Field Botanists of Ontario

Newsletter

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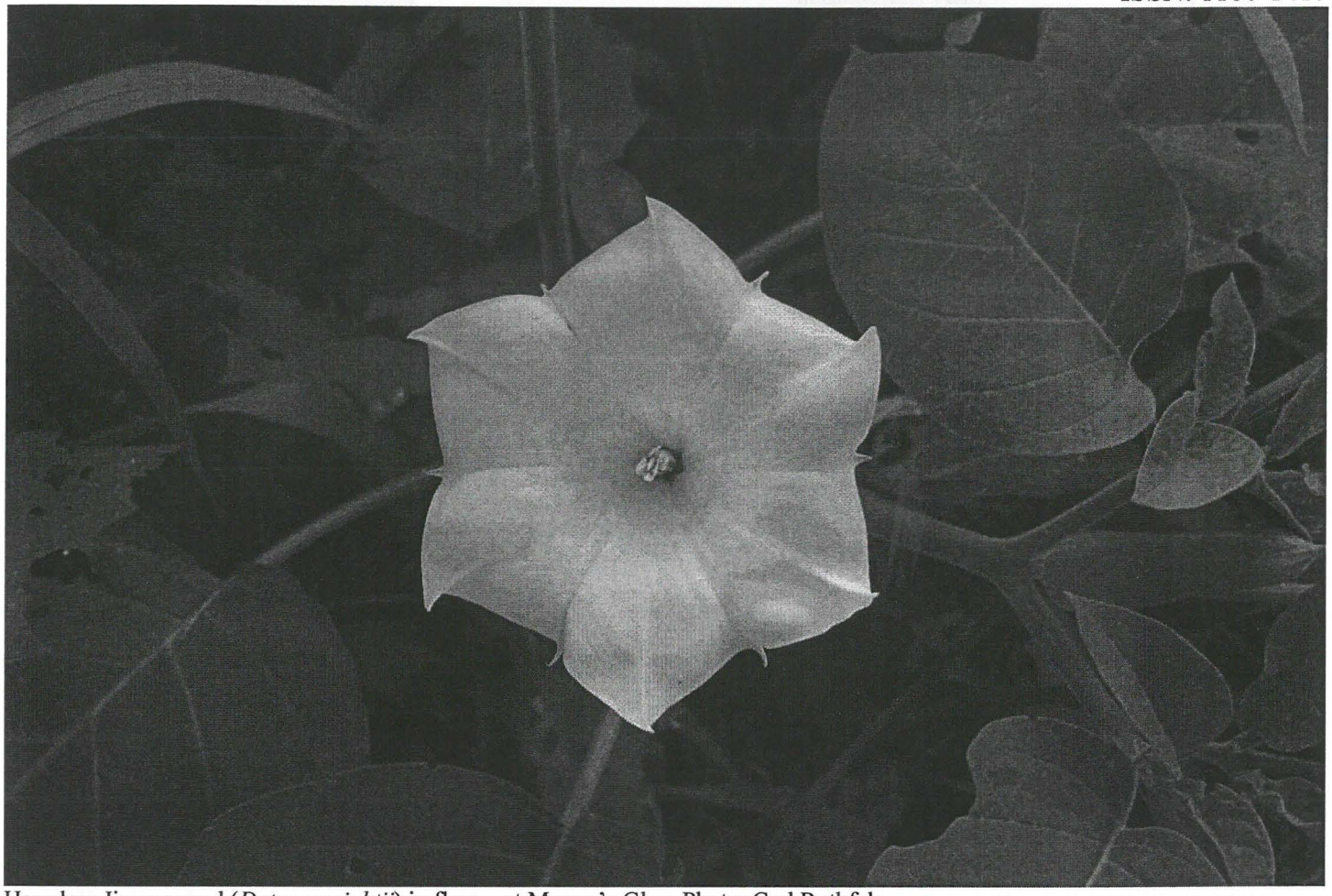

Harmless Jimsonweed (*Datura wrightii*) in flower at Mercer's Glen. Photo: Carl Rothfels

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FIELD BOTANISTS of ONTARIO

FIELD BOTANISTS OF ONTARIO NEWSLETTER

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

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

The **deadline** for submissions for **Volume 18(3)** is **June 30, 2006.**

Standard source for scientific names and authorities of vascular plants:

Newmaster, S.G., A. Lehela, P.W.C. Uhlig, S. McMurray and M.J. Oldham. 1998. *Ontario Plant List*. Ontario Ministry of Natural Resources, Ontario Forest Research Institute, Sault Ste. Marie, Ontario. Forest Research Information Paper No. 123, 550 pp. + appendices

President's Message

I would like to extend a special thank you to our members at large for their time and effort helping the executive in making the FBO an exceptional organization. Thanks to Jim Lane and Carol Brotman for their help with field trips. Thanks to Bill Crowley for his help with the 2006 Annual General Meeting and Bob Bowles for his help to the executive over the past couple of years.

Mary Ann Johnson

Editor's Corner

The timing was perfect for the inclusion of an article on Alderville Prairie to whet everyone's appetite for the upcoming Annual General Meeting to be held there on September 16 and 17, 2006.

As an added treat, and for the first time this issue, additional colour photos from the Rockwood Conservation Area trip can be viewed at my website, at www.lesliec.com/botany. Just follow the links to see more!

Leslie Collins

Field Botanists of Ontario
Revenue and Expense Statement
January 1 to December 31, 2005

Bank Balance Beginning	**2005**	**2004**
	$10,179.94	$9,786.09
Revenue		
Memberships 2004	$12.00	$2,370.84
Life Memberships	$0.00	$0.00
Field Trips	$2,010.00	$1,695.00
Annual General Meeting	$1,860.00	$935.00
Donations	$525.84	$395.00
US Exchange	$14.41	$16.94
Bank Interest	$0.30	$0.18
Bank Correction	$40.00	$15.00
Memberships 2005	$2,334.00	$48.00
Total Revenues	**$6,796.55**	**$5,475.96**
Expenses		
Field Trips	$0.00	$56.35
Field Trip Refunds	$0.00	$0.00
Field Trip Honoraria	$1,329.90	$1,320.00
AGM Honoraria	$400.00	$0.00
AGM Expenses	$1,550.40	$1,031.19
Newsletter	$1,384.40	$1,307.47
Executive	$104.93	$287.05
Liability Insurance	$1,150.20	$934.20
Bank Charges	$35.75	$145.85
Returned Cheque	$30.00	
FON Membership	$50.00	$0.00
Total Expenses	**$6,035.58**	**$5,082.11**
Bank Balance Ending	$10,940.91	$10,179.94
Increase (Decrease)	**$760.97**	**$393.85**

Auditor's Report to the FBO Board

I have reviewed the Field Botanists of Ontario accounts for fiscal year 2005 as prepared by your Treasurer, Bill Draper, and found everything to be in order.

