aware of the herbaria that serve their local area. This article will list the locations of the herbaria in Ontario, and demonstrate how amateur botanists can use them.

The second is to provide a summary of the current status of herbaria in Ontario, primarily for the benefit of professional researchers and policy makers. While similar lists have been published in the past (Boivin 1980; Woodland 1980; Brunton 1986) or are available online (Index Herbariorum: <http://www.nybg.org/bsci/ih/ih.html>), they are incomplete or outdated. The fields of taxonomy and systematics, and whole-organism biology in general, have declined in fashion over the past several decades, resulting in shifts in many of the major collections in Ontario. Tracking these changes can be onerous for the researchers who utilize these collections; hopefully this synopsis will simplify that task.

#### **Development of this List:**

Most of the listings in this article are derived from responses from herbarium curators and collection managers. The recipient list was derived from Boivin (1980), Woodland (1980), Brunton (1986), as well as from personal communication with Ontario botanists.

I endeavoured to spread the net as widely as possible, and include all the plant or fungi collections I could find, regardless of their size or ownership. Inevitably, I will have missed some; certainly, I could not relocate a number of the collections listed in the earlier works. At the end of the main list, I’ve included a list of “deceased” collections – those that no longer exist as independent collections, but whose fates are known. Information on other collections would much appreciated.

#### **What is an Herbarium:**

An herbarium is a collection of pressed plants (in this case, the definition has been extended to include fungi collections, too) which is organized for research purposes. Generally, herbarium specimens are glued onto sheets of special acid-free herbarium paper, and then filed according to their identity and collection location. Properly cared for, such specimens can last for hundreds of years. The sheets are stored in metal cabinets (to reduce pest damage) and are ideally in a dry, climate-controlled room since excess heat or humidity can damage the specimens and increase the likelihood of an insect outbreak.

Herbaria range in size and scope from small personal collections of unmounted specimens from someone’s backyard to the giant collections (Kew Gardens in the UK has over six million specimens) that fill several buildings. Regardless of the size of the collection, the care that it receives is essential. Neglected collections rapidly become insect food; lifetimes of work can be lost in a matter of days.

#### **The Utility of Herbaria:**

<sup>1</sup> I use “amateur” in the strict sense – as a person who does botany in an unpaid capacity – rather than as any reflection of ability. Many amateurs are much better field botanists than many professionals!

Herbaria are THE fundamental resource for the sciences of plant systematics and taxonomy – the study of naming plants and discerning their relationships to each other. The application of scientific names are governed by rules in the International Code of Botanical Nomenclature (it is the presence of these rules that is the most significant difference between scientific and common names), and the Code dictates that each name must refer to a specific herbarium specimen (the “Type” specimen of that taxon) so that future researchers can always go back and see exactly what plant a name describes. Aside from Types, herbaria house a number of other “vouchers,” specimens that are cited in publications and research projects. The collection of vouchers is important a) as a verification of the plant’s identification (someone reading your work might not be familiar with your identification skills and want to verify your determination, or you might just be plain wrong) and b) as a reference in case of taxonomic developments. Researchers often discover that what was once considered a single species is actually two or three closely related species, and without vouchers, it is impossible to determine to which member of the group a particular project referred.

Herbaria are linked in an informal network to facilitate researchers. Someone investigating a taxonomic question (e.g. Are *Carex trisperma* var. *trisperma* and *Carex trisperma* var. *billingsii* actually different species?) or a biogeographic question (e.g. Are there native and non-native strains of *Phragmites australis* [in Ontario], and where did they come from?) or a distributional question (e.g. What species are found in Nippissing District? Where has *Mimulus alatus* been found in Ontario?) can request specimens be sent from other herbaria. They will thus have access to huge amounts of otherwise-inaccessible information. Since herbaria contain specimens from a wide range of species and locations, but also from a range of collection dates, there is a large variety of information available to, for example, study the spread of species eastward along rail lines, or northward as a possible effect of climate change. The collection that is lending the specimens benefits from the ability to borrow specimens in the future, and from the expertise of the borrowing individual (they might re-identify some of the specimens, for example).

Amateurs tend to use herbaria most often, however, for a different reason entirely, and that is to identify plants they have collected (professionals do this all the time, too). As anyone who has ever tried to identify a plant knows, field guides and keys can be often bewildering. Is that leaf lightly pubescent or “usually hirsute?” The best way to confirm an identification is to check your specimen against herbarium specimens of known identity. After all, the keys were almost certainly derived from herbarium specimens in the first place. The study of herbarium specimens also allows botanists to familiarize themselves with species that they have never seen in the wild, and with the range of variation possible in more-commonly encountered species.

One of the best ways to get better at plant identification is to practice with herbarium specimens that have already been identified (this is “practice” rather than “cheating”). It’s a great way to become familiar with the way keys work and with the often arcane language used to describe particular botanical features. Working in herbaria can also be very helpful for learning more about the relationships between plants (closely-related plants are filed close together) and for learning scientific names. Herbaria can even be useful for non-botanists; artists, for example, use herbaria as sources of plant material for realistic paintings and sketches.

#### **How to Get Involved:**

Different collections (and different curators) have different “personalities.” Each is unique. A glance through the attached

list will show that most herbaria are open to visitors, and are interested in volunteer assistance to a greater or lesser extent. Generally, I would suggest that amateurs can use herbaria according to several categories: a) specimen repository – properly maintaining a collection is very labour-intensive and requires specialized equipment and facilities. If you want your plant specimens to go to a “good home” where they will be maintained properly, consider donating them to a local herbarium. Those specimens will then be available to the outside research community, rather than just being a collection for personal admiration and bug food; b) visiting – even a short visit to a herbarium can help with specimen identification, with determining the range of a species, or any of the other functions that herbaria perform; c) verifications – some herbaria have associated experts who may be willing to help with confirming identifications. See individual herbaria for more information; d) volunteering – some curators have particular tasks that they need done, while others may offer volunteers latitude to pursue their own projects. Either way, involvement with an herbarium can improve identification skills, build familiarity with botanical relationships and scientific names, and increase one’s knowledge of botanical research while helping with a valuable (and often understaffed) institution.

#### A Note on Labels:

Labels are vitally important; they are perhaps as important as the pressed plant itself. Since herbarium specimens can last for hundreds of years, and may be lent to institutions on other continents, collectors need to take complete label data that will be clear and informative to someone half-way around the world, several generations in the future (for an **excellent** discussion of labels, see Voss 1999). Clear, precise location information is perhaps most important. Avoid using obscure local names of places; instead, use a permanent feature as a reference, and include a UTM coordinate if at all possible. Other important data include: date of collection; collectors’ names; date of identification (determination); determiners’ names; habitat (be as descriptive as possible, including associated species); status (how many plants are present; are they wild or cultivated; are they clumped or solitary; tall/short/flowering/dying, etc); Latin name; and other important comments (flower colour often fades upon pressing, for example, so it needs to be noted on the label). Labels should be printed with permanent waterproof black ink on acid-free paper, and made as compact as possible. If the specimen is mounted, the label should always be affixed to the lower right-hand corner of the sheet.

#### The List:

For convenience, the list has been divided into five categories: Northern Primarily Vascular Academic Collections; Southern Primarily Vascular Academic Collections; Park-Affiliated Collections; Private Collections; and Primarily Non-Vascular Collections. An asterisk (\*) after the herbarium acronym indicates that that acronym is registered for that collection in Index Herbariorum (2003). The other acronyms are of unlisted collections; I either created the acronym myself, or relied on the curator or earlier references to supply one. These unlisted acronyms are all available for listing (i.e. I checked in Index Herbariorum to ensure that they were not attached to a pre-existing collection elsewhere).♣

#### Northern Primarily Vascular Academic Collections:

Algoma University College Herbarium (AUC). **Holdings:** vasculars: 2,260. **Strengths:** Algoma District, northern Ontario, including specific collections from St. Joseph Island and Bruce Mines. Most specimens are student collections.

**Historically Significant Collections:** Unmounted Gary Rahn collection from Sault area, donated posthumously, includes over 300 specimens, most in triplicate. **Organisation:** Collection is currently housed at the Great Lakes Forestry Centre (1219 Queen St. E.); information from the specimens will be included in the digital database being compiled at GLFC and will be available on their website in 2003. **Contact(s):** Susan Meades, Adjunct Professor, Algoma University College, Northern Ontario Plant Database project leader (LLT). **Address:** Susan J. Meades, c/o GLFC Herbarium, B103 Great Lakes Forestry Centre, 1219 Queen Street East, P.O. Box 490, Sault Ste. Marie, ON, P6A 2E5 ... or ... Susan J. Meades, Adjunct Professor, Algoma University College, 1520 Queen Street East, Sault Ste. Marie, ON, P6A 2G4. **Telephone:** (705) 541-5594. **Fax:** (705) 541-5700. **Email:** herbaria@NRCan.gc.ca or [meades@auc.ca](mailto:meades@auc.ca). **Visiting Policy:** Not open to the public. **Loans Policy:** Specimens may be loaned to other herbaria. **Specimen Donations:** All specimens gladly accepted; unmounted or mounted. Standard label information is required; longitude and latitude preferred, but not necessary. **Volunteers:** The Sault Naturalists currently have a volunteer program with AUC to mount the Gary Rahn collection. **Associated Expertise:** Susan J. Meades, plant taxonomist, with Newfoundland/Labrador expertise. <http://www.nfmuseum.com/meades>. **Note:** Algoma University College is the lead organization in the Northern Ontario Plant Database Project, funded by Ontario Living Legacy Trust. Susan Meades is the project leader. Other academic partners include Sault College (Sault Ste. Marie, Ont.), Lakehead University (Thunder Bay), Lake Superior State University (Sault Ste. Marie, Michigan), and if the current proposal is accepted, Laurentian University (Sudbury) and Nipissing University (North Bay).

Claude Garton Herbarium: Lakehead University (LKHD\*). **Holdings:** >105,000 specimens: vasculars, non-vasculars, lichens and bryophytes. **Strengths:** Currently a regional herbarium of northwestern Ontario. **Organisation:** No catalogue; Digital database of northwestern Ontario vascular specimens almost complete (it should be available online in the near future). **Contact(s):** Erika North, curator. **Address:** Lakehead University, 955 Oliver Rd, Thunder Bay, ON P7B 5E1. **Telephone:** (807) 345-8506. **Email:** [enorth@norlink.net](mailto:enorth@norlink.net). **Visiting Policy:** Open to the public and outside researchers by appointment. Enquire about hours of operation. **Loans Policy:** Specimens loaned to institutions for research. Requests in writing, please. **Specimen Donations:** Additional specimens now limited to northwestern Ontario. Can be mounted or unmounted, provided that standard label information is included. **Volunteers:** Currently several part-time students employed. When their contract ends, volunteers will be considered. **Associated Expertise:** Curator, Erika North, is quite familiar with the flowering plants of the region.

Ontario Forest Research Institute (OFRI). **Holdings:** vasculars: 1000; bryophytes: 138; lichens: 21. **Strengths:** The collection consists of voucher specimens from research projects. **Historically Significant Collections:** This herbarium was developed for the purposes of training staff involved in collecting data that were used to register herbicides such as 2,4-D, glyphosate, and hexazinone. Additional specimens are largely from research trials to document the seasonal phenology of common forest plants: bracken, Canada blue-joint, fireweed, red raspberry, white birch, trembling aspen, balsam fir, and white pine. **Organisation:** Digital database requires updating (taxonomic names are old). Cryptogram collection is not alphabetically stored. **Contact(s):** Wayne Bell, Forest Ecology Research Scientist. **Address:** Ontario Forest Research Institute. Ontario Ministry of Natural Resources.



