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The Field Botanists of Ontario Newsletter

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Old growth forest project in Guelph

Yarmouth Natural Heritage Area

Waterloo Region flora additions: from G to R

New publication: The Flora of Kawartha Lakes

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President's Message

Greetings to our esteemed membership!

The maple sap is flowing and the chill will be off the air before we know it. Hard to believe at the moment, having driven through a snowstorm today, but spring will soon be here!

Our fantastic Field Trip Coordinators are frantically assembling our trip schedule for the coming season. We are looking forward to getting back on track with our array of hikes after these recent oddity years.

Some highlights we are planning this year include the Carden Alvar, Backus Woods, and a fall fungi hike.

So be sure to have your membership up to date, and an eye on your inbox.

I look forward to seeing you all on the trails.

Happy Botanizing!

Gwyneth

On the cover: White Rattlesnakeroot (*Nabalus albus*) at Yarmouth Conservation Area; textured version of photo by Chris Zoladeski.

The suggested standard source for scientific and common names is the Database of Vascular Plants of Canada (VASCAN): <http://data.canadensys.net/vscan/search>.

Field Botanists of Ontario website: www.fieldbotanistsofmontario.com

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Annual memberships are \$20.00 for individuals and \$25.00 for families. Membership forms are on the FBO website. Writing instructions for trip reports are under website's page Activities/Newsletter.

Trip location maps generated using NatGeo Mapmaker.

Field Botanists of Ontario

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From the Editor

Big projects require a big vision, dedication, and time. The fleetingly short human life prevents us from seeing the fruits of our labour, not even even over two or three or four generations but, down the remote future, an old forest can be created by our actions of today. The Ignatius Jesuit Centre's project in Guelph, reported by Philippa Kilbourn, is just the type of such long-term thinking. For more immediate satisfaction you can visit areas such as Yarmouth, near the shores of Lake Erie, where old trees stand ready to be admired - that's where we went in the middle of the summer last year, for Will Van Hemessen to show us all the botanical rarities of this lovely spot, as detailed in Virginia Hildebrandt's exhaustive account. For those interested in the botany of Waterloo Region, we are publishing part two of Pat Deacon's annotated flora additions. Or, perhaps, you can yourself contribute to a flora update through your discoveries when you explore Kawartha Lakes? Your invitation is in a new book by Dale Leadbeater and Anne Barbour.

Enjoy this extended issue of the Ontario Plant Press. And, more to the joy: spring is just around the corner!

Old growth forest project of St. Ignatius

18 September 2021

Philippa Kilbourn

LOCATION: Ignatius Jesuit Centre's Old Growth Forest Project lands just north of Guelph – east trailhead on Victoria Road North at the bridge over the Speed River

On a perfect September day a group of newcomers to the FBO gathered at Victoria Road in Guelph as it crosses the Speed River. From the trailhead we followed trip leader/FBO Membership Secretary, Mary Anne Young, and Board Member, Will van Hemessen, into a 93-acre nature sanctuary, which has been designated by the Ignatius Jesuit Centre (IJC) as the site for their ambitious 500-year ecological mission to restore farmed lands to old growth forest. We were joined by Martin Tamlyn, IJC's coordinator who explained it thus:

"The Old Growth Forest Project... is protected forever by a conservation easement with the Ontario Farmland Trust. It is the project's goal to restore and protect the land's rich biodiversity and to assist the regeneration of retired farmland, from old-field meadow to old-growth forest."

Martin's philosophy of his role as a steward of this land is based on the assumption that plant communities, indeed natural communities, are interconnected. Echoing an Indigenous perspective Martin says he speaks to plants asking "who are you?" and he believes that botanical knowledge should be augmented with knowledge of plants' medicinal properties, and used as food for humans and animals.

IJC's project began, said Martin, with the removal of Marden Dam, a structure which had indirectly caused the waters of the Speed River to warm to such an extent that some fish could not survive. Elevated wooden boardwalks were then built over Marden Creek to create a trail network. The second stage of the project was to manage and remove invasive species; the third to do



plantings, in which Martin and his team involved area schoolchildren and volunteers. Both these activities are ongoing.

Three main trails traverse the nature sanctuary's mixed forest. Ours took us along the banks of the Speed River, initially through a plantation of Eastern White Cedar (*Thuja occidentalis*), where Mary Anne remarked that "there is not much to observe botanically": typically, a plantation is "botanically poor" - a monoculture with no understory. 150 years ago "the land we are walking on would have been cleared by settlers, then farmed". However, in future, it will become a mixed deciduous forest. As with all succession the process is "dynamic" and not always linear.

Mary Anne gave a definition of SUCCESSION for her beginner plant enthusiasts: "all vegetation communities have a climax endpoint". After a fire, or tornado or anthropogenic events which leave bare soil, the communities become forests over time. The succession of plants which populate bare soil starts with poplars (*Populus* sp.), asters (*Symphyotrichum* sp.), and hawthorns (*Crataegus* sp., later giving way to Sugar Maples (*Acer saccharum*) and Eastern Hemlocks (*Tsuga canadensis*).