In the course of this review I examined the bank statements, deposit records, donated cheques, executive expenses and receipts. It is my conclusion that the accounts balance with the bank statements and are accurately described in the Revenues and Expense Statement for 2005.

I believe that the Revenue and Expense Statement for 2005 accurately represents the transactions and financial picture of the Field Botanists of Ontario from January 1 to December 31, 2005.

Respectably submitted,
George Bryant

Toronto
January 22, 2006

Feature

Hamilton Weeding

George Bryant

There are some botanists who chase orchids, others who pursue only macro-photography objects, while still others seek carpets of spring ephemerals. Indeed amongst Ontario's tight-knit coterie of field botanists there are several favourite floral groups with but one exception—nobody likes weeds. In fact, for years it seemed I was the only person in the province who cared about the search and identification of weeds, particularly those rarely encountered. In my ostracism, I could even empathize with many of our common weeds!

So it was a great delight when I discovered a kindred spirit. In the past few years, Carl Rothfels has cut a wide swath through Hamilton's weeds. He has made many plant discoveries, including several new to Ontario or the Hamilton region. I read his reports with unabashed envy—many were plant species I had lusted after for decades. I asked Carl, as a fellow weedologist, if he could spare a few hours and allow me to join him in a quick survey of some of his finds.

First a little background to my report. *The Ontario Plant List* (Newmaster et al. 1998), published in 1998, was a godsend to all field botanists in Ontario. For the first time we had in one volume a list of all native and non-native (= weeds) vascular plants, bryophytes and lichens (4,700 species all told). The list provided the current scientific name, plus a cross-reference to earlier ones. Uniform common names were also suggested and this is a significant benefit. Plant common names lack uniformity (unlike common names for birds or butterflies or all scientific names). But they have value, serving as an excellent mnemonic, and as an easy way of communicating botanical information to people uncomfortable with scientific names. If you can't remember the scientific, often you can remember the common name. New to many of us was a rarity index, which ranked species from extremely rare-S1 (five or fewer records) to S5 (very common). If a plant is not native to Ontario, the rank includes the letter "E"[1] and is indicated with an asterisk (*).

In the report that follows, I provide common and scientific names and indicate species described by Linneaus. The number of our plants and particularly non-native plants first described by Carl von Linne (Linnaeus) is remarkable. For me, the pleasure in seeing a new plant is enhanced by the realization that one of its forbears was first named by the Father of Taxonomy.

On the afternoon of July 19, 2005, I rendezvoused with Carl at Royal Botanical Gardens (RBG) to see what we could see. We walked north from the building into the brilliant sun spreading over the Rose Garden. In the soil dumps surrounding the gardens, weeds were flourishing. Carl rhymed off:

**Lapsana communis* L. SE5
Nipplewort
One of the many yellow composites.

**Diplotaxis tenuifolia* L. SE5
Slender-leaved Wall-rocket
One of the many yellow mustards.

**Artemisia annua* L. SE1
Sweet Wormwood
One of the many weedy wormwoods.

**Setaria verticillata* L. SE4
Whorled Foxtail
A large, invasive grass.

**Calamagrostis epigejos* L. SE2
Feathertop
A large, ornamental grass.

**Conium maculatum* L. SE2?
Poison Hemlock
Perhaps less rare than indicated.

**Onopordum acanthium* L. SE4
Scotch Thistle
This species is much less common now than historically.

**Verbascum phlomoides* L. SE1
Clasping-leaved Mullein
I've seen it growing profusely on Mediterranean hillsides, this was my first New World observation.

In the mulch under a grouping of pines, Carl pointed out the two look-alike swallow-worts and for the first time I was able to observe the flower characters that distinguish them. He then also directed me to a third species of this highly invasive genus.

**Cynanchum rossicum* SE5
Dog-strangling Vine, Swallow-wort
Pinkish-maroon thin smooth petals and a yellow corona. Much more common in Ontario than *C. nigrum*, but under-reported, since most field guides only show *C. nigrum*.

**Cynanchum nigrum* L. SE?
Black Swallow-wort
Black thick, hairy petals and a dark purple corona.

**Cynanchum vincetoxicum* L. SE1
Poison-rope Swallow-wort
One of several plants I had not heard of before this day.

The adjoining woods were edged with an unusual shrub—one I had seen on several occasions and always been mystified by its identity. It was Amur Honeysuckle (*Lonicera maackii*) SE2, now abundant in RBG properties.

Geums a.k.a. Avens are a confusing group, with look-alike Herb Bennet (*G. urbanum* L.) SE2 now showing up everywhere in urban areas. We studied a profusion of Catling's Avens (*Geum X catlingii*) (*G. canadense X G.*

[1]Editor's Note: These are "Conservation Data Ranks" – part of the continent-wide NatureServe methodology originated by The Nature Conservancy.

urbanum) SE1, a newly described hybrid between our native Canada Avens and its introduced sibling species, and named after prominent Ontario botanist, Paul Catling.

The trail led into the woods and down into Hendrie Valley. Joined by Dean Gugler, we investigated an area where Dean had discovered Masterwort (*Peucedanum ostruthium*), a large umbellifer and apparently the first record for Canada. But there was no trace of it—perhaps it was too late in the year. We agreed to resume the search next spring. My attention was then drawn to very large water-lily leaves emerging about 15 cm above the surface. In Muskoka where I botanize in the summer, White Water-Lily has small leaves, while Yellow Water-lily has large ones, and neither emerges above the surface. Was this Spatterdock, a Yellow Water-Lily with emergent leaves found in southwestern Ontario? To my surprise Carl informed me this is the same species as my Muskoka White Water-lily but an entirely different variety. It was Tuberous White Water Lily (*Nymphaea odorata* spp. *tuberosa*) of unknown Ontario status. Suddenly, my clear assumptions about water-lilies were dashed.