1235 Queen St. East, Sault Ste. Marie, Ontario. P6A 2E5. **Telephone:** 705-946-7401. **Fax:** 705-946-2030. **Email:** [wayne.bell@mnr.gov.on.ca](mailto:wayne.bell@mnr.gov.on.ca). **Visiting Policy:** The collection is used to assist the public with plant identification. Hours of operation are 8:30-12:00 and 1:00-4:30 Monday to Friday. **Loans Policy:** We do not loan specimens. **Specimen Donations:** We accepted all specimens collected by OMNR staff. **Volunteers:** We will accept volunteer staff for periods of up to 10 days with an OMNR manager's approval. **Note:** The herbarium will be part of the Northern Ontario Plant Database project that is led by Sue Meades (AUC), which will be going online.

Sault College Teaching and Research Herbarium (SCAAT). **Holdings:** 3000 to 5000 vasculars and bryophytes. **Strengths:** [Algoma District.] **Organisation:** A digital database is currently being updated. **Contact(s):** Mark Harvey/professor. **Address:** Sault College, 443 Northern Ave., Sault Ste. Marie, Ont. P6A 5L3. **Telephone:** 705 759-2554 x475. **Email:** [mark.harvey@saultc.on.ca](mailto:mark.harvey@saultc.on.ca). **Visiting Policy:** No regular hours: collection is open by request to outside interests. **Loans Policy:** Loan requests will be considered. **Specimen Donations:** Plan on adding eastern Lake Superior disjuncts and species at range limit in 2003. **Volunteers:** Volunteers are currently accepted. **Associated Expertise:** Natural Resources Department staff have some expertise in plant identification, collection, herbarium preparation and herbarium organization. Particular strengths lie mostly in field collection and identification and in the digital database. **Note:** The herbarium is part of the northern Ontario herbarium digital databank housed at the Canadian Forest Service in Sault Ste. Marie, Ont. The herbarium is funded almost entirely through project grants; there is no regular budget through the institution.

Laurentian University Herbarium (SLU\*). **Holdings:** vasculars ~ 18,800. **Strengths:** Northern Ontario & Quebec, Manitoulin Island, N.America, Malaysia, Australia. **Historically Significant Collections:** Much of the Gerard Gardner collection. **Organisation:** Currently only an accession catalogue, but a digital database is planned for 2003. **Contact(s):** Keith Winterhalder, Curator Emeritus. **Address:** Laurentian University, Sudbury, ON P3E 2C6. **Telephone:** (705) 674-7905. **Fax:** (705) 674-7981. **Email:** [wintergreen@sympatico.ca](mailto:wintergreen@sympatico.ca). **Visiting Policy:** To outside researchers by arrangement. To members of the public under supervision. **Loans Policy:** Loans are made to researchers at other herbaria and academic institutions. **Specimen Donations:** Additional specimens are accepted from any geographic area provided that they are good specimens, properly pressed, whether mounted or unmounted. Label information: locality and date of collection required, identification and habitat notes highly desirable. **Volunteers:** Yes, by interested, responsible individuals. **Associated Expertise:** KW - vascular plant identification. Peter Beckett - lichen and moss identification.

Great Lakes Forestry Centre Herbarium (SSMF\*). **Holdings:** vasculars: ~12000; cryptograms: >3000 (many more not yet accessioned.); fungi: >15000 forest pathology specimens. **Strengths:** Northern Ontario, including Hudson Bay Lowlands and northern Manitoba. Voucher specimens associated with GLFC research sites, such as Turkey Lakes, Black Sturgeon, and White River are included in the vascular collection. The SSMF forest pathology collection is the main pathological reference herbarium for northern Ontario, with 50 years worth of deposits; it has remained active since its inception. **Historically Significant Collections:** Many collections are tied to research conducted by Richard Sims and

John Jeglum, former GLFC scientists. A horticultural collection from Niagara Falls Parks Commission (early-mid 1990s) and a collection from 1890s by R. Cameron are also part of the SSMF collection. A number of types for tomentelloid fungi are included in the Forest Pathology Collection. **Organisation:** Information from the vascular specimens are being entered in a digital database and will be available on the GLFC website in late 2003. **Contact(s):** Susan Meades, Adjunct Professor, Algoma University College. Northern Ontario Plant Database project leader (LLT); Ken Baldwin, Curator, GLFC Vascular Plant Herbarium; Chuck Davis, Curator, GLFC Cryptogamic Herbarium. **Address:** Vascular Plants: Susan J. Meades, c/o GLFC Herbarium, B103. Great Lakes Forestry Centre. 1219 Queen Street East, P.O. Box 490. Sault Ste. Marie, ON, P6A 2E5. Forest Pathology (mycological) collection: Chuck Davis, Curator Forest Pathology Herbarium. Great Lakes Forestry Centre. 1219 Queen Street East, P.O. Box 490. Sault Ste. Marie, ON, P6A 2E5. **Telephone:** Sue: (705) 541-5594; Chuck: (705) 541-5637. **Fax:** (705) 541-5700. **Email:** [herbaria@NRCan.gc.ca](mailto:herbaria@NRCan.gc.ca); [cdavis@NRCan.gc.ca](mailto:cdavis@NRCan.gc.ca). **Visiting Policy:** Open to the public, with assistance. **Loans Policy:** We loan specimens to other herbaria. **Specimen Donations:** Good quality vascular specimens, especially from northern Ontario, are accepted, unmounted or mounted. Standard label information is required; location longitude and latitude preferred but not necessary. The Forest Pathology collection does not accept contributions. The SSMF vascular plant collection was inactive during the late 80s and 90s, but it is now actively collecting and accessing new specimens from northern Ontario. **Volunteers:** Volunteers are not normally accepted. **Associated Expertise:** Susan J. Meades, plant taxonomist, with Newfoundland/Labrador expertise. < <http://www.nfmuseum.com/meades> >. Chuck Davis, forest pathology technician with 35 years experience. **Note:** Great Lakes Forestry Centre (GLFC) provides space for the Northern Ontario Plant Database Project, funded by Ontario Living Legacy Trust. Susan Meades is the project leader. Other academic partners include Sault College (Sault Ste. Marie, Ont.), Lakehead University (Thunder Bay), Lake Superior State Univ. (Sault Ste. Marie, Michigan), and if current proposal submission is accepted, Laurentian University (Sudbury) and Nipissing University (North Bay). There are also several northern Ontario provincial and First Nation partners involved in this project. Plans to add the forest pathology collection to the database are being developed, followed by the bryophyte & lichen collections.

#### Southern Primarily Vascular Academic Collections:

National Herbarium of Canada (CAN\*). **Holdings:** vasculars: ~600,000. **Strengths:** Mainly Canadian native plants. **Historically Significant Collections:** J. Bell, R. Bell, G.M. Dawson, G. Lawson, J. Macoun, J.M. Macoun, M.O. Malte, N.V. Polunin, A.E. Porsild, J. Richardson, H.J. Scoggan, W. Spreadborough. **Organisation:** Collection is organised taxonomically and is accessible. Approximately 15% is databased (incl. all types). **Contact(s):** M.J. Shchepanek, Chief Collection Manager. **Address:** Collection Location: 1740 Pink Road, Gatineau, QC. Mailing Address: Botany Section, Canadian Museum of Nature, P.O. Box 3443, Station D, Ottawa, ON K1P 6P4. **Telephone:** (613) 364-4076. **Fax:** (613) 364-4027. **Email:** [mshchepane@mus-nature.ca](mailto:mshchepane@mus-nature.ca). **Visiting Policy:** The collection is not open to the general public, but researchers, students, etc. may visit by appointment. Normal hours of operation are 8:00 -16:00 (Monday-Friday). **Loans Policy:** We loan only to registered (eg. listed in Index Herbariorum) institutions. **Specimen Donations:** Presently we accept specimens which add value to our collection (eg. type

specimens, range extensions, new records, etc). Specimens must be of good quality and have all pertinent label data. Please contact us prior to a donation to determine acceptability. **Volunteers:** We have volunteers who normally work on designated projects. **Associated Expertise:** Micheline B.-Bouchard (Technician): processing and care of dried botanical specimens. Lynn Gillespie (Research Scientist): molecular systematics, arctic grasses esp. *Poa*, and Euphorbiaceae. Mike Shchepanek (Chief Collection Manager): conservation of dried botanical specimens. **Note:** Visitors' plant specimens are not allowed in the Collection areas unless the specimens have been decontaminated.

Agriculture and Agri-Food Canada Herbarium (DAO)\*.

**Holdings:** vasculars: 1, 035 000. **Strengths:** World wide specimens in collection, but concentrating on north temperate records; crops and crop relatives; Poaceae, Canadian weeds; Canada, especially the prairie provinces, Queen Charlotte Islands, Northwest Territories, Yukon, Ottawa District, Prince Edward Island, northern Québec and Saskatchewan. **Historically Significant Collections:** see the web page. **Organisation:** The catalogue of DAO type specimens is available at <http://res.agr.ca/brd/dao/intro.html>. **Contact(s):** Curator: PAUL M. CATLING; Associate Curator: JACQUES CAYOUILLE; Collections Manager: GISELE MITROW. **Address:** Wm. Saunders Building, Central Experimental Farm, Ottawa, Ontario K1A 0C6, Canada. **Telephone:** Paul M. Catling 613/ 759-1373; Jacques Cayouille 613/ 759-1666; Giséle Mitrow [1] 613/ 759-1363. **Fax:** (613) 759-1599. **Email:** [catlingp@agr.gc.ca](mailto:catlingp@agr.gc.ca); [cayouillej@agr.gc.ca](mailto:cayouillej@agr.gc.ca); [mitrowg@agr.gc.ca](mailto:mitrowg@agr.gc.ca). **Visiting Policy:** Researchers are welcome; appointments should be made through either the curator, associate curator or the collections manager. **Loans Policy:** Loans are ordinarily made to institutions and not to individuals. **Specimen Donations:** Exchange available: Canada. Wanted: Temperate and cold-climate flora, especially cultivated and weedy plants from North America, Eurasia, Chile, Argentina and Australia; weeds generally; Canadian crops and their relatives; Canadian native and related floras; Poaceae. **Volunteers:** We have volunteers helping with mounting, repairing and sorting of specimens. Contact: Dr. Ed Becker, Volunteer Coordinator Telephone: [1] 613/ 759-1786. **Associated Expertise:** PAUL M. CATLING: Clonal plants (*Amelanchier*, *Prunus*, *Fragaria*), medicinal plants; native wild plants of economic importance; sedges (*Carex*); woody alien plants; weeds; flora of Eastern Canada. JACQUES CAYOUILLE: Forage and field crops; *Poa*, *Bromus*, *Elymus*, *Panicum* and maritime species of *Carex*; characterization of natural hybrids (including Poaceae, Cyperaceae and other groups); boreal and arctic plants; crop weeds, flora of Québec; alvar plants; cytotoxicity; BERNARD R. BAUM: Poaceae, especially Triticeae and Aveneae; *Tamarix*, Tamaricaceae; numerical taxonomy; molecular systematics; STEPHEN J. DARBYSHIRE: Grasses, weeds; ERNEST SMALL: Medicinal plants; legume forages, culinary herbs, vegetables, Cannabaceae; SUZANNE WARWICK: Brassicaceae, crops, weeds, molecular systematics; WILLIAM J. CODY: Yukon flora, Canadian ferns, DAO type specimens; GERALD A. MULLIGAN: Brassicaceae, weeds, poisonous plants. **Note:** Associated garden: Arboretum and Botanic Garden, Central Experimental Farm. DAO has a comprehensive website listing herbarium protocols, the history of DAO, a catalogue of Types, staff bios and more: [http://res2.agr.ca/ecorc/index\\_e.htm](http://res2.agr.ca/ecorc/index_e.htm).