Mary Anne targeted her mini-lessons to the beginners in the group, initially focusing on woody plants rather than herbaceous ones, which "die down to the ground every year".



Old field meadow: the site of a future old growth forest. Photo: M. A. Young.

WOODY PLANTS:

1) BRANCHING structure, using examples/ samples from trees and shrubs at hand: alternate, opposite, sub-opposite (uncommon) and whorled. One tripper had learned from a prof. that opposite branching trees can be remembered with the acronym MADHORSE, which stands for Maples, Ashes, Dogwoods and Horse Chestnuts. With an Alternate-leaved Dogwood, *Cornus alternifolia*, at hand Mary Anne proved one obvious exception to this rule of thumb. She also demonstrated that Buckthorns, *Rhamnus*, (ouch) have sub-opposite branching.

2) LEAF types. Our question should be: is it SINGLE, COMPOUND or DOUBLE COMPOUND? Is it PINNATE (from the Latin for feather) or PALMATE? The Manitoba Maple (*Acer negundo*) leaf, for instance, "does not look like" a maple leaf, which is palmate and lobed, it is instead, compound.

3) BARK. These components of tree identification came up later during the trip, but were recognized as difficult for beginners,

particularly in winter without the benefit of other clues. Nevertheless, Mary Anne pointed out the various colours and textures of bark (dark and corn flakey for Black Cherry, *Prunus serotina*; darker and more ridged in Black Walnut, *Juglans nigra* vs. lighter grey and flatter in Butternut, *Juglans cinerea*). There was also an exciting find of two "Ironwoods" side by side: The Muscle Tree/Blue Beech (*Carpinus caroliniana*), with its smooth twisting appearance versus the shaggy bark of so-called Ironwood, Eastern Hop Hornbeam (*Ostrya virginiana*). The visual differences are striking. The Touch Test even more so!

4) TWIGS. In terms of twigs and buds, Mary Anne showed us the long, tapered buds of American Beech (*Fagus grandifolia*), next year's leaves in waiting and referenced a Winter Twig workshop put on by RBG with Nadia Cavallin.

5) OTHER FEATURES. SMELL is a powerful identifier of certain species. Of the trees we looked at, Will invited us to sniff the almond scent of a Black Cherry twig, and we all inhaled the acrid smell of the Black Walnut fruit which

were literally dropping on us from above.

6) FRUIT. Martin pointed out the seed clusters of the Eastern HOP Hornbeam, which resemble hops and cause extreme itchiness when he collects the seeds.

7) LEAF TEXTURE and APPEARANCE. Mary Anne showed how the base of the single leaf of an Elm, the genus *Ulmus*, not ID'd according to species – is offset at the base, and has long straight veins; furthermore, the elm leaf can be more or less rough to the touch depending on the species.

All of these features of Botany 101 can be found in the introductory sections of field guides are 'no brainers' to trained botanists, but Mary Anne had tailored her trip for a group of keen beginners and amateurs in an attempt to demystify and popularize the experience of plant identification in the field.

HERBACEOUS PLANTS

After a lunch break in the middle of a spectacular meadow restoration we turned our full attention to the herbaceous plants of the Season: Goldenrods and Asters. To assist with *Aster/Symphotrichum* and *Solidago* identification, Mary Anne provided us with an extremely useful Quick Reference Guide which grouped asters according to whether the leaves were clasping or not clasping; together with descriptors for colour, hairiness of stems, ecology.

Will was then invited to give a speed lesson on nomenclature specific to the genus *Symphotrichum*. Those of us with hand lenses were transported through magnification into the world of phyllaries he described: rolled or spreading.

ASTERS:

Over the course of the afternoon, we found the ever-abundant Heath and New England Asters: *Symphotrichum ericoides* and *S. novae-angliae*, respectively. Especially exciting was the discovery of a lavender-coloured Smooth Aster (*S. laeve*) next to the deep purple of the New England. Direct comparison is

always convincing to the beginner! Needless to say, the hairiness of *S. novae-angliae* vis à vis the hairless leaves of *S. laeve* were more reliable diagnostic features.

The meadow also yielded Old Field Aster or Frostweed (*Symphotrichum pilosum*) and Panicked Aster (*S. lanceolatum*). Mary Anne pointed out the difference in capitulescence of these two asters.

A large colony of Shining Asters (*Symphotrichum firmum*) inhabited a swampy area of the trail. Beside the boardwalk which took us comfortably over this wet habitat, Will spotted a Purple-stemmed Aster (*S. puniceum*). This led to another teachable moment on the importance of comparison: both species have light purple ray florets and yet they are two separate species, *S. firmum* propagating clonally.