We motored to the Rock Garden parking lot on York Boulevard. In an unsuccessful search for Dwarf Chickweed (*Cerastium pumilum*) SE2, we encountered many specimens of the look-alike Larger Mouse-ear Chickweed (*Cerastium fontanum*) SE5. Carl remarked that as the former was an annual, it would all be dead now, whereas the latter being perennial had, of course, persisted. For me the penny dropped—I had never appreciated this basic distinction between annuals and perennials. In the grass beside the road, Carl pointed out Lesser Wart-cress (*Coronopus didymus* L.) SE1, diminutive mustard with flowers so small that the four yellow petals, typical of cruciforms, required a hand lens. Here, finally, I came to grips with Pennsylvania Pellitory (*Parietaria pennsylvanica*) S4. Although a native plant, this species contravenes one of the basic distinctions between weeds and native species. Virtually all weeds grow in disturbed areas where the soil has been turned by man—most natives prefer natural areas. But this small native member of the nettle family not only looks like a non-descript weed, it acts like one—preferring to grow in gardens or road edges.

Beside the walkway to the Rose Garden and in the deep afternoon shadow cast by the York Boulevard Bridge, Carl produced a rank display of Alkanet or Small Bugloss (*Anchusa officinalis* L.) SE3. This handsome erect European borage would be much better known to field botanists but for one thing common to many of the plants we saw that day: they are not covered in the popular North American field guides.

Over the railroad bridge and across the road, we explored the York Boulevard Prairie. This is a two-three acre tract of land owned by RBG. Over the decades, the dry south-facing upland has experienced a series of fires, first caused by hot cinders falling from steam locomotives, more recently by RBG prescribed burns. The result is a dry open upland in which prairie species flourish. Many of the seeds may have been carried by eastbound trains. Carl pointed out Stiff-leaved Goldenrod (*Solidago rigida* L.) S3, a prairie species that I had previously seen only on Walpole Island. Hamilton represents the second-most eastern station for this plant, the first being along a railway in St. Catharines. Crested Wheat Grass (*Agropyron cristatum* L.) SE2 was showing well here. This was new for my Ontario list, but not a good sighting. This invasive grass has become a major pest in the Canadian prairies.

It was then down the hill to Carl's most productive botanizing site—Mercer's Glen. This small piece of land halfway down the hill on Old Guelph Road is owned by RBG, and used as their composting facility for coarse woody debris. Several well-fertilized, robust herbs crowded the tops of the soil dumps looking like so many shrubs:

**Datura stramomium* L. SE5
Common Jimsonweed
Very toxic.

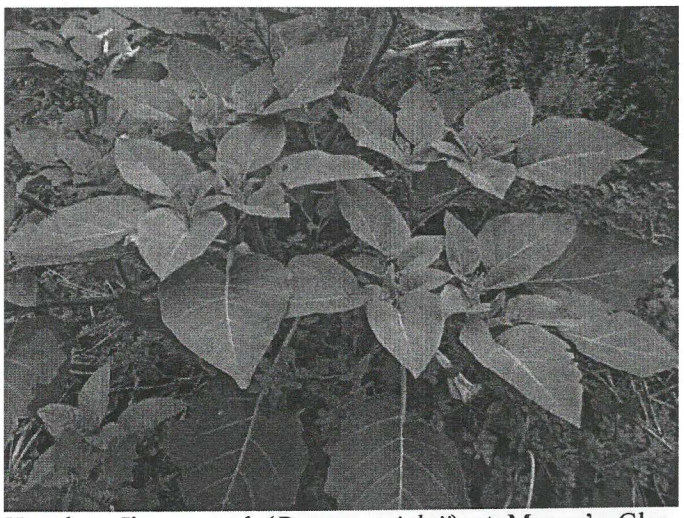
**Datura wrightii* SE1
Harmless Jimsonweed
I wouldn't trust the harmless label!

**Nicandra physaloides* SE1
Apple-of-Peru
Another member of the Tobacco Family.

**Iva xanthifolia* SE1
Bur-weed Marsh-elder
Well named as it looks very much like the next composite.

Xanthium strumarium L. S5
Cocklebur
Another native that looks and acts like a weed.

**Cleome hassleriana* SE1
Spiderflower
A garden plant, it escapes enough to be accepted in the Ontario Plant List.



Harmless Jimsonweed (*Datura wrightii*) at Mercer's Glen. Photo: Carl Rothfels

One of Carl's prize discoveries here was Purple-top Vervain (*Verbena bonariensis*). Originally described from a specimen from Bonaire, this is a widespread tropical weed—I had encountered it before in Florida and Hawaii; this apparently is only the second record for Canada (Carl having found the first a year earlier in Hendrie Valley), so I was delighted to see it.

The plant has superficial resemblance to our native Blue Vervain (*Verbena hastata* L.) S5, but the flowers are much smaller, lighter purple, and the stem has prominent wings. Another greenhouse discard may have been Dill (*Anethum graveolens* L.) SE1. Although it is grown abundantly in herb gardens, it seldom escapes cultivation. Another great discovery was Herb Mercury (*Mercurialis annua* L.) SEH—'H' for historic—not recorded in over twenty years in Ontario.

Carl then kindly identified for me several species that are widespread in Ontario but beyond my identification skills. They included:

Artemisia ludoviciana S4
Western Mugwort
White woolly leaves.

Amaranthus albus S5
Tumble Pigweed
Native to the plains.

**Amaranthus retroflexus* L. SE5
Redroot Pigweed
Native to tropical America.

On the other side of Highway 403, Carl pointed out a mass of Garden Garlic (*Allium sativum* L.) SE2 growing down the embankment. What was this rare escape doing here?

Next stop was the RBG York Road parking lot, which provides access to the Cootes Paradise North Shore trails. In the shrub border Carl produced one of his major discoveries—Sharp-leaved Fluellen (*Kickxia elatine L.*) SE1. This little prostrate annual is very common in Europe, but rare in North America. As we were admiring it, Carl observed that not all plants were the same. The original find bore yellow and purple flowers with the typical snapdragon shape, but with leaves distinctly arrow-shaped. Other plants had larger flowers, and round leaves. These could only be Round-leaved Fluellen *(Kickxia spuria* L.) SE1. What a wonderful experience! We were looking at two sibling species—the common names from a character in Shakespeare's, *Henry V* and the Latin names from Linnaeus. Both plants are extremely rare in Ontario but pictured in every European field guide.

The afternoon was wearing on—Carl suggested we indulge in a few more botanical adventures of a gustatory nature. We passed through downtown Hamilton, where I had lived in the 1960s. I was pleased to see how little the old neighbourhood had changed. The red brick houses remained, interspaced perhaps by a few more parking lots. I had forgotten the proliferation of Vietnamese restaurants—Carl had not. At his favourite on Cannon Street, I compared their Durian (*Durio zebethinus*) milkshakes to Avocado (*Persea americana*). Both were outstanding.