Eastern Ontario Biodiversity Museum Herbarium (EOBMH).

**Holdings:** vasculars: ~33000 (and some bryophytes?). **Strengths:** South, central and eastern Ontario are reasonably well represented, and there is a variety of specimens from the rest of North America. A significant number of plants from

South Africa are in the collection, as are ferns from southeast Asia and New Zealand. The Nepenthaceae are largely from Asia. **Historically Significant Collections:** EOBMH includes the Carleton University collection (CCO), the Biological Checklist of the Kemptville Creek Drainage Basin (BCKCDB) collection, the Schueler Lake Ontario Water Front Trail collection, Dr. John Turnbull's Nepenthaceae Ph.D. thesis collection, numerous smaller collections from individuals formerly at Carleton University (apparently never accessioned), and gifts to either the EOBM or Carleton University (the latter apparently never having been accessioned). **Organisation:** Most of the plants are in taxonomic order, however, there are a significant number that remain in the condition in which they were placed when collected, in some instances as long ago as the early 1960's. There is as yet no catalogue. The EOBM has a digital database into which EOBMH will be entered once all specimens have been properly mounted, identified and organized. To date, only a relatively small number of specimens are recorded in the database. **Contact(s):** Eric Snyder, Assistant Research Curator. **Address:** Eastern Ontario Biodiversity Museum, P. O. Box 1860, 215 Sanders Street, Kemptville, ON, K0G 1J0. **Telephone:** (613) 258-3415. **Fax:** (613) 258-0864. **Email:** [E.Snyder@hotmail.com](mailto:E.Snyder@hotmail.com). **Visiting Policy:** Office hours for EOBM staff are Monday to Friday, 10 am to 5 pm. EOBM is open to the public Friday and Saturday, 10 am to 5 pm, and Sunday, 1 pm to 5 pm. An appointment is usually required to access the collection. **Loans Policy:** Yes, in most cases of legitimate investigation by institutions or private individuals. A fee may apply. **Specimen Donations:** The collection is looking for additional material, particularly specimens which fill taxonomic gaps in the collection and expand our holdings of eastern Ontario biodiversity, or specimens which are useful for educational or exhibit purposes, or are collected as part of a specific research project. Proper documentation is essential. **Volunteers:** Volunteers are appreciated, if the appropriate skills, or willingness to learn, are apparent. **Associated Expertise:** Dr. John (Jack) Gillett - botanist, curator. **Note:** We have an integrated pest management plan.

Royal Botanical Gardens (HAM\*). **Holdings:** vasculars: ~80000. **Strengths:** Vascular plants, including cultivated; mostly southern Ontario; collection of Standards of *Syringa* cultivars. **Historically Significant Collections:** Tamsalu survey of RBG properties (1950s); Craig Campbell survey of Hamilton Naturalists' Properties; Survey of Niagara by Bert Miller; Survey of Haldimond by Monroe Landon; Specimens relating to J.S. Pringle's studies of American Gentianaceae. **Organisation:** Full label data for all specimens from RBG properties and the City of Hamilton have been databased (>16000 records); other specimens are in the process of being entered into the database. **Contact(s):** Carl Rothfels, Herbarium Keeper. **Address:** Location: 680 Plains Road West, Burlington. Mailing Address: P.O.Box 399 Hamilton, Ontario, L8N 3H8. **Telephone:** 905 527 1158 x238. **Fax:** 905/ 577-0375. **Email:** [crothfels@rbg.ca](mailto:crothfels@rbg.ca). **Visiting Policy:** Visitors are welcome. The herbarium keeper is often in the field, so making an appointment is suggested, but not essential. **Loans Policy:** Loans are made for research purposes. **Specimen Donations:** We are currently actively adding to our collection and would be glad to accept any quality specimen with complete label data, whether mounted or not. **Volunteers:** Volunteers are appreciated! We have one volunteer who comes in on a weekly basis, and a number of irregular volunteers. Volunteers have some latitude in terms of the projects they wish to embrace. **Associated Expertise:** Carl Rothfels: general field botany; Jim Pringle: botanical history, and systematics, especially of *Gypsophila*, *Clematis*, and the Gentianaceae; Freek Vrugtman: taxonomy and nomenclature of cultivated woody plants,

especially *Syringa*, Oleaceae; history of ornamental plant breeding.

Herbarium of Trent University (TUP\*). **Holdings:** vasculars: ~4300 vasculars. **Strengths:** Majority of our specimens are from the Kawarthas. **Historically Significant Collections:** Harry William's Cavan Bog moss collection. Frank Morris' Our Wild Orchids original photograph collection. **Organisation:** Collection features a catalogue and a digital database. **Contact(s):** Susan Chow: Biology Demonstrator/technician; Professor C. Maxwell; Professor N. Emery. **Address:** Department of Biology Trent University, Peterborough ON, K9J 7B8. **Telephone:** (705)748-1011 x1057. **Fax:** (705)748-1205. **Email:** [Herbarium@trentu.ca](mailto:Herbarium@trentu.ca). **Visiting Policy:** Available to outside researchers by appointment only. **Loans Policy:** Specimens are loaned to responsible individuals and institutions. **Specimen Donations:** Mounted and identified specimens are preferred, from any location. Must be pathogen-free. **Volunteers:** Volunteers are appreciated for mounting herbarium specimens. They must be able to learn quickly and work independently. **Associated Expertise:** Kellie Bonnici: verification and catalogue compilation; Professor C. Maxwell of Trent University.

Natural Heritage Information Centre (NHIC\*). **Holdings:** vasculars: 9,407 vasculars; bryophytes: ~500; lichens ~100. **Strengths:** Emphasis is on the flora of Ontario and on North American Cyperaceae. The collection is also strong on recent significant records for the Ontario flora (e.g. new provincial records, significant range extensions) and on provincially rare species. **Historically Significant Collections:** Most collections are recent (past two to three decades). **Organisation:** Collection is stored in herbarium cabinets. Taxa are filed alphabetically by genus and species. A digital database of vascular plants in the NHIC herbarium is available. **Contact(s):** Michael J. Oldham, NHIC Botanist, Herbarium Curator. **Address:** Natural Heritage Information Centre, Ontario Ministry of Natural Resources, 300 Water Street, P.O. Box 7000, Peterborough, Ontario K9L 1C8. **Telephone:** 705-755-2160. **Fax:** 705-755-2168. **Email:** [michael.oldham@mnr.gov.on.ca](mailto:michael.oldham@mnr.gov.on.ca). **Visiting Policy:** The NHIC herbarium is open to the public and outside researchers by appointment only. The herbarium is open from 8:30 a.m. to 4:30 p.m. weekdays and at other hours by appointment. **Loans Policy:** Loans can be made to other institutions or researchers by arrangement with the herbarium curator. **Specimen Donations:** The collection is accepting new material, but due to space and staffing limitations cannot accept large quantities of new material. Persons wishing to donate or exchange specimens with the NHIC herbarium should contact the curator with details prior to sending material. **Volunteers:** Volunteers are potentially accepted to assist with cataloguing, mounting, and filing specimens. Contact the curator for details. **Associated Expertise:** The herbarium curator is familiar with the flora of Ontario with special emphasis on graminoids, particularly Cyperaceae. **Note:** A large proportion of the NHIC herbarium is on long-term loan from the personal herbarium of Michael J. Oldham. Most specimens in NHIC are also represented by duplicates in other institutional herbaria. It is anticipated that the digital NHIC herbarium catalogue will be posted on the NHIC web page ([www.mnr.gov.on.ca/MNR/nhic/nhic.cfm](http://www.mnr.gov.on.ca/MNR/nhic/nhic.cfm)) in 2003.

Niagara Parks Botanical Gardens Herbaria (NFO\*). **Holdings:** vasculars: ~8500. **Historically Significant Collections:** Flora of Queen Victoria Park in Niagara Falls ON by Ross Cameron in 1890; Flora of Goat Island done by P. Eckel of Buffalo University in 2000. **Strengths:** Cultivated plants. **Organisation:** A digital database is not yet complete.

**Contact(s):** Darrell Bley - Instructor/ School of Horticulture. **Address:** Housed at: The Niagara Parks Botanical Gardens, Original Lecture Hall. Mailing address: PO Box 150, N. Falls ON. L2E 6T2. **Telephone:** 905 356 7670 ext 252. **Fax:** 905 356 5488. **Email:** [dbley@nigaraparks.com](mailto:dbley@nigaraparks.com). **Visiting Policy:** Visitors are welcome by appointment only: Monday - Friday 8:00 - 4:30. **Loans Policy:** Specimens are loaned to research institutions. **Specimen Donations:** Quality specimens, especially of native species, are accepted, either mounted or unmounted (mounted preferred), with full label data. **Volunteers:** Volunteers could potentially be helpful with mounting samples, research, and filing. **Associated Expertise:** Taxonomist Lorne Fast.

University of Guelph Herbarium (OAC\*). **Holdings:** vasculars: 100,000. **Strengths:** The herbarium has its beginnings over 100 years ago, in the Ontario Agricultural College, as part of the University of Toronto. OAC contains many specimens over 100 years of age, all relating to agriculture. Within the last 20 years many other specimens have been added that are oriented towards the natural flora of Ontario and Canada. **Historically Significant Collections:** OAC holds various 'types' of Isoetes (L. Kott and D. M. Britton) and significant research collections of J. Alex (OAC faculty/long-time Curator) and J. Canne (Botany ret-faculty). **Organisation:** Database input is underway, but an updated system will be in place within 2 years. **Contact(s):** Carole Ann Lacroix/technician; Laima Kott/Acting Curator; Steve Newmaster/Faculty. **Address:** The Herbarium, University of Guelph, 620 Gordon Street. The Federal Building, Guelph, ON. N1G 2W1. **\*Note:** Address will change within 1-1.5 years. Address correspondence to Carole Ann Lacroix. **Telephone:** CL (519) 824-4120 x 58581; LK (519) 824-4120 x 53572; SN (519) 824-4120 x 56002. **Fax:** LK (519) 763-8933. **Email:** CL [botcal@uoguelph.ca](mailto:botcal@uoguelph.ca); LK [lkott@uoguelph.ca](mailto:lkott@uoguelph.ca); SN [snewmast@uoguelph.ca](mailto:snewmast@uoguelph.ca). **Visiting Policy:** All visitors are welcome. Visitors should contact the above-cited personnel prior to the visit or visit the herbarium directly, but office hours are currently limited. **Loans Policy:** Loans are permitted to all government, university and scientific institutions doing current research with vascular plants, and loans are given to established researchers and associates (curators, research associates, graduate students). **Specimen Donations:** OAC accepts specimens that have historical, distributional, agricultural and Canadian significance. Mounted specimens should be on standard herbarium size and quality paper. Unmounted specimens of interest are also accepted. All label information MUST be accurate and complete. **Volunteers:** The collection accepts volunteer labour, if there is a sincere love and commitment for this work. Longer term volunteering is preferable. All volunteers MUST take on site training on handling and processing herbarium vouchers, as well as fully understanding the filing system, etc. **Associated Expertise:** Agricultural (weedy species); flora of Ontario; Pteridophytes. **Note:** OAC will be relocated to another building as its incorporation into the Biodiversity Institute of Ontario (to be housed on the University of Guelph campus) is completed. The move is scheduled within 2 years. At the time of writing, the University was looking to fill a full-time curatorial position.