A pleasant surprise that Will found along the shaded trail in the beech-maple wood was a colony of Ontario Aster (*Symphotrichum ontarionis*); it too propagates clonally by rhizomes. According to Michigan Flora it resembles a very much hairier Calico Aster (*S. lateriflorum*).

GOLDENRODS:

The sun-drenched meadow was a sea of Canada and Tall Goldenrod (*Solidago canadensis* and *S. altissima*), but in amongst them were Stiff Goldenrod, *S. rigida*, and Grass-leaved Goldenrod, *Euthamia graminifolia*. Despite their obvious differences, both goldenrods feature a flat-topped capitulescence, a new descriptor for us amateurs.

By contrast, in the shade of the trail, grew stands of the distinctive Zig-zag Goldenrod (*Solidago flexicaulis*). Mary Anne pointed out the yellow flowers in the axils and its large, toothed leaves.

Our observations along the trails through IJC's nature sanctuary ended with an example of industrial archeology at the ruins of the gristmill and what was once the mill race.

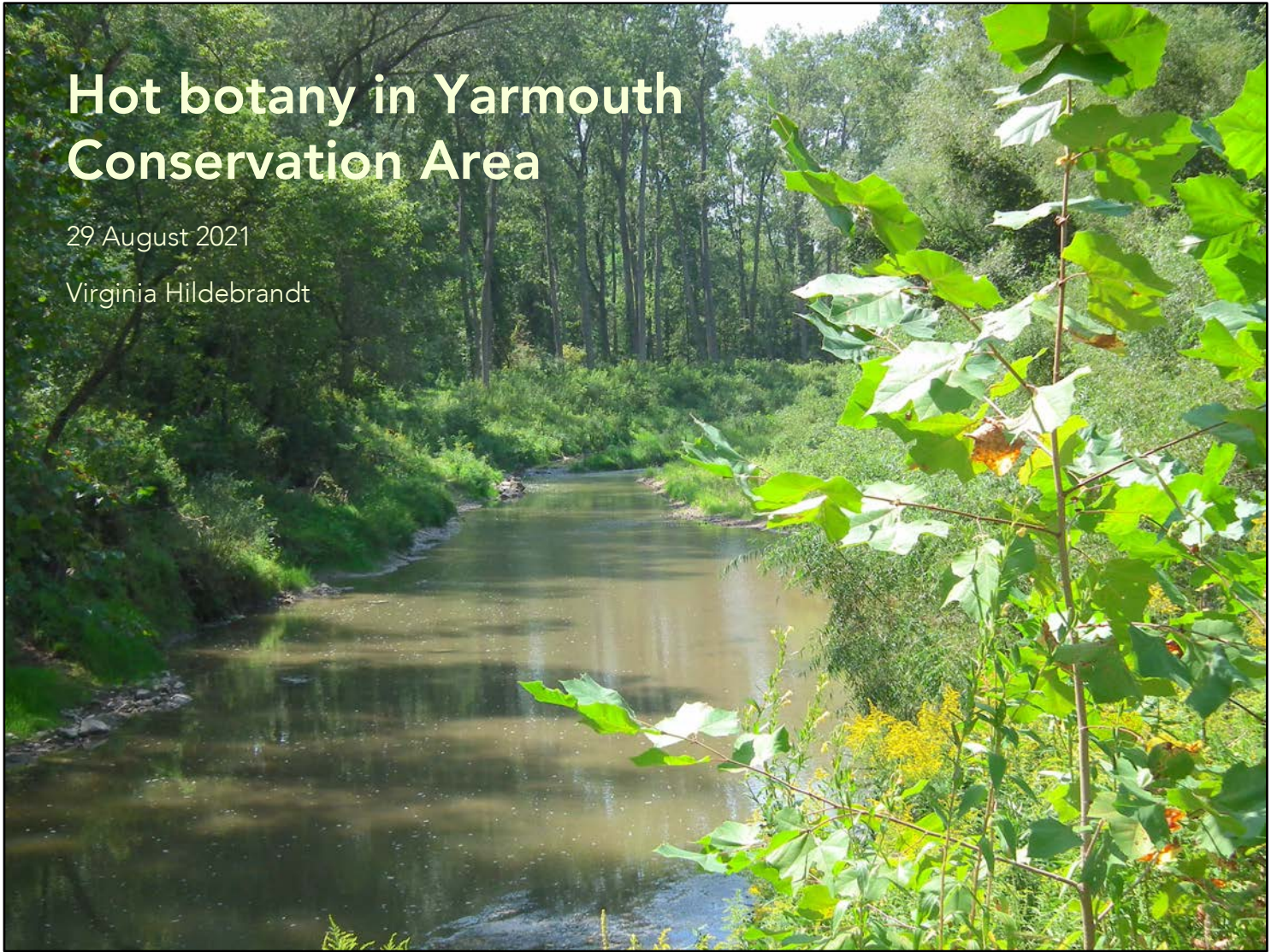
It was an eye-opening and mind-expanding day for beginners and amateurs alike. Mary Anne had scrupulously planned her stops along the trail, but made her mini-lessons seem so effortless. She answered questions in a user-friendly way and invited commentary and contributions from both Martin and Will.