We then sampled some of the delights of inner city botanizing by strolling along the railroad sidetracks near Gage Avenue and the Stelco steel mill:

**Picris hieracioides* L. SE5
Hawkweed Oxtongue
Not in the field guides, so overlooked.

**Lathyrus sylvestris* L. SE3
Narrow-leaved Everlasting Pea
Less common than Broad-leaved Everlasting Pea.

**Sisymbrium officinale* SE5
Hedge Mustard
officinale means for herbal use.

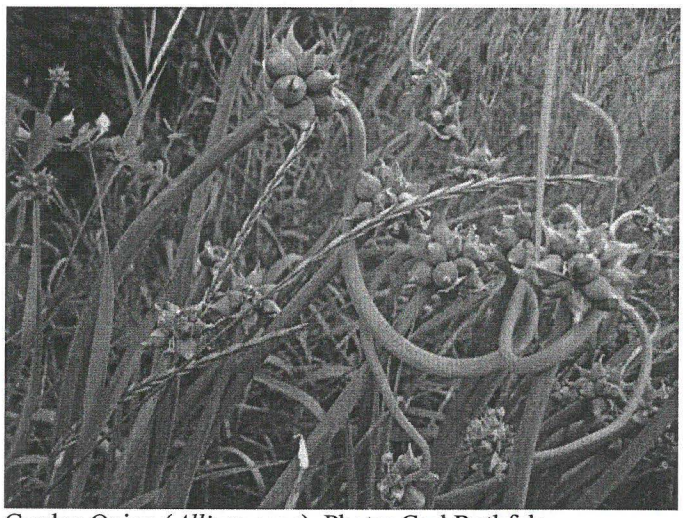
**Symphytum officinale* SE5
Common Comfrey
Plants have either purple or yellow flowers.

**Allium cepa* Not in OPL
Garden Onion
New for Canada?

**Potentilla X inclinata* SE4?
Hybrid Cinquefoil
Another new hybrid.

Chamaesyce nutans S4S5
Eyebane
Native here, an abundant lawn weed in Europe.

Eupatorium altissimum S1
Tall Joe-pye-weed
Now found at several Hamilton sites.



Garden Onion (*Allium cepa*). Photo: Carl Rothfels

We made it back to the parked car on Avondale Street just as the sun was setting. In a crack in the street, Carl pointed out Goose Grass (*Eleusine indica*) SE3. Originally from India, this distinctive grass with stout finger-like spikes is now one of the most widespread weeds in the world. What more cosmopolitan setting could there be than the north end of Hamilton?

For the past several years I have kept records of the plant species I encounter in Ontario, averaging about twenty new species per year. In one memorable afternoon around Hamilton Carl Rothfels showed me 24 new species of plants! Anyone else want to join us this summer?

▲ ▲ ▲

Field Trip Reports

Alderville First Nation's Black Oak Savannah Tallgrass Prairie

September 14, 2003

Rick Beaver, biologist, Ojibway artist and traditional healer was the gracious and knowledgeable host for our tour of the Alderville First Nation's Black Oak Savannah Tallgrass Prairie near Rice Lake. "We are 1832 Mississauga Ojibway from the Ganonoque area, originally via Grape Island, Bay of Quinte," Rick recounted. Their settlement in this area was arranged by William Case, Methodist Minister. They had burned the land here intentionally for habitat for ungulates, and before them Iroquoian people burned for crops prior to 17th Century. Burning the savannah is now used to encourage its unique flora that are adapted to fire, and to control exotic plants that were not here during the time of the original burnings. There is also ongoing work to restore tallgrass communities to adjacent former agricultural land.

The Beaver clan are traditional healers, and Rick's mother as a practitioner passed on her medicinal knowledge of plants to him, allowing Rick to reveal the medicinal properties of some of the 500 species known to grow on the site.

The Alderville prairie is characterized by a number of topographic variations, creating microclimates favourable to different suites of prairie communities. Rick's tour was therefore organized on the trail that wended through named features such as the Bowl, the Hog's Back and the Draw.

The Bowl was our first stop, which is shaped as its name suggests, causing it to be cooler and wetter than much of the site. Here we were introduced to the characteristic prairie grasses Big Bluestem (*Andropogon gerardii*), Little Bluestem (*Schizachyrium scoparium*), and Indian Grass (*Sorghastrum nutans*), as well as Woodland Sunflower (*Helianthus divaricatus*), Pointed Tick Trefoil (*Desmodium glutinosum*) – ready to attach their disarticulating seedpods to our socks on the way by – and the last of the Wild Bergamot (*Monarda fistulosa*), which many of us drink as the aromatic component in our Earl Grey tea. The moisture surplus here allows for the growth of shrubs and trees, including Prairie Willow (*Salix humilis*), Serviceberries (*Amelanchier* species), Choke Cherry (*Prunus virginiana*), New Jersey Tea (*Ceanothus americanus*), and Buffaloberry (*Shepherdia canadensis*), the last two of which are nitrogen fixers.

The Aspect is the top, north part of the Hog's Back (see below), where the soil is well drained, acidic, and is more exposed to wind and sun. Plants found here are generally low growing and early flowering to take advantage of early moisture and moderate temperatures: Robin's Plantain (*Erigeron pulchellus*), Prairie Buttercup (*Ranunculus rhomboideus*), and Early Saxifrage (*Saxifraga virginiensis*), which prefers proximity to lichen encrusted stone, are found here, although past their peak flowering time by September.

The Hog's Back is the highest, driest, and windiest part of the site. New plants we observed here are Prairie Brome Grass (*Bromus kalmii*) and Thimbleweed (*Anenome cylindrica*). The area called the "Foot of the Slope" are the lower parts of the Hog's Back, which are sheltered from drying winds and sun, and therefore moister, allowing a different suite of plants: Spreading Dogbane (*Apocynum androsaemifolium*), Prairie Cinquefoil (*Potentilla arguta*), Gray Dogwood (*Cornus foemina*), and Low Sweet Blueberry (*Vaccinium angustifolium*), the latter an indicator of acidic soils.

Further down the trail we were shown Bearberry (*Arctostaphylos uva-ursi*), also known as kinnikinnik, and to the Ojibway called *minagunj*. Bearberry is a prostrate, spreading shrub with small leathery leaves and bright red, mealy berries in the fall. It is an important medicinal plant wherever it is found, and is also included in native smoking mixtures.