University of Guelph Arboretum Herbarium (OACA). **Holdings:** vasculars: ~4100. **Strengths:** Southern Ontario woody and herbaceous species focussing on Carolinian specimens. **Organisation:** No catalogue is available at present. Information has been entered into a database, but not proofed and checked. **Contact(s):** Ric Jordan, Supervisor of Grounds. **Address:** R. J. Hilton Centre, The Arboretum, University of Guelph, Guelph, ON N1G 2W1. **Telephone:** (519) 824-4120 x53587. **Fax:** (519) 836-1855. **Email:**

[rjordan@uoguelph.ca](mailto:rjordan@uoguelph.ca). **Visiting Policy:** Not open to the public. Researchers welcome by appointment and prior submission of request. **Loans Policy:** No loans. **Specimen Donations:** Specimens not currently accepted. **Volunteers:** Volunteers not currently accepted. **Note:** At present the collection and computer database are being re-organized and updated. Once that task is finished we hope to have an online catalogue available.

**The Fowler Herbarium: Queen's University (QK\*).** **Holdings:** vasculars: 140,000 vasculars. **Strengths:** Eastern Ontario, Arctic. **Historically Significant Collections:** Arctic species, Fowler's Ontario and Maritime collections, and early collections by women. **Organisation:** Eastern Ontario specimens and most of the Arctic collection is online (<http://biology.queensu.ca/~fowler/>). **Contact(s):** Chris Eckert, Associate Professor. **Address:** Department of Biology, Queen's University, Kingston ON K7L 3N6. **Telephone:** 613-533-6158. **Fax:** 613-533-6617. **Email:** [eckertc@biology.queensu.ca](mailto:eckertc@biology.queensu.ca). **Visiting Policy:** Visits by appointment. **Loans Policy:** We have no staff, so large loans are difficult. Visits are encouraged. Much data are online. **Specimen Donations:** We are primarily interested in eastern Ontario specimens at this point. **Volunteers:** Volunteers for data entry, mounting, and filing are greatly appreciated. **Associated Expertise:** Chris Eckert "curates" the collection, but is neither a curator nor a plant taxonomist. He works on the evolutionary genetics of plants, particularly reproductive systems, and the genetics of endangered and invasive species. **Note:** Much information is available on QK's website: <http://biology.queensu.ca/~fowler/>. See also: Crowder, Topping and Topping. 1996. Plants of the Kingston Region.

**Royal Ontario Museum Green Plant Herbarium (TRT\*).** **Holdings:** vasculars: 260,000+; bryophytes: 100,000; algae: 1 cabinet. **Strengths:** **Vasculars:** TRT has holdings from Europe, Asia, Australia, and all regions of Canada and the US, however its greatest strength is its collection of Ontario vascular plants. The collection also has familial representation for nearly all plant families world-wide. Taxonomic strengths include *Crataegus*, *Anemone*, Cyperaceae, Orchidaceae and Salicaceae. TRT is the repository for voucher research collections from graduate and other studies from the Department of Botany and the Faculty of Forestry at the University of Toronto. **Bryophytes:** The bryophyte collection has strong Ontario, US, and western European representation for mosses and hepatics. **Seeds:** The herbarium holds an historical collection of seeds obtained from the International seed exchange as well as a collection prepared by F.H. Montgomery as voucher material for his book (Seeds and fruits of plants of eastern Canada and northeastern United States. University of Toronto Press, 1977). This was augmented by J. H. McAndrews in connection with his studies of Ontario Quaternary paleoecology. **Pollen:** McAndrews' has amassed a collection of modern pollen reference slides by exchange with other institutions and from pollen removed from herbarium specimens. **Quaternary Collections:** mud cores, fossil pollen and seeds from Ontario and other areas of North America and from Grenada. **Scrapbooks:** A small historical scrapbook collection is maintained for teaching and exhibition. It includes scrapbooks made by Catherine Parr Trail, Adam White, and A.E. Porsild. The Adam White scrapbooks include type material collected by J.D. Hooker. (see <http://www.botany.utoronto.ca/courses/bot299y/index.html>). **Images:** The TRT image collection includes ~ 50,000 35 mm images of wildflowers, habitats, and other natural history subjects most of which have been donated by Mary Ferguson FPSA, Richard Saunders, Ralph Presgrave, Ott Devitt, Emerson Whiting, Emerson Skelton, and Edgar James.

**Historically Significant Collections:** Collections from northern Ontario, especially those by J.L. Riley in the Hudson and James Bay lowlands; collections for county floras for Muskoka, Haliburton, Durham and York, and Ministry of Natural Resources Niagara Escarpment inventory. Scrapbooks as listed above. Important historical collections include those of John Macoun, J.A. White, T.M.C. Taylor, and P.V. Krotkov (especially from the Bruce Peninsula and Temagami). For more details please see Boivin (1980). Bryophyte collections include those of John Macoun, J.A. White, H.H. Brown, R.F. Cain, Harry and Claire Williams, and John Krug. **Organisation:** All the collections are organized by plant family, then alphabetically by genus and species. They are further subdivided into geographic regions. At present only 11% of the collection is databased. [They are] currently working toward putting its collections data on the web. **Contact(s):** Dr. Tim Dickinson, Curator; Deborah Metsger, Assistant Curator; Jenny Bull; Technician. **Address:** Royal Ontario Museum, 100 Queen's Park Crescent W. Toronto, Ontario M5S 2C6. **Telephone:** Tim Dickinson: 416:586 8032; Deborah Metsger 416 586 5610; Jenny Bull 416 586 5731. **Fax:** 416 586 7921. **Email:** [timd@rom.on.ca](mailto:timd@rom.on.ca); [debm@rom.on.ca](mailto:debm@rom.on.ca); [jennyb@rom.on.ca](mailto:jennyb@rom.on.ca). **Visiting Policy:** TRT is open to the public and to outside researchers by appointment. Please send an email or call in advance to make arrangements. Normal Museum hours of operation are from 9:00-5:00. Efforts are made to accommodate exceptional requests for evening or weekend access by visiting researchers based on staff availability. **Loans Policy:** Specimens are loaned to other herbaria for systematic study provided that the specimens are properly housed in herbarium cabinets. Requests must be received in writing from the responsible curator of the recipient institution. Any requests for destructive sampling for molecular analysis, pollen analysis, or other analyses that requires removal of specimen fragments must be received in writing with a complete description of sampling protocols and analyses to be performed. **Specimen Donations:** TRT accepts material that meets our collecting priorities on exchange and as donations, as arranged through the Curator. All other incoming material is evaluated in advance on a case-by-case basis, on the basis of taxonomic priority, geographic priority, and condition of the material. Mounted and unmounted material will be considered, however, we prefer unmounted material with an accompanying database from which labels can be made. **Volunteers:** TRT welcomes volunteers to assist with specimen processing, image processing, databasing, and occasional public programming. Qualified individuals may assist with identification and processing of backlogged materials. At present volunteers must be available to work during business hours. There may be opportunities to database from home in the future. **Associated Expertise:** All three ROM botanists have expertise in the development of public programs and botanical exhibits. Tim Dickinson's research interests include molecular phylogenetics of the Rosaceae, morphometrics, web-based and computer-based taxonomic database tools (lab website: <http://www.botany.utoronto.ca/faculty/dickinson/>). Deborah Metsger's research interests include taxonomy of *Acer*, Ontario floristics, and herbarium management. Jenny Bull has expertise in the development of collection databases and the development of computerized keys. Jock McAndrews has expertise Quaternary Palaeoecology, fossil pollen analysis, and Archaeobotany. John Krug is honorary curator of Bryophytes. Jim Eckenwalder has expertise in vascular plant systematics especially *Populus*, Coniferales, and *Ipomoea*. Spencer Barrett has expertise in Evolutionary Biology. Nancy Dengler has expertise in plant morphology. Dale Leadbeater has expertise in Ontario plant ecology. **Notes:** NEW LOCATION! Both of the ROM's herbaria (TRT and TRTC) were moved from off-site locations to the Museum's curatorial centre in 2000. At that

time the bryophytes and algae were split from TRTC and incorporated with the vascular plants to create the ROM Green Plant Herbarium which is soon to be moved to a permanent location on Floor 2b. The remaining cryptogams now comprise the Fungal and Lichen Herbarium that is housed on the 3rd floor.

TRT website: <http://www.rom.on.ca/biodiversity/herbaria/>. TRT follows an integrated pest management program. All incoming material is bagged and sealed in polyethylene bags and then frozen to -20°C for a period of at least 7 days. No fresh plant material is allowed in the herbarium proper, but rather is dealt with in the Preparation Room. No food or drink is allowed in the herbarium. TRT's Friends of the Herbarium program will be revived in the fall of 2003, with a tour of the new facilities and regular opportunities for involvement in herbarium projects and for learning about plants. Future plans include the development of plant identification workshops.

University of Toronto at Mississauga; Erindale campus (TRTE\*). **Holdings:** vasculars: 65000, plus an additional 40000 vasculars in the associated P. F. Maycock herbarium. **Strengths:** Mostly Ontario, *Carex* (North America). Maycock: Ontario, Quebec, mainly forest species. **Contact(s):** P. W. Ball (acting curator). **Address:** Dept. of Biology, Erindale campus, University of Toronto at Mississauga, Mississauga, Ontario, L5L 1C6. **Telephone:** 905-828-3984; 905-828-3999. **Fax:** 905-828-3792. **Email:** pball@utm.utoronto.ca. **Visiting Policy:** Open to outside researchers by arrangement with the curator. **Loans Policy:** Loans to accredited institutions. **Specimen Donations:** Limited intake of specimens, preferably unmounted. Must have labels. **Volunteers:** Volunteers are welcome. **Associated Expertise:** P. W. Ball (*Carex*; other Cyperaceae from eastern Canada; *Quercus*, *Salicornia*). **Note:** Incoming material must be stored in a freezer for 7 days. If bringing in dried specimens seal in an airtight bag and freeze for 7 days before coming.

University of Western Ontario Herbarium (UWO\*). **Holdings:** vasculars: 44000; bryophytes: 4000; myxomycetes: 1200. **Strengths:** Vascular plant flora of Southwestern Ontario, *Crataegus*, Ontario mosses, Myxomycota. **Historically Significant Collections:** Eli Davis myxomycetes and vascular plants, M.J. Oldham, D&J Tiedje, W. Stewart, L.E. James, W.W. Judd, F.S. Cook. **Organisation:** Main collection of 40,000 vascular plants is housed apart from the approximately 4,000 specimens of *Crataegus* and related Maloideae in the J.B. Phipps research collections. No catalogue or digital database covers the entire collection, but most recent collections are databased as they are accessioned. There is also a database of 1,200 Myxomycete collections, and the bryophyte collection of approximately 4,000 specimens is currently being databased. **Contact(s):** Dr. Greg Thorn, Curator. **Address:** University of Western Ontario Herbarium, Department of Biology, University of Western Ontario, London, Ontario, N6A 5B7. **Telephone:** 519-661-2111 ext. 88647 or 86506 **Fax:** 519-661-3935 **Email:** rghorn@uwo.ca **Visiting Policy:** The herbarium is open by appointment to the public or outside researchers during weekdays from 8:30 am to 5 pm. **Loans Policy:** Loans of specimens are made to recognized botanical institutions. **Specimen Donations:** Donations of quality specimens of vascular plants are welcomed, particularly those from Southwestern Ontario and adjacent areas. Specimens must be fully documented (precise collecting location, habitat, date, collector), and may be supplied mounted using acid free materials or (preferred) unmounted. Verified specimens (those identified or confirmed by an authority in the group) are particularly welcome, since UWO provides minimal support for identifications. **Volunteers:** Volunteers are accepted to assist in mounting, databasing, and, if qualified, identifications.