Thank you, Mary Anne, FBO, and the Ignatius Jesuit Centre for a special experience.

Hot botany in Yarmouth Conservation Area

29 August 2021

Virginia Hildebrandt



There are warm and hot days, but Sunday August 29 was 'stinking hot' at 33°C. The old maxim is: "horses sweat, men perspire and women glow". There was enough "glow" to light a room, but the trip with Will was well worth any discomfort.

Will Van Hemessen is more than a little familiar with the Yarmouth Natural Heritage Area, as he has roamed through it since he was a lad. It is set in the Catfish Creek Valley and parts of it were, at one time, a gravel pit. Parts of the site have been rehabilitated to restored prairie but the back of the site is still in its natural state and is, in Will's opinion, the most interesting section.

Immediately beside the creek there were goldenrods, Wild Cucumber (*Echinocystis lobata*) with its starry flowers, Chicory (*Cichorium intybus*), Queen Anne's Lace (*Daucus carota*) and white and blue asters. The latter was identified as Crooked-stem Aster (*Symphotrichum*

prenanthoides), which is a mouthful. The common names, especially if they were descriptive, helped me remember them. Pale Jewelweed (*Impatiens pallida*) was putting on a good show in moister areas. Will pointed to patches of a few species growing together and explained differences between them. His first example was the Silky Wildrye (*Elymus villosus*) and the Riverbank Wildrye (*E. riparius*). Bottlebrush Grass (*E. hystrix*) was also scattered through the area.

White Snakeroot (*Ageratina altissima*) was in bloom and Virginia Virgin's-bower (*Clematis virginiana*) had whorled seed heads ripening. Common Ragweed (*Ambrosia artemisiifolia*) and White Vervain (*Verbena urticifolia*) were mixed in the same roadside area. Will identified Great Blue Lobelia (*Lobelia siphilitica*), the genus *Lobelia* being one of his favourite flowers.

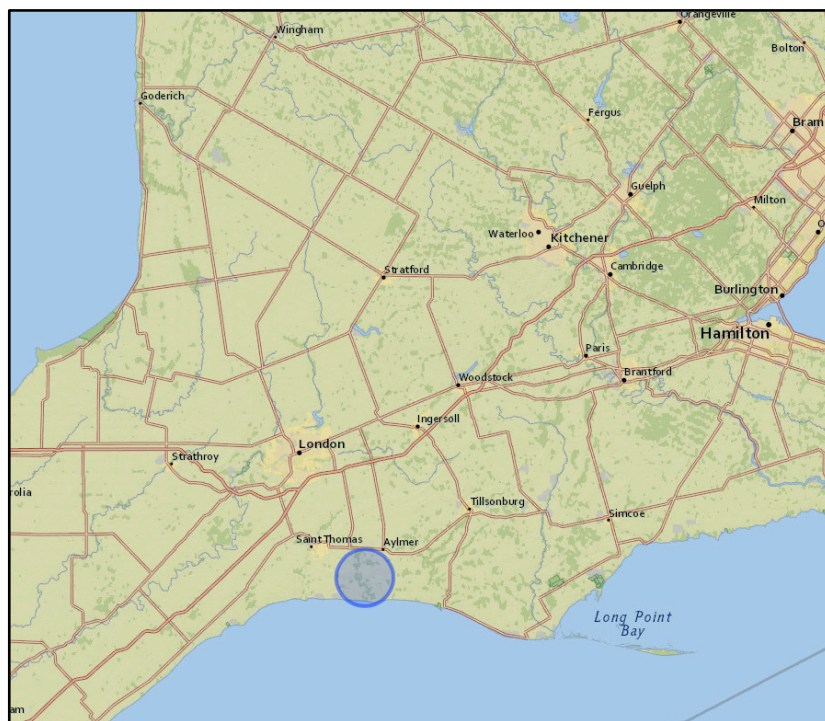
He reminded us that Jerusalem Artichoke (*Helianthus tuberosus*) only formed achenes on the disc florets, while

False Sunflower (*Heliopsis helianthoides*) could produce seeds from both ray and disc florets, an important distinction. Both were present. It is the phyllaries, below the flower head, that are one of diagnostic features in identifying members of the Asteraceae. Those of *H. helianthoides* have rounded phyllaries.