The Draw is a glacier-carved corridor through the Hog's Back, through which a variety of small mammals travel. This area, too, is wetter and cooler, but nutrient rich. Here we see False Solomon's Seal (*Maianthemum racemosum*), Black Snakeroot (*Sanicula marilandica*) and Seneca Snakeroot (*Polygala senega*), which Rick informs us is used for the treatment of lung disorders.

Another prairie native is the Field Thistle (*Cirsium discolor*), found in the shade of trees at the edge of the savannah, itself dominated by Black Oak (*Quercus velutina*), and naturally occurring Red Pine (*Pinus resinosa*), along with Northern Red Oak (*Quercus rubra*).

With the outing in early September, the *Solidagos* and *Asters* were in full show, some of which are seen more commonly, such as Heath Aster (*Aster ericoides*), New England Aster (*Aster novae-angliae*), Calico Aster (*Aster lateriflorus*) and Gray Goldenrod (*Solidago nemoralis*), and others, which are specific to the prairie habitats such as Azure Aster (*Aster oolentangiensis*), and Silverrod (*Solidago bicolor*). In particular, we were led to the nationally rare Sharp-leaved Goldenrod (*Solidago arguta*).

The major restoration effort here is the reintroduction of *Lupinus perennis*, the Wild Blue Lupine, with the eventual reintroduction of the extirpated Karner Blue butterfly which relies upon it, once populations have stabilized. There are currently three populations of Lupines within the Rice Lake Plain where the Alderville Prairie is situated, which supplied the seeds for the nursery in which 3,847 plugs were planted out by volunteers in the first two years of the program.

Wild Blue Lupine (*Lupinus perennis*). Photo: Leslie Collins

Besides an impressive plant population, the Alderville prairie can also boast of 20 new bluebird young from nesting boxes volunteers have installed. As well, 51 species of butterflies, including the Delaware Skipper and Eastern Pine Elfin, have been identified.

On our final stop on the trail, we see the plans for future restoration unfold: on adjacent agricultural lands, seeds of five grasses and twenty-five forbs collected from the savannah were harrowed into stubble in November at a rate of 15 lb/acre. The following year, it had been mowed twice to control unwanted competition in early July and early August, although there are currently many exotic volunteers (plants, that is).

This fieldtrip presented a tremendous amount of information on rare tallgrass flora and fauna, local history, traditional herbal medicine, and a glimpse into the results of the efforts of the many volunteers, both individuals and organizations that have contributed to the restoration and recreation of the rare tallgrass prairie/savannah habitat. Ed Morris expressed our thanks on behalf of the group, or as the Ojibway would say "*Chi miigwech*" – Big Thanks!

Cheryl Hendrickson

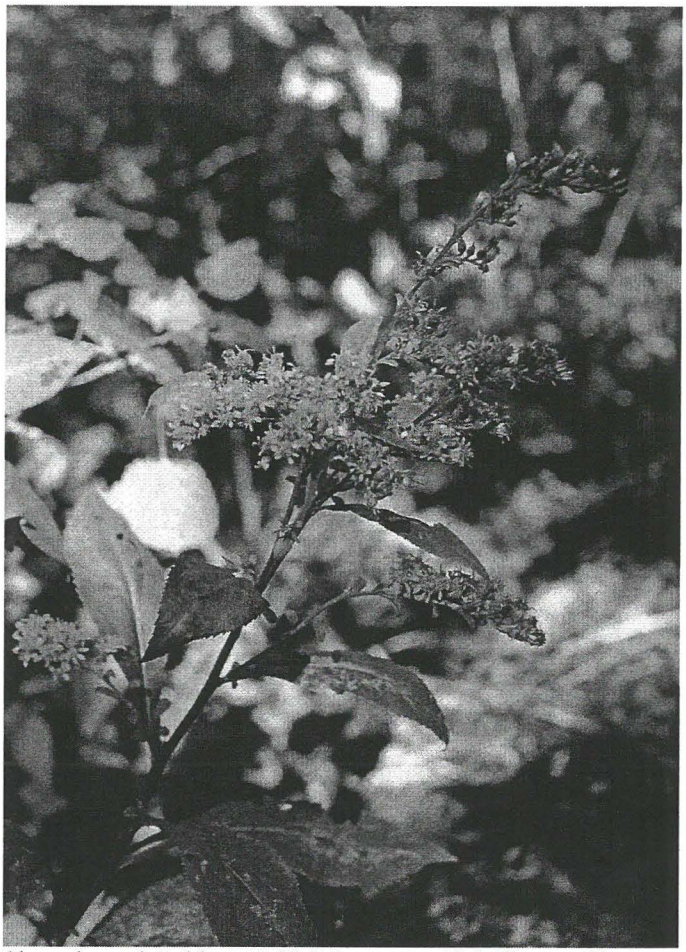
Rockwood Conservation Area

September 18, 2005

The field trip in the Rockwood Conservation Area not only provided the group with the opportunity to experience the unique geological formations and flora associated with the limestone bedrock formations, but it also included an enlightening visit into the past to look at the quarry operations that occurred here for many years. Ken Ursic, one of our co-leaders took us on an historical journey through this fascinating landscape. The limestone outcroppings along the banks of the Eramosa River were mined as a source of building stone and lime. The building stone that was extracted by hand from these outcroppings can be seen in many of Rockwood's buildings, including a former mill, which is now a popular recreation spot. The remnants of a former lime kiln mark the spot where the limestone rock ($CaCO_3$) was cooked on wood fires to remove carbon dioxide (CO_2) and generate lime or calcium oxide (CaO); one of the oldest chemical transformations known to humans. Lime mixed with water and sand produces mortar for use in construction to secure bricks, blocks and stones.

While the scars of the former quarry operations are still evident, many years of primary succession have transformed the former quarry walls and spoil piles into natural communities that are strikingly similar to the vegetation assemblages one sees along natural escarpments. Being able to interpret the history of the site helped to explain the structure and succession of plant cover and species that were observed during the walk.