Please contact the curator for more details. **Associated Expertise:** Greg Thorn (Curator): Fungi, particularly agarics and polypores. James B. Phipps (Curator Emeritus): *Crataegus* and Maloideae. Vicky Lightfoot (Curatorial Assistant): technical expertise. Please note that minimal support (or time) is provided for identification services. **Note:** See website at <http://www.uwo.ca/biology/herbarium.html> Significant floristic publications based on UWO specimens or with specimens deposited in UWO: 1) Oldham, M.J. 1991. Preliminary annotated checklist of the vascular plants of Middlesex and Oxford Counties. Ontario, Ministry of Natural Resources. 2) Stewart, W.G. and L.E. James 1969. Guide to the Flora of Elgin County, Ontario. Catfish Creek Conservation Authority, St. Thomas, Ontario. 3) Tiedje, D. and J. Tiedje 1994. Vascular Plants of Lambton County, Ontario. Authors, Sarnia, Ontario (now in its 10th edition, 2001).

University of Waterloo Herbarium (WAT\*). **Holdings:** vasculars: ~70000. **Strengths:** Ontario flora; asters, goldenasters, goldenrods. **Historically Significant Collections:** Calvert collections, cytovouchers of J.K. Morton and J.C. Semple and students. **Organisation:** Alphabetical by family, genus, species; no computerized database. **Contact(s):** John C. Semple, Director. **Address:** Biology Department 200 University Ave., Waterloo, ON N2L 3G1. **Telephone:** (519) 885-1211 x3751 (a.m. only). **Fax:** (519) 746-0614. **Email:** jcsemple@sciborg.uwaterloo.ca. **Visiting Policy:** Collection is available for use by anyone qualified. Herbarium is usually open from 9-12 am, but other hours are possible. Visitors should make arrangements ahead of visit. **Loans Policy:** Institution to institution. **Specimen Donations:** WAT accepts collections from North America, (Canada and Ontario) and asters, goldenasters and goldenrods from anywhere. **Volunteers:** Joan Venn, retired, currently works most mornings as a volunteer. **Associated Expertise:** John Morton, retired, is an expert on the Ontario flora, particularly of Manitoulin Island, Georgian Bay Islands, and the Bruce Peninsula. John Semple is an expert on asters, goldenasters and goldenrods of North America. **Note:** WAT houses and handles requests for issues of the U. Waterloo Biology Series. <http://www.science.uwaterloo.ca/biology/jcsemple/uwbioser.htm>. Issues include floristic treatments of portions of Ontario and the asters and goldenrods of Ontario, as well as issues on fungi and animals.

University of Waterloo Environmental Studies/Ecology Teaching Collection (WAT ES). **Holdings:** vasculars: ~500 (plus many more unmounted specimens). **Strengths:** Southwest Ontario; Carolinian Canada; Waterloo Region; Species at Risk. **Historically Significant Collections:** Early prairie savannah stuff for Ontario. **Organisation:** Alphabetical by family, genus, species; no computerized database. **Contact(s):** Larry Lamb. **Address:** ES Ecology Lab. University of Waterloo. 200 University Ave., Waterloo, ON. N2L 3G1. **Telephone:** (519) 888-4567 x2646. **Email:** lelamb@fes.uwaterloo.ca. **Visiting Policy:** Collection is available for use by appointment, weekdays 9:30-4:00. **Loans Policy:** Possibly, provided material is returned promptly. **Specimen Donations:** No. **Volunteers:** Volunteers currently assist with the collection. **Associated Expertise:** Larry Lamb. **Note:** The significant records from WAT ES are being transferred to WAT. Herbarium work is currently a low job priority for Larry Lamb.

Benedict Herbarium, University of Windsor (WOCB\*). **Holdings:** vasculars: ~ 2000 (very few crypto; fungi; algae; lichens.) **Strengths:** We have quite a good set of Carolinian materials. **Historically Significant Collections:** Donation of ERCA (Essex Regional Conservation Authority) collection

developed by Gerry Waldren is of nice quality. There are some materials that were collected and donated during Dr. Benedict's time that require review: Algae: 1. Woods Hole and vicinity, MBL MA. Coll. W.J. Gilbert, 1939; 2. MA coast, coll. Patrick, summer 1971; 3. B.C. coast Coll. D. Wallen summer 1971. Ferns: 1. Fern Gulley, Jamaica, coll. D. Thomas summer 1972. Angiosperms: 1. Douglas Lake MI Coll. T.W. Johnson July 1948; 2. Prairies and W. North America. Coll. R.C. Russell Sept 1959; 3. Bruce Peninsula ON Coll. J. Winner May 1965; 4. Byron Bog, London ON Coll. J. Winner; 5. Bad Mt. park, MI. Coll. J. Winner Aug. 1967; 6. MA Marine and coastal flora, Coll. Patrick Sept. 1971; 7. Saguaro National Monument Flora, AZ. Coll. R.T. M'Closkey June-Aug 1975; 8. Baffin Is. Flora Coll. M. Berthiaume July 1976. **Organisation:** At this point (January 2003) there is a printed list, but it is not presently in the form of a searchable database. Specimens are classified according to Gray's Manual of Botany 1950. **Contact(s):** Lesley Lovett-Doust (this assignment may change from year to year; at least for the immediate foreseeable future, generally either Lesley Lovett-Doust or Jon Lovett-Doust will be responsible.) **Address:** The Curator, Benedict Herbarium, Biological Sciences, University of Windsor. 401Sunset Ave. Windsor Ontario. N9B 3P4. **Telephone:** 519-253-3000 x2694. **Fax:** 519-971-3609. **Email:** B87@uwindsor.ca. **Visiting Policy:** Visitors are welcome by arrangement with the department; please contact Ms Beth Abson, Director of Laboratories during working hours: 519-253-3000 x2712. **Loans Policy:** Specimens are loaned to listed herbaria for researchers who have proper herbarium cabinets in which to store the specimens while on loan. **Specimen Donations:** We are interested in additional mounted, labelled specimens of Carolinian species from Essex County, Lambton County and Kent County. We have special research interest in Pt Pelee National Park, Pelee Island, and the Lake Erie Islands. **Volunteers:** Volunteer Assistance would be much appreciated. We plan to enter the holdings into spreadsheet and from there to a searchable database. We would also like to be able to mend any damaged specimens and verify some of the identifications. **Associated Expertise:** LLD has experience with various weedy species (weedy *Ranunculus*, *Glechoma*, etc.). **Note:** Dr. Benedict was a faculty member who retired in 1989. He developed a revised typed list of holdings which we plan to have entered in a searchable database. Many of the older specimens need to be checked.

**Wilfrid Laurier University Herbarium (WLU\*).** **Holdings:** vasculars: >18,000; bryophytes: 4000. **Strengths:** Contains an excellent collection of Waterloo County, Perth County and environs, some older interesting collections from northern Ontario Provincial Parks, and collections from the Queen's University Biological Station, with annual additions to present. Bryophytes: Waterloo County and area (some publications associated). **Historically Significant Collections:** Herbarium started with Margaret Heimbürger's collections acquired from UofT in 1950s. Bryophytes: Significant rare specimens from British Columbia (associated with "The Bryophytes of semi-arid steppe of south central British Columbia," Ph.D. Thesis UBC, T. T. McIntosh, 1986). **Organisation:** Follows Engler & Prantl system; no digitized database. **Contact(s):** Laima Kott/Acting Curator (519) 824-4120 x53572. WLU on-site contact: Elma Schwegert. **Address:** The Herbarium, Wilfrid Laurier University, 75 University Avenue. Science Building, Waterloo, ON. N2L 3C5. **Telephone:** (519) 884-1970 x2905. **Fax:** (519) 886-9351. **Email:** Lkott@uoguelph.ca; Eschweig@wlu.ca. **Visiting Policy:** Visitors should contact the curator or Chair of the Biology Department stating intentions and needs prior to a herbarium visit. The Herbarium is open during standard working hours; all professional researchers and local flora

enthusiasts are welcome. **Loans Policy:** Loans are permitted to all government, university and scientific institutions doing current research with vascular plants. **Specimen Donations:** Collection accepts outside additions to the Herbarium that are, in order of priority: 1) historical or current vouchers from Waterloo County and surrounding area; 2) rare plants of Ontario; 3) part of a larger published study carried out in Ontario; 4) historical vouchers from Ontario; and 5) all other interesting plants. Mounted specimens should be on standard herbarium size and quality paper. Unmounted vouchers of interest are also accepted. All label information MUST be accurate and complete. **Volunteers:** The collection accepts volunteer labour, if there is a sincere love and commitment for this work. Longer term volunteering is preferable. All volunteers MUST take on site training on handling and processing herbarium vouchers, as well as fully understanding the filing system, etc. **Associated Expertise:** L. Kott offers expertise particularly in ferns and fern allies, flora of Ontario, and agricultural weeds. **Note:** The WLU Herbarium will be moving to larger facilities within the next year, after an addition to the existing building is completed. However, the address will remain the same. Accessibility will be very limited before, during and shortly after the move.

#### **Park-affiliated Collections:**

**Algonquin Provincial Park Herbarium (APM\*).** **Holdings:** vasculars: 5715; bryophytes: 733; lichens: 300; fungi: 627. **Historically Significant Collections:** Some specimens from John Macoun's 1900 survey of Algonquin. **Organisation:** Most species on published Park Checklists (vascular plants, bryophytes, lichens, fungi) are represented by specimens in the herbarium. Taxonomy of collection matches the treatment in the Checklists, and with few exceptions matches the Flora of North America project (it was thoroughly updated in 2001). All specimens are mounted and have been [verified] by outside experts. A cardfile with over 15000 entries compliments the collection. **Contact(s):** Brad Steinberg: Park Naturalist. **Address:** Algonquin Provincial Park Visitor Centre, Box 219, Whitby ON, K0J 2M0. **Telephone:** 613-637-2828. **Fax:** 613-637-2138. **Email:** Brad.Steinberg@mnr.gov.on.ca. **Visiting Policy:** APM is open to both amateurs and professionals. Any visits must be accompanied by park staff - please contact us in advance to schedule a visit. **Loans Policy:** Certain specimens will be loaned to recognised institutions and researchers. **Specimen Donations:** Unmounted specimens from Algonquin Park will be accepted, preferably with the following label data: Species, Family, Location (UTM, Lat-Long), Township, Habitat, Status, Collectors, Date, Determined. \*note- please see notes below. **Volunteers:** Volunteers may be accepted upon individual review. **Associated Expertise:** There are several botanists and former naturalists who have worked on the collection who may be able to offer some expertise.

**Central Zone - Ontario Parks (CZOP).** **Holdings:** vasculars: ~ 1000. **Strengths:** Central Ontario (i.e., Parry Sound, Muskoka, Nipissing, Renfrew, Kawartha Lakes, Simcoe, and Haliburton.) **Organisation:** A digital database of specimens is available. **Contact(s):** Burke Korol; Central Zone Ecologist, Ontario Parks, Huntsville. **Address:** 451 Arrowhead Park Road; Huntsville, ON; P1H 2J4. **Telephone:** 705-789-6822. **Fax:** 705-789-5948. **Email:** burke.korol@mnr.gov.on.ca. **Visiting**

† It is illegal to remove any natural object from Provincial and National Parks without permission. Permission to collect plant specimens must first be obtained through the Park Superintendent. Collection will normally be permitted for approved research purposes only. Individuals found collecting plant specimens without written permission may be fined under the Provincial Parks Act, R.R.O. 1990, Reg. 952, s. 2. National Parks, Municipal Parks, and other protected areas have similar Acts and by-laws that must be respected.