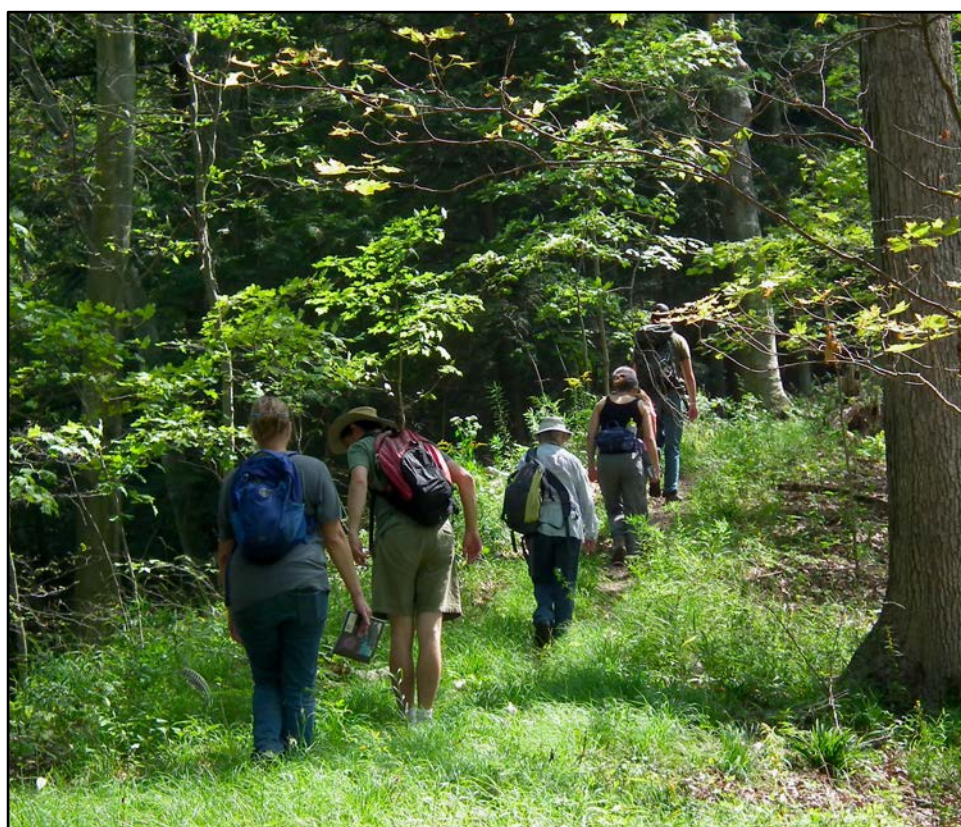
Farther along the roadway the canopy-making trees were European Alder (*Alnus glutinosa*), Sycamore (*Platanus occidentalis*), Black Walnut (*Juglans nigra*) and Eastern White Cedar (*Thuja occidentalis*). The understory, in part, was a mix of goldenrods (*Solidago*) and Common Buckthorn (*Rhamnus cathartica*). Just before we came to the Herb Kebbel wetland, the rehabilitated pond left after extraction, my camera decided the card within was no longer acceptable and refused to store any more pictures on it. Checked everything and had to get the second camera I carry for close-ups out. It worked and I rushed to catch up with the group.

The pond was quite full with Fragrant Water-lily (*Nymphaea odorata*) with its white flowers. There was some European Reed (*Phragmites australis* ssp. *australis*), the native Broad-leaved Cattail (*Typha latifolia*) and Greater Bladderwort (*Utricularia macrorhiza*), a carnivorous plant. Alongside was Spotted Joe Pye Weed (*Eutrochium maculatum*).

A sandy meadow, probably a dried-out tailings pond, had some Yellow Giant Hyssop (*Agastache nepetoides*) with its yellow flowers, which attract bees. A number of grasses have been planted, including Indian Grass (*Sorghastrum nutans*), Big Bluestem (*Andropogon gerardii*), Riverbank Wildrye and Switchgrass (*Panicum virgatum*). Giant Ironweed (*Vernonia gigantea*) was seeded here along with the grasses, growing together with Round-head Bush Clover (*Lespedeza capitata*). Stiff Goldenrod (*Solidago rigida*) was also planted; it is identified by a flat top and stiff upper leaves, which grow close to the stem.



A volunteer was Soft-hairy False Gromwell (*Lithospermum parviflorum*), or Stone Seed, with its stiff hairs. Will found some seeds in the head and they did look like small triangular pieces of gravel. The species



Into the deep woods. Photo: C. Zoladeski.



Lithospermum parviflorum. Photo: C. Zoladeski.

has white flowers, unlike the similar Viper's Bugloss (*Echium vulgare*) with blue flowers.

In the surrounding areas we found Alternate-leaf Dogwood (*Cornus alternifolia*) and Silky Dogwood (*C. amomum*) with its white berries. Butternut (*Juglans cinerea*), Eastern Cottonwood (*Populus deltoides*), Common Hop-tree (*Ptelea trifoliata*) and my favourite, the Buttonbush (*Cephalanthus occidentalis*) also grew in vicinity. American Groundnut (*Apios americana*) is a creeping vine with five to seven broad, sharply pointed leaflets and pink flowers. It is also called Hog Peanut on account of its edible tubers and beans. Another climber was Moonseed (*Menispermum canadense*), which is poisonous; the black fruit seems similar to wild grapes when mature.