The first stop was to examine a small gorge created by the erosive action of the water flow against the soft carbonate-based rock of the Guelph formation. The gorge wall showed the depth of bedded limestone that was the prize of the quarry industry at Rockwood. It was here that we had our first glimpse of some of the species that inhabit the conditions within the cool, shaded, moist environment of the gorge feature. The species observed included Herb Robert (*Geranium robertianum*), False Nettle (*Boehmeria cylindrica*) and Bulblet Fern (*Cystopteris bulbifera*). Leaving the gorge, the group traveled into the disturbed quarry area where operations were abandoned some 70 years ago. Species that have colonized the quarry floor include Common Lilac (*Syringa vulgaris*), a calciphile and abundant throughout the quarry, Eastern White Cedar (*Thuja occidentalis*), Balsam Poplar (*Populus balsamifera*), Pussy Willow (*Salix discolor*) and Soapberry (*Shepherdia canadensis*). Identification of the Soapberry emitted other common names such as Buffaloberry, clearly indicating personal preferences of a common name for this particular species. Ebony Sedge (*Carex eburnea*) and Gray Goldenrod (*Solidago nemoralis*) formed an abundant ground cover on the floor of the quarry. Less abundant species included Small Skullcap (*Scutellaria parvula*) and a good sized population of the provincially/nationally rare Sharp-leaved Goldenrod (*Solidago arguta*). The field check to easily identify this species is the long, slender, winged petiole of the leaf. At the site of a kiln used to "cook the rock" a healthy specimen of the cultivar Oriental Virgin's-bower (*Clematis orientalis*) was observed.



Sharp-leaved Goldenrod (*Solidago arguta*) in flower. Photo: Leslie Collins

Ken explained, based on the results from his master's thesis, that the sequence of plant colonization during primary

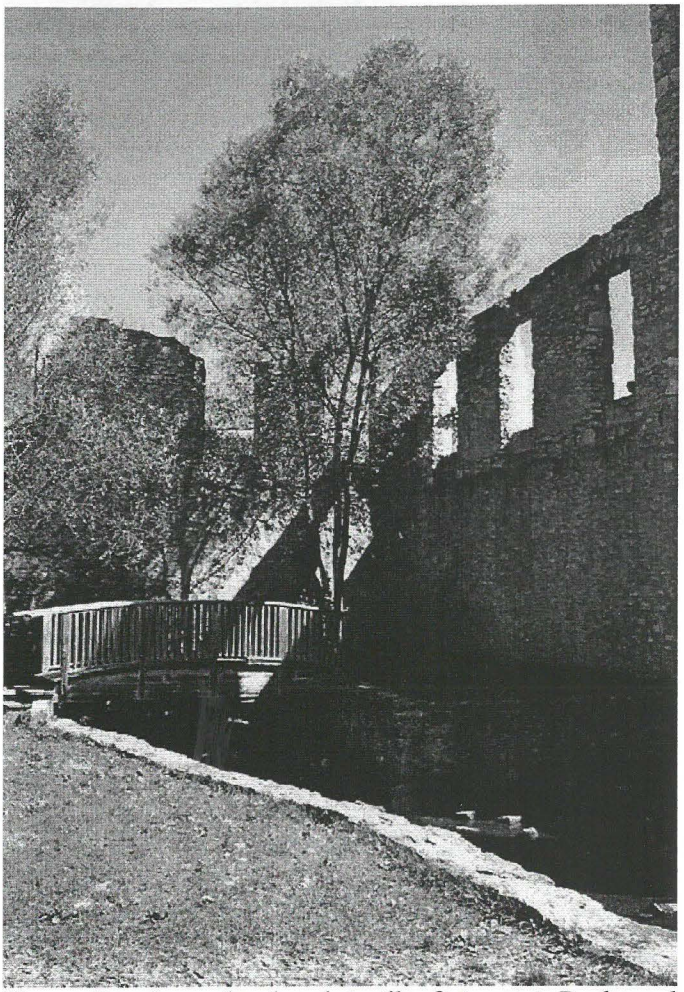
succession on quarry faces is relatively predictable. During the first 30 years, these sites are dominated by ruderal species, primarily weedy annuals and early successional species, such as aspens and birch. Eventually, these are replaced by longer-lived species such as Eastern White Cedar, which further modify light and moisture conditions on the quarry face, encouraging the recruitment of ferns, mosses and lichens. After approximately 80 years, most quarry faces support the same compliment of vascular and non-vascular plant species one would encounter on the natural limestone cliffs along the Niagara Escarpment.

Soon the moss seekers took over and names not commonly recognized in the vocabulary of vascular plant taxonomy were heard from those scouring the quarry walls and spoil piles. Joan Crowe identified an orangey-red alga, *Trentophilia* sp., found in abundance primarily along the lower slope of the wall. Several patches of liverwort (*Marchantia* sp.) were examined at close range with the hand lens.

Leaving the disturbed quarry following the trail, the group passed into a deciduous forest that had not been disturbed by the adjacent quarry operations. Trees included the commonly recognized Eastern White Cedar, Black Cherry (*Prunus serotina*) and Trembling Aspen (*Populus tremuloides*). Shrub species included Alternate-leaved Dogwood (*Cornus alternifolia*) and Round-leaved Dogwood (*Cornus rugosa*), with ground cover provided by Large-leaved Aster (*Aster macrophylla*) and Wild Sarsaparilla (*Aralia nudicaulis*). Farther up the trail, Periwinkle (*Vinca minor*) took over the ground cover on both sides of the trail, in unison several group members made a quick pronouncement that there must be a former building or lot nearby. A few steps farther and there was an opening in the forest that contained the foundation of a small building associated with the quarry operation. This site was surrounded with a healthy population of Sharp-leaved Goldenrod, some of which was still in bloom and quite attractive with its reddish stems.

The next stop was back into the cedar-dominated forest and along an undulating trail section that led up to a more rugged area of limestone outcroppings. With some teamwork, all participants managed to climb to the top of the outcrop to experience the spectacular vistas overlooking a deep gorge. Having reached our destination, some of the group climbed down into the bottom of a gorge and then into the bottom of the largest pothole known in Ontario. Found in the pothole was Bulblet Fern and the nationally/provincially rare Green Spleenwort (*Asplenium trichomanes-ramosum*). The main field characteristic of this species is the green rachis. Secondary field characters include the "flexible" feel and appearance of the frond. Compared to the more common Maidenhair Spleenwort (*Asplenium trichomanes*), the latter has a dark rachis and is less flexible in appearance. Outside of the pothole, the floor of the gorge had a rich community of species that included Evergreen Wood Fern (*Dryopteris intermedia*), Marginal Shield Fern (*Dryopteris marginalis*), Spikenard (*Aralia racemosa*), Canada Mayflower (*Maianthemum canadense*), Red Currant (*Ribes rubrum*) [introduced], and Common Speedwell (*Veronica officinalis*).