**Policy:** The collection is available to the general public during regular business hours - prior notice appreciated. **Loans Policy:** Specimens may be loaned out to any interested party for a reasonable length of time. **Specimen Donations:** We would accept any 'taxonomically difficult' specimen from a provincial park in Central Ontario as long as it was not ranked S1, S2 or S3 by the Ontario Natural Heritage Information Centre. (Un)Mounted specimens are fine as long as they have the collection date, UTM location, habitat and collector information on label. **Volunteers:** Volunteers are appreciated. Label data, mounts and storage can all be improved. **Associated Expertise:** The Central Zone Ecologist can offer taxonomic assistance.

Lake Superior Provincial Park (LSP\*). **Holdings:** vasculars: ~700. **Strengths:** Geographic; includes some arctic-alpine flora. Majority of specimens were collected in 1960's by Fred and Vi Cowell. **Organisation:** Collection is currently inaccessible, and contains no catalogue or digital database. Stored in sealed wooden cabinets with mothballs. **Contact(s):** Bob Elliott, Acting Park Superintendent. **Address:** Lake Superior Provincial Park, Box 267, Wawa, Ontario, P0S 1K0. (Park Office - Hwy 17, 35 km South of Wawa). **Telephone:** (705) 856-2284. **Fax:** (705) 856-1333. **Email:** [Bob.elliott@mnr.gov.on.ca](mailto:Bob.elliott@mnr.gov.on.ca). **Visiting Policy:** Not open to the public; researchers may visit by prior arrangement (not easily accessible in current storage location). **Loans Policy:** May loan specimens, generally to research institutions or other herbaria; each request considered individually. **Specimen Donations:** Additional specimens accepted - from the park or immediate area; prefer mounted and labelled. **Volunteers:** May accept volunteer labour, depending on time of year and staff availability.

Ojibway Nature Centre (OPM). **Holdings:** vasculars: ~500. **Strengths:** Collections from the Ojibway Prairie Remnants ANSI, Windsor, ON. **Organisation:** No catalogue or database is available. **Contact(s):** Paul Pratt, Naturalist. **Address:** Ojibway Nature Centre, 5200 Matchette Rd., Windsor, ON, N9C 4E8. **Telephone:** 519-966-5852. **Email:** [ppratt@city.windsor.on.ca](mailto:ppratt@city.windsor.on.ca). **Visiting Policy:** The collection is available to researchers. **Loans Policy:** Yes. **Volunteers:** Yes. Volunteers could assist with herbarium organisation. **Note:** Information on tallgrass prairie, rare species, flowering seasons, etc. is available on the centre's web site at [www.Ojibway.ca](http://www.Ojibway.ca)

Point Pelee National Park (PPNP). **Holdings:** vasculars: ~300. **Strengths:** Contains species representative of ecosystems at Point Pelee, Canada's southern-most mainland and includes Species at Risk. **Contact(s):** Tom Linke. **Address:** Point Pelee National Park, 407 Monarch Lane, RR 1, Leamington, Ontario, N8H 3V4. **Telephone:** 519 322 2365. **Fax:** 519 322 1277. **Email:** [tom.linke@pc.gc.ca](mailto:tom.linke@pc.gc.ca). **Visiting Policy:** Collection open to researchers with advanced reservations. **Loans Policy:** No loans. **Specimen Donations:** Not at the present time. Upon issue of a Parks Canada Research and Collection Permit, additional samples from Point Pelee National Park will be accepted. **Volunteers:** Not at the present time. The park is developing a strategy for management of natural collections. **Associated Expertise:** At present there is not a dedicated person to manage the herbarium. Specimens must remain in the park until management strategy is developed.

Pinery Provincial Park Herbarium (PPP). **Holdings:** vasculars: ~1200 vasculars; fungi: 200-300. **Strengths:** Collection represents a comprehensive survey of vascular and fungal species found within the boundaries of the park. **Historically Significant Collections:** Some specimens date

to early part of 1960's when park was first designated; extensive collections by Wasyl Bakowsky ca. 1994. The fungi collection was amassed by Gord Vogg during the early 1990's. **Organisation:** Collection is taxonomically organized and searches are via cabinet labels &/or digital FileMaker Pro 5.0 database. **Contact(s):** Natural Heritage Education Specialist or N.H. E. Group Leader. **Address:** Visitor Centre, Pinery Provincial Park, R.R. 2, Grand Bend, Ontario, Canada, N0M 1T0. **Telephone:** (519) 243-8508. **Fax:** (519) 243-3851. **Email:** [tom.purdy@mnr.gov.on.ca](mailto:tom.purdy@mnr.gov.on.ca). **Visiting Policy:** The collection may be accessed by qualified individuals on a case by case basis, during regular business hours. Access permission should be obtained prior to the visit. **Loans Policy:** Specimens may not be removed or signed out. **Specimen Donations:** Relevant specimens would be accepted if collected from the geographical vicinity of Pinery PP. Mounted specimens are preferred due to limited staff time. Labels can be generated internally through the herbarium database, provided adequate data are supplied. **Volunteers:** Volunteers are appreciated, provided that they are adequately trained and familiar with collection protocols. **Associated Expertise:** The collection is overseen by permanent N.H. E. staff; seasonal Park naturalists occasionally contribute skills and specimens as per their interests and abilities. **Note:** Very few additions to collection have been made in recent years. The fungal collection is housed in the basement storage area of the Maintenance building. This form completed by Alistair MacKenzie ([asmackenzie@hotmail.com](mailto:asmackenzie@hotmail.com)) 905) 294-7337 or (519) 495-5159.

Quetico Provincial Park Herbarium (QPP). **Holdings:** vasculars: ~1000-2000. **Strengths:** Quetico Provincial Park geographic area. **Historically Significant Collections:** Collections from early 1950's right after the highway went through to Thunder Bay. **Organisation:** Organized by family, then by genus. No catalogue available. **Contact(s):** Andrea Allison - Librarian. **Address:** John B. Ridley Research Library, Quetico Provincial Park, Atikokan, Ont. P0T 1C0. **Telephone:** 807-929-2571 x224. **Fax:** 807-929-2123. **Email:** [andrea.allison@mnr.gov.on.ca](mailto:andrea.allison@mnr.gov.on.ca). **Visiting Policy:** Serious researchers - call for appointment. **Loans Policy:** No loans. **Specimen Donations:** Contact the Park before collecting any specimens. **Volunteers:** Contact Quetico Park. **Associated Expertise:** Contact Quetico Park Natural Heritage Education Leader.

Rondeau Provincial Park Herbarium (RPP). **Holdings:** vasculars: 2356; cryptograms: ~120. **Strengths:** Geographic collection primarily of park records. **Historically Significant Collections:** 50+ years of specimens from Rondeau. **Organisation:** There is a digital database we would consider providing access to depending on need. **Contact(s):** Sandy Dobbyn, Natural Heritage Education Leader, Rondeau Provincial Park. **Address:** R.R.#1 Morpeth, ON N0P 1A0. **Telephone:** 519-674-1772. **Fax:** 519-674-1755. **Email:** [Sandy.dobbyn@mnr.gov.on.ca](mailto:Sandy.dobbyn@mnr.gov.on.ca). **Visiting Policy:** The collection could be viewed by researchers, students or serious botanists who have a need to see the collection, by appointment with Sandy Dobbyn. Permission, granted on a case by case basis, will not be unreasonably withheld. **Loans Policy:** Loans for research application with a scientific/research need will be considered on a case by case basis. **Specimen Donations:** The collection is closed to Rondeau specimens. As such, there should not be any collecting except under Park approved monitoring or research projects. In those cases, we would accept new specimens. **Volunteers:** Potentially. Contact Sandy. **Associated Expertise:** Park naturalists are the only curators.

St. Lawrence Islands National Park Herbarium (SLINP). **Holdings:** vasculars: ~200. **Strengths:** 1000 Islands region (focus on rare plants). **Organisation:** Storage in a cabinet with a paper catalogue. **Contact(s):** Jeff Leggo or Ken Robinson. **Address:** St Lawrence Islands National Park 2 County Road 5 Mallorytown, ON. K0E 1R0. **Telephone:** 613 923-5261. **Fax:** 613 923-1021. **Email:** ont-sli@pc.gc.ca. **Visiting Policy:** By appointment. **Loans Policy:** Specimens are not loaned out. **Specimen Donations:** Collection of specimens at SLINP is not permitted except by collection and research permit. **Volunteers:** Volunteers are accepted according to Parks Canada Agency Policy. **Associated Expertise:** Some assistance or expertise can be offered based on staff availability.

Sleeping Giant Provincial Park (SGPP). **Holdings:** vasculars: ~500. **Strengths:** Native species from Sleeping Giant Provincial Park. **Historically Significant Collections:** The collection is 50+ years old; a very rare collection, featuring collections from Shan Walshe and Claude Garton. **Organisation:** Has a basic catalogue. **Contact(s):** Cam Snell Park Supt. **Address:** Marie Louise Campground Visitor Center Sleeping Giant Prov. Park RR# 1. Pass Lake, Ont. P0T 2M0. **Telephone:** 807-977-2526. **Fax:** 807-977-2583. **Visiting Policy:** Visitors welcome during summer operations: May-Oct. **Loans Policy:** No. **Specimen Donations:** Would need to discuss. **Volunteers:** Volunteers accepted during summer operations. **Associated Expertise:** The Natural Heritage Leader at the park is available during summer operations.

#### Private Collections:

Daniel F. Brunton herbarium (DFB). **Holdings:** vasculars: 15000 (including ~900 unmounted specimens in processing); ~600 bryophytes (packaged and labelled). **Strengths:** Eastern North American vascular flora, particularly the Ottawa Valley, and the Southeastern USA (±4,000 specimens, with coastal plain emphasis); especially rich in pteridophytes (2,900 specimens), specializing in world Isoetes (1500 specimens). **Historically Significant Collections:** DFB includes 44 Isotypes or Paratypes (mostly Isoetes) and has large representation of collections by D.F. Brunton (eastern North America), H. L. Dickson (ON, AB, NWT) J. Kunsman (PA), and D. M. Britton (eastern Canada).

**Organisation:** Housed in institutional metal herbarium cabinets; digital database for majority of material (collection data of D.F. Brunton). **Contact(s):** Daniel F. Brunton. **Address:** 216 Lincoln Heights Road, Ottawa, Ontario K2B 8A8. **Telephone:** (613) 829-7307. **Fax:** (613) 829-4688. **Email:** Bruntonconsulting@rogers.com. **Visiting Policy:** DFB is open by prior arrangement to any botanist (professional or otherwise) with research interests. **Loans Policy:** Specimens are regularly loaned for taxonomic and conservation research purposes to academic and conservation management researchers. **Specimen Donations:** Interested in pteridophytes (particularly Isoetes) from anywhere; prefer unmounted; full label data very important. **Associated Expertise:** D.F. Brunton will review/identify Isoetes specimens from anywhere (prefers material to be kept for herbarium, but loans are acceptable).

Private Collection of David J. White (DJW). **Holdings:** vasculars: 3500. **Strengths:** Focused on Lanark County, but includes about 500 collections from central and northern Ontario from ANSI and provincial park studies. **Organisation:** Collection is not readily accessible since it's a private collection in my home office. The Lanark material and some of the other collections are in an Access database. **Contact(s):** David J. White. **Address:** RR #3, Lanark, ON,

K0G 1K0. **Telephone:** 613-259-3135. **Fax:** 613-259-2499. **Email:** dwhite@superaje.com. **Visiting Policy:** Not really open to public but arrangements could be made. **Loans Policy:** I would consider loan requests if my material was significant. **Specimen Donations:** I would be interested in Lanark County specimens (mounted or unmounted) of rare and uncommon plants. Label data should be as complete as possible, including UTM coords. **Volunteers:** No real need for labour in such a small collection. **Associated Expertise:** I'm willing to identify/confirm Lanark County material. **Note:** Keeping a personal collection forces you to hone your identification skills and as it grows, it becomes a very useful resource as a reference collection. My collection is also the basis for a plant list for Lanark County that I have been working on for a number of years.