Autumn Olive (*Elaeagnus umbellata*) was another alien, next to Multiflora Rose (*Rosa multiflora*). One of the treats of the day was the Blue Ash (*Fraxinus quadrangulata*), named because of the distinct four-sided stems, which sometimes had a keel. It is a floodplain tree and found in limited areas of southern Ontario. The twigs are grey and scaly with a distinct bark. The trees we saw were in good health, unlike the White Ash (*F. americana*), which have been killed by the

Emerald Ash Borer (*Agrilus planipennis*). Blue Ash, obviously, has some resistance to the pest.

Virginia Mountain Mint (*Pycnanthemum virginianum*) and Dense Blazing Star (*Liatris spicata*) had been planted near a Basswood (*Tilia americana*) tree. We saw Black Maple (*Acer nigrum*) which Will has nicknamed 'the teddy bear tree' due to its fuzzy and large leaves, like a bear's fur.

Nimblewill (*Muhlenbergia schreberi*) is a grass which I haven't heard of before. Will also identified a small, white aster as Arrow-leaved Aster (*Symphyotrichum urophyllum*) as the phyllaries were narrow and often with purple tips. Perplexed Tick-refoil (*Desmodium perplexum*) had stipules that were deciduous. We also saw Tall White Rattlesnake-root (*Nabalus altissimus*), which was used medicinally by the indigenous people to cure snake bite. White Rattlesnake-root (*N. albus*) wasn't far off.

Moving farther into areas less frequented by the public, we came across American Spikenard (*Aralia racemosa*), a member of the ginseng family and used to produce a drink some say tastes like Dr. Pepper. Smooth Aniseroot (*Osmorhiza longistylis*) is a member of the Apiaceae with the scent of anise on stem and root. Another member of that family found was Canada Honewort (*Cryptotaenia canadensis*). Midwestern Carrionflower (*Smilax lasioneura*) is a climber with smooth stems, while Hispid Greenbrier (*S. tamnoides*) has prickly stems. Smooth Carrionflower (*S. herbacea*)

was also present in the area. The Zig-zag Goldenrod (*Solidago flexicaulis*) has upright, unbranched stems. Ostrich Fern (*Matteuccia struthiopteris*) was growing well in the damper areas along with Virginia Anemone (*Anemone virginiana*). The latter has lovely white flowers in spring but put into a garden, it is a thug and if in wet ground, will take over.

Another spring bloomer is Star-flowered False Solomon's Seal (*Maianthemum stellatum*); its round seeds, with their dark stripes, were still on some racemes. Downy Solomon's Seal (*Polygonatum pubescens*) was close by. American Bladdernut (*Staphylea trifolia*), a medium shrub, was a canopy for some of these spring bloomers. Leaves of Bloodroot (*Sanguinaria canadensis*) were still visible, along with the furry leaves of Common Mullein (*Verbascum thapsus*). Michigan Lily (*Lilium michiganense*) wasn't as noticeable without its showy orange flowers that bloom earlier.

Two more grasses were Bearded Short-husk (*Brachyelytrum erectum*) and Forked Panic Grass (*Dichanthelium dichotomum*). Northern Bedstraw (*Galium boreale*) was mixed in below a shrub of Choke Cherry (*Prunus virginiana*). We also saw Lopseed (*Phryma leptostachya*) and Northern Prickly-ash (*Zanthoxylum americanum*). Both the Northern Prickly-ash and Common Hop-tree (*Ptelea trifoliata*) host the larvae of Giant Swallowtail butterfly (*Papilio cresphontes*). Showy Ticktrefoil (*Desmodium canadense*) also made an appearance as we approached "The Meadow", which is Will's favourite spot here.

The meadow is a naturally open area on the floodplain, with Cockspur Hawthorn (*Crataegus crus-galli*) and Northern White Cedar (*Thuja occidentalis*) present, but also harbours several orchids, Stiff Gentian (*Gentianella quinquefolia*) and Swamp Lousewort (*Pedicularis lanceolata*). At first, the Ladies'-tresses (*Spiranthes*) were missed, but closer inspection revealed the small plants

with their white flowers. There were three species of Ladies'-tresses present: Sphinx Ladies'-tresses (*Spiranthes incurva*) was in full bloom, with a persistent basal leaf; Oval Ladies'-tresses (*S. ovalis*) with bracts on the stipe; and Great Plains Ladies'-tresses (*S. magnicamporum*), with flowers that nod, were present but not fully opened. It required careful placement of one's feet to skirt these little jewels of the area.