The group retraced its footsteps to return to the main path and then we made our way down the forest slope to the walkway that ran parallel to an impounded portion of the Eramosa River, forming a small lake. The surrounding grounds at the downstream end of the lake was the former site of a textile factory that by all appearances was an extensive operation during its heyday as shown in the signboards at the mill. Only the skeleton of the main building remains but in itself is interesting architecture and lovely ambience that attracts visitors and for us was a nice spot to have lunch.



The walls of an abandoned textile factory at Rockwood Conservation Area. Photo: Leslie Collins

After lunch the group traveled to another section of forest and spent time examining the face of a large, steep rock outcrop. One of the species associated with this habitat and not found yet through the day but present here was Smooth Cliffbrake (*Pellaea glabella*). This species has a unique form that once committed to memory is easily recalled. Like the Green and Maidenhair Spleenworts, the Smooth Cliffbrake has its rare cousin in the form of the Purple Cliffbrake (*Pellaea atropurpurea*). Again using the common name to assist with the identification, the rare Purple Cliffbreak has a hairy stem and has a more upright growth form and is generally a larger plant. Sam produced a pressed specimen of Purple Cliffbrake to provide a comparison with the Smooth Cliffbrake from the rock face but a few metres away. This area had a number of potholes of varying sizes. There was always great anticipation peering into these from above to

identify what was found within. A nearby pothole contained Rock Polypody (*Polypodium virginianum*).

Smooth Cliffbrake (*Pellaea glabella*) springs forth from a rock outcrop. Photo: Leslie Collins

Walking from this last stop back to the parking lot brought the group along the edge of the lake. Species observed along the way included Turtlehead (*Chelone glabra*), Beggarticks (*Bidens frondosa*), New England Aster (*Symphyotrichum novae-angliae*), Spotted Joe-pye-weed (*Eupatorium maculatum*), Smooth Buckthorn (*Rhamnus frangula*), Silky Dogwood (*Cornus ammomum*) and Japanese Knotweed (*Polygonum cuspidatum*).

Many thanks to our leaders, Ken Ursic, Sam Brinker and Melinda Thompson, who provided a wonderful interpretation of the landscape and flora in the Rockwood Conservation Area.

Jeff Warren

Essex County Carolinian Sites

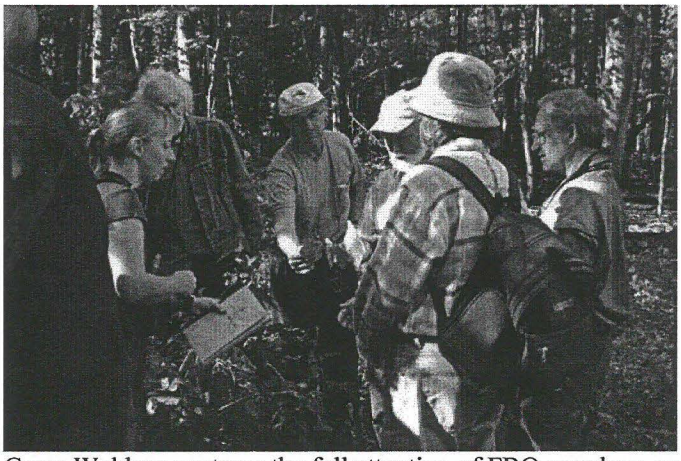
October 1, 2005

The nature of vegetation communities anywhere is largely a function of two kinds of factors – climate, and site – and this became abundantly evident during our field trip to Essex Region. Saturday, October 1 was warm and sunny, and a very pleasant day to botanize; the previous day's storm had blown down branches, often providing useful samples of canopy leaves and fruit for us. Our group included some who had come from as far as Ottawa, and all were keen to see some of southwestern Ontario's seventy-plus special tree species, typical of the Canadian 'banana belt'. Visitors from the Greater Toronto Area could compare plants growing in natural habitats, including several large and magnificent 'Honour Role' individuals with, for example, gardened specimens at High Park in Toronto.

We visited three examples of Carolinian lowland forest fragment and stopped for lunch at a fourth, Cedar Creek (of course *all* of souwesterland's Carolinian forests tend to be lowland, with so little relief present there – just 80 feet from the high ground to the low in Essex; moreover, given the abundance of clay underneath, and all that Great Lakes meltwater all around it, swampy land has prevailed until relatively recently).

The trip was led by local ecologist Gerry Waldron, whose knowledge and experience of Carolinian ecosystems is immense, and for whom trees are an abiding interest. For Waldron, trees serve as a kind of surrogate for ecosystems, and so in turn can represent a region's entire biodiversity. While waiting for the group to assemble, we were able to "Nosy Nelly" in Gerry's diverse and well-kept garden and arboretum – of exotics and hybrids, natives and naturalized, aquatic and terrestrial.

Several copies of his splendid *Trees of the Carolinian Forest* were on hand, and during the day Gerry gave abundant further amplification of fascinating details, especially concerning plant mating systems and the sexual adventures of the several groups of trees that the trip tried to highlight. These included the diverse array of oaks, hickories, and ashes characteristic of the region. According to Gerry, sexual promiscuity and inter-specific mating in these plants is particularly high – a very sexy set in a kingdom where mating systems are altogether often much looser than those of the more sexually circumscribed and restrained members of the animal kingdom. For Gerry, the whole Red Oak group is particularly noisy, though we also spent pleasant time considering the array of similarities and differences between Swamp White Oak (*Quercus bicolor*) and Bur Oak (*Q. macrocarpa*), searching for the putative hybrid (*Quercus* x *scheutii*). These are examples of two of the oaks *not* in the Red Oak section, but among the eight or nine oak species or hybrids we were shown, in order to get a *gestalt* or search image for each, based upon a blend of phenotypic traits.



Gerry Waldron captures the full attention of FBO members on the trip to Essex. Photo: Bill McIlveen

This was very much the approach that Gerry emphasized for making field determinations in all these tree species – that is, as a series of individuals, each situated in particular habitat microsites, and produced via pairings which, in their ways, could full outwit the neat taxonomic categories into which we often push plants. And so it went: Pumpkin Ash (*Fraxinus profunda*) with its characteristic large keys and luxuriant foliage was examined as an evolving polyploid hybrid of Red Ash and White Ash (*F. pennsylvanica* and *F. americana*, respectively); Black Maple (*Acer saccharum* ssp. *nigrum*) was

observed as an emergent sub-species of the Sugar Maple; field distinctions between the very rare native, Red Mulberry (*Morus rubra*) and the naturalized White Mulberry (*M. alba*) were compared, and again hybrid individuals having interesting mixes and blends of traits were observed. In this way too we examined an interesting hickory *Carya ovalis*, as a hybrid of *C. ovata* and *C. glabra*. Shumard Oak (*Q. shumardii*) remained rather elusive, as a species in the Red Oak group, eliciting a lot of hand lenses to examine tiny hairs on leaf undersides.