Dougan & Associates Herbarium (DOUG). **Holdings:** vasculars: 400; cryptograms: 60. **Strengths:** Southern Ontario. **Organisation:** Collection is databased. **Contact(s):** Margy de Gruchy or Ken Ursic. **Address:** 7 Waterloo Ave. Guelph, Ontario N1H 3H2. **Telephone:** 519-822-1609. **Fax:** 519-822-5389. **Email:** mdegruchy@dougan.ca; kursic@dougan.ca. **Visiting Policy:** contact Dougan & Associates. **Loans Policy:** contact Dougan & Associates. **Specimen Donations:** Collection is willing to accept specimens. **Volunteers:** Volunteers would be appreciated to help with mounting specimens and data entry.

Robert Hainault (RH+). **Holdings:** vasculars: ~12000; several hundred bryophytes. **Strengths:** Hawkesbury & Montebello areas; Kingston region; Lake Ontario Islands; Frontenac Provincial Park; Arctic, including Victoria and Baffin Islands; Cathedral Lakes. Strong representation of systematic collections form specific areas. **Historically Significant Collections:** R. Hainault, and a set of duplicates of M.E. Charlebois' collection from Montebello. **Organisation:** Specimens are mounted, identified, labelled, and organized by genus. **Contact(s):** Robert Hainault. **Address:** 7417 Paul Foster Dr. Addison, ON. K0E 1A0. **Telephone:** (613) 498-1744. **Visiting Policy:** Any botanist is welcome to visit RH+ by prior arrangement, although the majority of specimens are represented by duplicates at DAO and/or QK. **Loans Policy:** None. **Specimen Donations:** RH is not currently adding to the collection; any new collections will go to DAO. **Associated Expertise:** RH is able and eager to identify plants from any group across Canada, and is also interested in assisting with entomological determinations, especially of Coleoptera.

Lambton County Herbarium (TG). **Holdings:** vasculars: 1070. **Strengths:** Wild Lambton County species. **Historically Significant Collections:** First specimen of *Diarrhena obovata* (Gleason) Brandenburg found in Canada 5 Sep. 1988. **Contact(s):** John or Dorothy Tiedje, Collectors, Owners and Curators. **Address:** 1060 Bruce St., Sarnia, Ont., N7V-3B1. **Telephone:** 519-542-4537. **Email:** jtiedje@cogeco.ca. **Visiting Policy:** By Appointment. **Loans Policy:** No loans. **Specimen Donations:** Specimens from Lambton Co. with date, location, name of collector, mounted or unmounted would be welcome additions to our herbarium. **Note:** Our collection is housed in two 29" x 40" Lane steel herbarium cabinets. We have compiled a list of plants reported for Lambton from all available sources. The plant families on the list are arranged and numbered according to Cronquist's method as shown in Appendix 15.1 of Vol. I, Flora of North America, 1993 and the specimens in our herbarium are marked on this list.



**Collections with a Non-vascular Focus:**

National Herbarium of Canada (CANA\*). **Holdings:** algae: ~30,000. **Strengths:** Northwest Territories macroalgae; Canadian arctic macroalgae and microalgae; Canadian, especially Ontario, freshwater lake microalgae. **Historically Significant Collections:** R.K.S. Lee. **Organisation:** Collection is organised taxonomically and is accessible. Type specimens are databased. **Contact(s):** Pak Yau Wong, Collection Manager. **Address:** 1740 Pink Road, Gatineau, QC. Mailing Address: Botany Section, Canadian Museum of Nature, P.O.Box 3443 STN"D", Ottawa, ON K1P 6P4. **Telephone:** (613) 364-4082. **Fax:** (613) 364-4027. **Email:** [Pywong@mus-nature.ca](mailto:Pywong@mus-nature.ca). **Visiting Policy:** The collection is open only to researchers, students, etc. It is advisable to make an appointment before a visit. Normal hours of operation: 8:00-16:00 (Monday-Friday). **Loans Policy:** We only loan to registered (eg. Listed in Index Herbariorum) institutions, not to individuals. **Specimen Donations:** Presently we accept specimens which add value to our collection (eg. Type specimens, range extensions, new records, etc). Specimens must be of good quality and have all pertinent label data. Must contact us first prior to a donation, to determine acceptability. **Volunteers:** We have volunteers that normally work on designated herbarium projects. **Associated Expertise:** M. Poulin (Research Scientist): Research in diatoms; P. Hamilton (Research Assistant): Research in diatoms. **Note:** Visitors' specimens are not allowed in the Collection area unless they have been decontaminated.

National Herbarium of Canada (CANL\*). **Holdings:** lichens: 115,000. **Strengths:** Lichens and lichen parasites worldwide, especially north temperate to arctic and Canada. **Historically Significant Collections:** I.M. Lamb, J. Macoun, J.M. Macoun. **Organisation:** Collection is organised alphabetically and is accessible, ca. 15% is data based (incl. all types). **Contact(s):** Pak Yau Wong, Collection Manager. **Address:** 1740 Pink Road, Gatineau, QC. Mailing Address: Botany Section, Canadian Museum of Nature, P.O.Box 3443 STN"D", Ottawa, ON K1P 6P4. **Telephone:** (613) 364-4082. **Fax:** (613) 364-4027. **Email:** [Pywong@mus-nature.ca](mailto:Pywong@mus-nature.ca). **Visiting Policy:** The collection is only open to researchers, students, etc. It is advisable to make an appointment before a visit. Normal hours of operation: 8:00-16:00 (Monday-Friday). **Loans Policy:** We only loan to registered (eg. Listed in Index Herbariorum) institutions, not to individuals. **Specimen Donations:** Presently we accept specimens that add value to our collection (eg. Type specimens, range extensions, new records, etc). Specimens must be of good quality and have all pertinent label data. Must contact us first prior to a donation, to determine acceptability. **Volunteers:** We have volunteers which normally work on designated herbarium projects. **Associated Expertise:** Pak Yau Wong (Collection Manager): Canadian lichen identification, especially Ontario species. **Note:** Visitors' plant specimens are not allowed in the Collection area unless the specimens have been decontaminated.

National Herbarium of Canada (CANM\*). **Holdings:** bryophytes: ~292,000. **Strengths:** Bryophytes worldwide, especially North America and Europe. **Historically Significant Collections:** H. Crum, J. Macoun, J.M. Macoun. **Organisation:** The collection is organised taxonomically and is accessible, ca. 20% is data based (incl. all types). **Contact(s):** Pak Yau Wong, Collection Manager. **Address:** 1740 Pink Road, Gatineau, QC. Mailing Address: Botany Section, Canadian Museum of Nature, P.O.Box 3443 STN"D", Ottawa, ON K1P 6P4. **Telephone:** (613) 364-4082. **Fax:** (613) 364-4027. **Email:** [Pywong@mus-nature.ca](mailto:Pywong@mus-nature.ca). **Visiting Policy:** The collection is open only to researchers, students, etc. It is

advisable to make an appointment before a visit. Normal hours of operation: 8:00-16:00 (Monday-Friday). **Loans Policy:** We only loan to registered (eg. Listed in Index Herbariorum) institutions, not to individuals. **Specimen Donations:** Presently we accept specimens which add value to our collection (eg. Type specimens, range extensions, new records, etc). Specimens must be of good quality and have all pertinent label data. Must contact us first prior to a donation, to determine acceptability. **Volunteers:** We have volunteers that normally work on designated herbarium projects. **Associated Expertise:** Presently we have no staff associated with this collection. **Note:** Visitors' plant specimens are not allowed in the Collection area unless the specimens have been decontaminated.

National Mycological Herbarium (DAOM\*). **Holdings:** Fungi: ~300 000. **Strengths:** Canadian plant pathogens; wood decay, mycorrhizal and saprophytic fungi of all types, plus many foreign holdings and 55,000 exsiccatae. **Historically Significant Collections:** R. Arnolds, D Barr, ME Barr, Bisby, Bissett, Brodie, Buller, Cain, Connors, Corlett, Dalpé, Darker, Dearness, Drayton, Eastham, Elliott, Ginns, Groves, Güssow, K. Harrison, S. Hughes, Kendrick, Macoun, Macrae, Malloch, McCallum, Melderis, Mounce, Neish, Nobles, Parmelee, Pantidou, Pirozynski, Redhead, Savile, Seifert, Shoemaker, Skolko, S. Thomson, Weresub, Wehmeyer, Ziller. **Contact(s):** Scott A. Redhead. **Address:** National Mycological Herbarium (DAOM). Systematic Mycology & Botany. Wm. Saunder's Bldg. (#49), CEF. Eastern Cereal & Oilseed Research Centre. Agriculture & Agri-Food Canada. Ottawa, Ontario, K1A 0C6. **Telephone:** (613) 759-1384. **Fax:** (613) 759-1599. **Email:** [redheads@agr.gc.ca](mailto:redheads@agr.gc.ca). **Visiting Policy:** DAOM is open to visiting scientists by appointment during regular working hours. **Loans Policy:** Loans are available to official institutes and established researchers. **Specimen Donations:** Specimens may be deposited subject to meeting case by case criteria. Must be labelled and identified. **Volunteers:** DAOM currently has some volunteers. All are subject to government security clearance. **Associated Expertise:** DAOM is supported by a staff of professional mycologists and an associated living fungal collection CCFC [Canadian Collection of Fungal Cultures]. **Note:** Currently DAOM is entering data into databases for eventual posting on the web. Associated with DAOM is the vascular plant herbarium (DAO) in the same building. DAOM is complemented by the Canadian Collection of Fungal Cultures (CCFC) [ca. 11,000 cultures], with which it shares some DAOM numbers and is linked to the Canadian Collection of Insects, Arachnids and Nematodes (CNC) [13 million specimens].