The Stiff Gentian was not found, but Will suggested we might be too early. The Swamp Lousewort was found later with its yellow-green flowers and narrow, crenate margins on the leaves. Swamp Thistle (*Cirsium muticum*) was present, as was Bouncing Bet or Wild Sweet William (*Saponaria officinalis*). Kalm's Brome (*Bromus kalmii*) and Fragrant Cudweed (*Pseudognaphalium obtusifolium*) were present in the same location.

Calico Aster (*Symphyotrichum lateriflorum*) and Giant Goldenrod (*Solidago gigantea*) were at the edges. As we moved into the moist woodlands, Nodding Spurge (*Euphorbia nutans*), Rydberg's Poison Ivy (*Toxicodendron radicans* var. *rydbergii*), Virginia Bluebells (*Mertensia virginica*), Cream Violet (*Viola striata*), White Turtlehead (*Chelone glabra*) and Wild Ginger (*Asarum canadense*) were found. The Wood Nettle (*Laportea canadensis*) with stinging hairs on stems and leaves kept those with shorts stepping a bit higher.

We climbed half way up a hogs-back ridge to a sandy upland. On the way we found McKay's Fragile Fern (*Cystopteris tenuis*) close to Goose Egg Moss (*Arrhenopterum heterostichum*), a Carolinian moss. We passed the more common Christmas Fern (*Polystichum acrostichoides*) with fronds that will overwinter. Perennial Bent Grass (*Agrostis perennans*) was under the canopy as was Beechdrops (*Epifagus virginiana*), an obligate parasite on American Beech (*Fagus grandifolia*), together with Mayapple (*Podophyllum peltatum*) and Fairybells or Yellow Mandarin (*Prosartes lanuginosa*). Will spotted a Sassafras or Mitten Tree (*Sassafras albidum*) just before



Spiranthes incurva.
Photo: C. Zoladeski.

we stopped for lunch. Someone (guess who?) had a tat on his arm that looked like a mitten leaf.

Lunch was a simple affair as we sat on a fallen trunk or beside a living one. Not too much time was wasted there as we pushed on up to the crest of the ridge and Will pointed out an Eastern Hemlock (*Tsuga canadensis*) on one side and White and Red Oak (*Quercus alba* and *Q. rubra*) on the edge. The ridge acted as a biological divide. It was sad to see the dead American Chestnut trees (*Castanea dentata*). There were some suckers at the base, as it tried to survive the Chestnut blight, but failed.

Wild Licorice (*Galium circaezans*), with whorls of four leaves, was found before Naked-stemmed Tick-trefoil (*Desmodium nudiflorum*). Broad-leaved Sedge (*Carex platyphylla*) and Smooth Rock-cress (*Borodinia laevigata*) were also in this sandy upland. Heart-leaved Aster (*Symphyotrichum cordifolium*), seen for a second time, is a light blue aster which prefers medium to medium-dry conditions, as does Wild Sarsaparilla (*Aralia nudicaulis*). White and Black Oak (*Quercus velutina*) grew side by side, which gave us an opportunity to compare the bark of mature trees.

Coming down the ridge was not gradual. Will preceded us and our editor preceded me. I think he was being a gentleman and making sure that I didn't fall, which was much appreciated. It was also obvious, if I did go down, he would be a nine pin along the way. All did get down safely and Will said we now had no trail, but we wouldn't get lost. We didn't and proceeded to re-join the original trail and go around the lily pond the other way to exit.

There was still Smooth Aster (*Symphyotrichum laeve*) with a deeper blue flower and Canada Horsebalm or Richweed (*Collinsonia canadensis*) with its citronella aroma to be seen. The latter is a member of the mint family. Bottle-brush Grass, a bunch grass, was on our way, plus Green Dragon (*Arisaema dracontium*) and a final treat of Orange-fruited Horse-gentian or Wild Coffee (*Triosteum aurantiacum*). Shagbark Hickory (*Carya ovata*) had lots of fruits on the path but the Bitternut Hickory (*C. cordiformis*) did not. Purple Loosestrife (*Lythrum salicaria*) was on the edge of the pond.

Will says the woods are just as interesting in the spring, so perhaps we can persuade him to do this again next April or May!

Recent Additions to the Vascular Flora of Waterloo Region

Part 2 of 3

Pat Deacon

Part 1, containing introduction and explanatory notes, was published in the Winter 2021 [Vol. 33(4)] of the Ontario Plant Press.