We visited the headland of the River Canard, largest of the Detroit River's sub-watersheds, and saw a champion (now deceased) Pumpkin Ash, as well as a small, but very rare grove of Kentucky Coffee-trees (*Gymnocladus dioicus*), and fruiting Butternuts (*Juglans cinerea*); unusual, and encouraging, given its general decline in southern Ontario. We also searched in the floodplain among the ubiquitous Poison Ivy (*Rhus radicans*) male and female individuals, woody climbing vine and luxuriant floor species, looking for Green Dragon (*Arisaema dracontium*), but finding nothing, not even mature infructescences (possibly a function of the long and dry summer acting upon this early spring species).

We explored Arner Woods and Balkwill Woods, two fine Essex Environmentally Significant Areas that contained many different oaks, as well as Tuliptree (*Liriodendron tulipifera*), American Chestnut (*Castanea dentata*), Redbud (*Cercis canadensis*), Sycamore (*Platanus occidentalis*), Shagbark and Shellbark Hickory (*Carya ovata* and *C. laciniosa*, respectively), Butternut, Summer Grape (*Vitis aestivalis*), Flowering Dogwood (*Cornus florida*), Black Gum (*Nyssa sylvatica*), which was not nearly so sour and puckery as the Persimmon (*Diospyros virginiana*) we sampled later, lots of large, cloning Sassafras (*Sassafras albidum*), American Crab Apple (*Malus coronaria*), and a plantation of White Pine (*Pinus strobus*) and Black Walnut (*Juglans nigra*).

Fruit of *Cornus florida* at Arner Woods. Photo: Bill McIlveen

During the trip, we saw abundant evidence of dead ash trees and other effects of the Emerald Ash Borer. We also considered the nature of evidence necessary to draw conclusions about whether a species is native to a location or not (introduced Manitoba Maple (*Acer negundo*) in Essex, in one case). We observed abundant Common Reed (*Phragmites australis*), which appears to have completely usurped Purple Loosestrife (*Lythrum salicaria*) as the predominant wetland weed, and shows signs of becoming a significant regional invasive.

Grove of ash trees killed at the headwater area of the River Canard due the work of the Emerald Ash Borer. Photo: Bill McIlveen

The trip was an interesting one and we look forward to seeing further Carolinian 'treasures' in future.

Jon Lovett-Doust

Errata

Re. "Nels Maher – The Great Naturalist" (Winter 2006, FBO Newsletter Vol. 18(1): 4).

Joan Crowe was incorrectly identified as the photographer for the picture that accompanied this article. Joan clarified that the picture was taken by Telfer Wegg and was used by Nels' family for his memorial card.

-Leslie

Re. "Madawaska Highlands" (Winter 2006, FBO Newsletter Vol. 18(1): 5-8).

Paul O'Hara pointed out that the sedge photo in this report is not of Yellow Sedge (*Carex flava*), as indicated in the photo caption. He suggests that it could be Retrorse Sedge (*Carex retrorsa*).

-Leslie

Books

Photographic Atlas of Botany and Guide to Plant Identification

Leslie Collins

The following information regarding a publication was recently passed my way:

"Dr. James L. Castner, biologist and professional photographer, has combined his teaching experience with his photographic skills to create *Photographic Atlas of Botany*

and Guide to Plant Identification. Designed specifically for college students of general botany and plant taxonomy classes, this book is also extremely useful to the master gardener, field biologist and interested layman.

Dr. Castner has provided over 2,000 colour photos that illustrate the structural characters and anatomical features of the major plant families and taxonomic groups discussed in botany courses. In addition to photographic coverage of approximately 150 plant families from the angiosperms, gymnosperms and ferns and fern allies; explanations and illustrations of external and microscopic anatomy are also provided. The anatomy section discusses and illustrates roots, stems, leaves, flowers and fruit."

Further information on this publication is available at www.felinepress.com or contact Dr. Castner directly at jlcastner@aol.com.

If anyone is already in possession of this book and would like to do a book review, please contact me at fbo@lesliec.com or at my home number (see page 2).

Notices

East Asia Beckons

Chris Zoladeski

The deciduous forests of East Asia are renowned for their bewildering variety of species. The region did not suffer the devastating effects of glaciations to the degree the North American continent did and Europe in particular. Most of the ancient flora has survived and beguiles botanists with spectacular displays of diversity.

Are you, FBO members, interested in savouring these botanical delights? It is just a wild idea at this point, but I am looking for people who would be interested in joining me on a botanical trip to the region. This is of course beyond FBO's mandate and the purpose of this note is merely to canvass the level of interest in the expedition. We are hoping to assemble a group of 4-5 people, preferably from this organization's ranks.

So, if you would like to see for yourself the Far East's Acers, Betulas, Quercuses, Tilias, Liriodendrons, Linderas, Arisaemas, Parises, Viburnums, and other relatives of our native flora plus innumerable new exciting species, give it a thought.

We are hoping to put together the trip a year or two from now, to give us time to figure out the logistics, contacts, local help with species identification, itineraries, and so on. Duration: likely 2 weeks in June to be able to see the wildflowers in bloom and before the monsoon season arrives. Destination: open to ideas but preferably Korea or Japan (China may be a bit too difficult and overwhelming to organize). The flight to get there is a long one, but airfare is not excessive considering the distance.

The instigator of all this is Chris Zoladeski and he appears to have become the default organizer, so contact him at czoladeski@stantec.com, or erm@lara.on.ca, or during some of our Ontario trips.

Keep Your Newsletters Coming!

Leslie Collins

It was recently brought to my attention that a number of FBO members have yet to renew their membership for 2006. For those who have yet to renew, this will be your final 2006 newsletter without further action from you.

If you wish to keep receiving your FBO newsletter, please be sure to send Bill McIlveen your 2006 membership renewal form with the appropriate fee. Membership renewal forms were sent out with your Winter 2006 (Vol. 18(1)) newsletter and are available online at www.trentu.ca/fbo/membership/join.html. Bill McIlveen's mailing address is available on page two of this issue.