Lakehead University Mycological Herbarium (LKHDH). **Holdings:** fungi: ~4000. **Strengths:** Basidiomycota (Agaricales, Aphyllophorales, Uredinales) and Ascomycota from the Rocky Mountain region of North America, North-western and southern Ontario. **Historically Significant Collections:** Some duplicates from former Mycological teaching herbarium at University of Toronto (mainly specimens collected by Roy Cain). **Contact(s):** Dr. Leonard J. Hutchison. **Address:** Faculty of Forestry and the Forest Environment, Lakehead University. Thunder Bay, Ontario. P7B 5E1. **Telephone:** 807 343 8508. **Fax:** 807 343 8116. **Email:** [leonard.hutchison@lakeheadu.ca](mailto:leonard.hutchison@lakeheadu.ca). **Visiting Policy:** Open to outside researchers. **Loans Policy:** Specimens loaned to other researchers at Universities and government laboratories. **Specimen Donations:** Accepting specimens from North-western Ontario provided collection information is included with each specimen. **Associated Expertise:** Dr. Leonard J. Hutchison: expertise with Basidiomycota; Dr. Edson Setliff: expertise with wood-decay fungi. **Note:** There are small

<b>Southern and Southwestern Ontario Collections</b>						
Location	Acronym	Vasculars	Bryophytes	Algae	Fungi	Lichens
Toronto	Royal Ontario Museum Herbaria (TRT*/TRTC*)	260000	100000	1 cabinet	300000	
Mississauga	University of Toronto at Mississauga: Erindale Campus (TRTE*)	105000				
Guelph	University of Guelph Herbarium (OAC*)	100000				
Hamilton	Royal Botanical Gardens (HAM*)	80000				
Waterloo	University of Waterloo Herbarium (WAT*)	70000				
London	University of Western Ontario Herbarium (UWO*)	44000	4000		1200	
Waterloo	Wilfrid Laurier University Herbarium (WLU*)	18000	4000			
Niagara Falls	Niagara Parks Botanical Gardens Herbarium (NFO*)	8500				
Guelph	University of Guelph Arboretum Herbarium (OCA)	4100				
Morpeth	Rondeau Provincial Park Herbarium (RPP)	2356	120			
Windsor	Benedict Herbarium, University of Windsor (WOCB*)	2000	few	few	few	few
Grand Bend	Pinery Provincial Park Herbarium (PPP)	1200			200	
Sarnia	Lambton County Herbarium (TG)	1070				
Windsor	Ojibway Nature Centre (OPM)	500				
Waterloo	University of Waterloo Env. Studies/Ecol. Teaching Collection (WAT ES)	500				
Guelph	Dougan & Associates Herbarium (DOUG)	400	60			
Leamington	Point Pelee National Park (PPNP)	300				
Bright's Grove	P.M. Banks (PMBM)				276	
<b>Southeastern Ontario Collections</b>						
Location	Acronym	Vasculars	Bryophytes	Algae	Fungi	Lichens
Ottawa	Agriculture and Agri-Food Canada Herbarium (DAO*/DAOM*)	1035000			300000	
Ottawa	National Herbarium of Canada (CAN*/CANM*/CANA*/CANL*)	600000	292000	30000		115000
Kingston	Fowler Herbarium: Queen's University (QK*)	140000				
Kemptville	Eastern Ontario Biodiversity Museum Herbarium (EOMBH)	33000	unknown			
Ottawa	Daniel F. Brunton Herbarium (DFB)	15900	600			
Kingston Area	Robert Hainault (RH+)	12000				
Peterborough	Natural Heritage Information Centre (NHIC*)	9407	500			100
Whitney	Algonquin Provincial Park Herbarium (APM*)	5715	733		627	300
Peterborough	Herbarium of Trent University (TUP*)	4300				
Lanark	Private Collection of David J. White (DJW)	3500				
Huntsville	Central Zone - Ontario Parks (CZOP)	1000				
Cornwall Area	St. Lawrence Islands National Park Herbarium (SLINP)	200				
<b>Northern Ontario Collections</b>						
Location	Acronym	Vasculars	Bryophytes	Algae	Fungi	Lichens
Thunder Bay	Claude Garton Herbarium (LKHD*/LKHDM)	105000	†		4000	
Sudbury	Laurentian University Herbarium (SLU*)	18800	unknown			unknown
Sault Ste. Marie	Great Lakes Forestry Centre Herbarium (SSMF*)	12000				
Sault Ste. Marie	Sault College Teaching and Research Herbarium (SCAAT)	3000	†			
Sault Ste. Marie	Algoma University College Herbarium (AUC)	2260				
Sault Ste. Marie	Ontario Forest Reserch Institute (OFRI)	1000	138			21
Atikokan Area	Quetico Provincial Park Herbarium (QPP)	1000				
Wawa Area	Lake Superior Provincial Park Herbarium (SLP*)	700				
Thunder Bay Area	Sleeping Giant Provincial Park Herbarium (SGPP)	500				

Table 1. Summary of registered (\*) and previously unregistered herbaria in Ontario. For each region, collections have been ranked according to the number of vascular plant specimens. [† estimate includes vascular and non-vascular specimens].

collections of moulds and wood-decay fungi associated with the herbarium.

**P.M.Banks (PMBM). Holdings:** fungi: 276, mainly polypores. **Organisation:** digital database. **Contact(s):** P.M. Banks. **Address:** 2958 Sunset Blvd, Bright's Grove ON N0N1C0. **Telephone:** 519 869 4243. **Visiting Policy:** Open to outside researchers. **Loans Policy:** Specimens could be loaned to taxonomists. **Specimen Donations:** Willing to accept specimens. **Note:** Extensive mycological library - 120 volumes.

**Cryptogamic Herbarium Royal Ontario Museum (TRTC\*).** **Holdings:** fungi: ~>300,000 (includes lichens). **Historically Significant Collections:** > 1,000 type specimens. **Organisation:** A digital database is in progress. **Contact(s):** Jean-Marc Moncalvo, Curator. **Address:** CBCB - ROM, 100 Queen's Park, Toronto, ON. M5S 2C6. **Telephone:** 416-5865522. **Fax:** 416-5865553. **Email:** Jeanmarc@rom.on.ca. **Visiting Policy:** Collection open to outside researchers. Contact the curator for a visit. **Loans Policy:** Loan of specimens possible upon written request. **Specimen Donations:** The collection is accepting additional specimens. **Volunteers:** The herbarium welcomes volunteers willing to help entering specimens in the electronic database. **Associated Expertise:** Taxonomic expertise may be offered; please contact the curator.

#### Excluded Collections:

The following collections are referred to in publications in the recent past, but are not extant. For information on older "missing collections," consult Index Herbariorum (2003).

- CCO Carleton University Herbarium. Disbanded - CCO specimens now comprise the core of EOBMH (pers. comm. with E.Snyder 2002).
- ERCA Essex Region Conservation Authority. Transferred to WOCB (Index Herbariorum 2003)
- GBINP Georgian Bay Islands National Park. Collection is no longer going to be maintained (pers. comm. with K.Mannion 2003).
- MDK Personal collection of M.D.Kirk. Transferred to CAN (pers. comm. with D.Kirk 2002).
- MJS Personal collection of Mirek Sharp. M.Sharp does not maintain a collection - specimens go to NHIC, etc. (pers. comm. with M.Sharp 2002).
- OTF Canadian Forest Service. Transferred to PFES (Index Herbariorum 2003).
- OTT University of Ottawa. Some specimens went to CAN and some were destroyed (pers. comm. with Dr. David Currie 2002).
- PFES Chalk River Petawawa National Forest Research Institute. Transferred to CAN (Index Herbariorum 2003)
- RM Personal collection of Robert Muma. Transferred to TRT.
- WWJ Personal collection of W.W.Judd. Transferred to UWO (pers. comm. with W.W.Judd 2002).
- YUTO York University. No curated collection exists (pers. comm. with J.S.Shore 2002).

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## Reviews:

**Kershaw, Linda. 2002. Ontario Wildflowers: 101 Wayside Flowers. Lone Pine Publishing. 144 pp.**

List Price \$16.95+ (Soft cover)

This is a practical field guide which has features that make it particularly useful for the keen observer who does not have the time to work through the complexities of a complete key. The many colour-photographs are of high quality. One hundred and one flowering herbs were selected because of their uses by humans, be they medicinal, cosmetic, nutritional, agricultural, or for landscaping or the manufacturing of products.

Although my preference remains with the use of dichotomous keys and field guides that stress specific floral and leaf detail, I am certain that I will make great use of this book's 5 colour-coded sections (listed on pp.16 & 17 AND on the back cover), each having straight-forward titles. Linda's penchant for close-up observing has to rub-off on the person who has been "confronted" with a plant in flower, as she directs him/her to place it in one of the 5 sections before going any further. The sections are:

- 1) Two-sided flowers
- 2) Tiny Stalkless Flowers In Compact Clusters
- 3) Tiny Stalked Flowers In Branched Clusters
- 4) Circular Flowers With Distinct Petals
- 5) Circular Flowers With Fused Petals.

My only qualm is with Section 2- "Tiny Stalkless Flowers in Compact Clusters"; this is fine as long as one is aware that the term 'flower' here means the tiny head-floret of a composite flower; this is only subtly described.

There is an artificial dichotomous key designed for the book's plants (pp.25-31); useful black-&-white sketches of each plant's flower or inflorescence are incorporated into this key.

I must stress that colour-coding of the pages is to indicate the 5 section numbers, **not flower colour**. Let us assume that you are looking at a plant that has yellow and orange two-sided flowers -back cover referral places it as a member of Section 1 and invites you to go to pp. 32-47, whence you would likely decide on Butter-&-Eggs on p.34. Alternatively you could start with the aforementioned key.

An enjoyable feature of the book is the set-up of each page devoted to a specific plant. It is highlighted with 2 excellent colour-photographs, one being of the plant in its habitat, the other of the inflorescence. The actual text for each plant has a succinct paragraph to describe the derivation of at least the common name and to enlighten the reader on human uses for the plant, as per the opening paragraph above. At the bottom of the page is a brief note on the structure of the overall plant, leaves, flower and fruit, along with a referral to time of blooming, habitat, distribution, AND a unique feature-'PICK'-informing the reader that the plant can be, should be or should not be picked!!

The Introduction pages include 2 pages of basic help

(pp.10-11) on the component parts of the flower and direction tips on how to use the book for identifying, and 2 pages (pp.12-13) on 'To Pick or Not to Pick', in which Linda informs the reader that there should be little concern about picking for bouquet purposes if the plant is one of 30 noxious and nuisance weeds included in the guide. For the young members of a family she has 2 pages (pp.22-23) devoted to 'Fun with Flowers' in which various display projects are offered.

Ontario Wildflowers, one of seven Lone Pine field guides co-authored by Linda Kershaw, is a very handy reference. ♣

Douglas Lockrey

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**Flora of North America Editorial Committee (eds.) 2003. Flora of North America North of Mexico. Volume 23: Magnoliophyta: Commelinidae (in part): Cyperaceae. Oxford University Press, New York, NY. 640 pp.**

List Price: \$95.00 US.

The latest volume of the Flora of North America (Volume 23) covers the sedge family (Cyperaceae) in its entirety. This is a species-rich family (843 species covered in this volume) with some species very challenging to identify, so this volume will be very useful to anyone with an interest in sedges. FNA volumes can be purchased from Oxford University Press (<http://www.oup-usa.org/>). [Enter "Cyperaceae" in the search box to find this volume more quickly.]

There are more than 400 taxa of sedges in Ontario and I have gone through the NHIC Element Table (ET) to compare the names in it to those in FNA Vol. 23. Relatively few changes are required and most of these are the addition or deletion of subspecies and varieties. Thirty-two taxa will likely be added to Ontario's flora, 46 will likely be deleted, and 10 nomenclatural changes will likely be made to taxa currently in the list. For those interested in the details of these changes, a Microsoft Excel table has been prepared.

Although the distribution maps in this volume of FNA are a disappointment (mapping is now mainly done using a single dot in the centre of each state or province rather than the shaded range maps used in previous volumes), the illustrations are many and excellent (most species are illustrated), and I strongly recommend this book to anyone with an interest in sedges. ♣

M.J. Oldham

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## Notices:

### Annual General Meeting Update.

This past years AGM held in St. Thomas proved to be quite successful, with over 45 participants. Thank you to all the field trip leaders for your knowledgeable contributions and efforts.

For 2003 the Annual General Meeting will be scheduled for the weekend of September 13<sup>th</sup> and 14<sup>th</sup>. We will be holding the event in the Durham Region to explore the Oak Ridges Moraine. Please feel free to contact me for any suggests and input regarding past and future AGMs. ♣

Dirk Janas  
(905) 737-6094



Prior to the 2002 Annual General Meeting, the FBO policy was to keep its membership lists confidential; however, at the AGM, those present voted that a list of members should be available for all members. In response to this request, the Executive has decided that distribution of such a list with member information should be made available only with permission of the individual members. A consent section was included in your 2003 Membership renewal form, and we are in the process of compiling this information. ♣

W.D. McIlveen



Prairie Buttercup (*Ranunculus rhomboideus* Goldie).  
Cultivated and photographed by Bill Crowley.