- *Galeopsis bifida* – Bifid Hemp-nettle
Woodlot near Elmira ([Eric Heisey](#)). Kissing Bridge Trailway (the decommissioned CPR Guelph & Goderich Railway) at the Grand River near West Montrose ([WDV](#)). Bank of the Grand River north of Footbridge Road ([PD](#)). *Galeopsis tetrahit* is identified on the Region species list (Riley 1989) and it is possible that all or some records are *G. bifida*, often treated as *G. tetrahit* subsp. or var. *bifida* (not specified in the list).
- *Geum urbanum* – Wood Avens
Common in urban and rural areas, dozens of recent observations. First reported in Region in 1993 in disturbed woods at Centennial Park, near University of Waterloo (Mike Oldham 15688 - MICH, WAT, NHIC).
- *Geum x catlingii* – Hybrid Avens (Catling's Avens)
First iNaturalist observation was in 2013 from Riverside Park in Preston (Julie Reid). Preston at Highway 401 ([WDV](#)). Bridgeport, in low diversity stand of *Acer negundo* ([PD](#)). Brant-Waterloo Road, edge of conifer plantation, near trail ([Pauline Catling](#)). The hybrid of *G. canadense* and *G. urbanum*.
- *Holosteum umbellatum* – Jagged Chickweed
Highway 401 at Highway 24 growing as a lawn weed with *Cerastium semidecandrum*, *C. fontanum*, *Poa* sp., observed in 1997 (Mike Oldham 19652 - TRT).

- *Humulus japonicus* – Japanese Hop
Bank of the Grand River north of Footbridge Road, North Dumfries (PD) in 2017 and perhaps a recent arrival from Brant County where it is fairly common along the Grand River.
- *Hydrocharis morsus-ranae* – European Frog-bit
Cambridge, large marsh near Freeport (PD) (AD). Preston Riverside Park (Richard Baxter). First documented in 2018 and likely to spread to other water bodies in the area.
- *Iris virginica* – Southern Blueflag
Rare CRR, bank of Grand River to northeast of Slit Barn (“*veenita*”). Likely overlooked for a number of years as *Iris versicolor*.
- *Juncus gerardi* – Blackgrass Rush
Kitchener and Baden, along CN railway tracks in 1993 (Mike Oldham 15683 - WAT, DAO). An introduced species of coastal salt marshes.
- *Juncus torreyi* – Torrey’s Rush
Kitchener, Walter Bean Trail near Wellington Street/Shirley Avenue, in groundwater seepage marsh near trail (AM). Also observed in stormwater pond in Elmira, presumably planted as part of a seed mixture. The first observation of this species in 2019 is somewhat surprising.
- *Kali collinum* – Slender Russian Thistle
Kitchener and New Hamburg, along CN railway tracks, first observed in 1993 (Mike Oldham 15680 – MICH, WAT, 15792 - WAT, MICH). Kitchener plants still present in 2017 (PD). Riley (1989) lists *Salsola kali* as present in Waterloo Region which is presumably *K. tragus* (= *S. kali* var. *ruthenica*).
- *Lemna turionifera* – Turion Duckweed
Sudden Tract, roadside pond (Rob Routledge). Observed in 2020, this species may be recently introduced to Waterloo Region by waterfowl, or (more likely) has been overlooked for many years.
- *Linum perenne* – Perennial Flax
Galt, east end of town, dry ridge in a conifer plantation with a few clumps of *Andropogon gerardii* in 2019 where it is likely a naturalized garden escape (PD). Native to Europe, this species is rare in the Carolinian Zone (Oldham 2017) and present in the GTA (Varga 2000).
- *Lolium giganteum* – Giant Ryegrass
Observed in 2001 at west side of Grand River at Shep’s Subdivision, near bridge over Grand River, ca. 5 km south of Galt, locally common near river (Mike Oldham, Colin Jones, K. Brodribb, R. Oldham 26641 - DAO, NHIC, BABY). Subsequently found at numerous other locations between Galt and North Woolwich (and south toward Glen Morris in Brant County). First documented in Ontario in 1992 by Bill Cody at Elora (Oldham et al. 1995).
- *Lonicera x bella* – Hybrid Honeysuckle (Bell’s Honeysuckle)
Found throughout the county in disturbed areas, fallow fields, thickets and forest edges. Soper and Heimburger (1982) make mention of this likely overlooked hybrid as having been “found several times in southern Ontario as an escape”. The hybrid of *L. morrowii* and *L. tatarica*.
- *Mahonia aquifolium* – Holly-leaved Barberry
First documented in Huron Natural Area in 2017 where it has naturalized in a conifer plantation east of Board of Education Pond (PD) (PA). Gibney Tract (PA). This species is spreading through southern Ontario by way of escaped cultivation. Both Waterloo Region sites are found on well-drained acidic soil on rolling terrain with sandy soil and a thick duff layer of conifer needles.
- *Mentha suaveolens* – Apple Mint
Near University of Waterloo greenhouses and botanical garden in 1993 near border of lake, locally common (Mike Oldham 15673 - WAT). This cultivated species is known from Middlesex in the Carolinian Zone (Oldham 2017) and is generally rare in southern Ontario (MNRF 2021).

- ***Muhlenbergia sylvatica* – Woodland Muhly**

West River Road, North Dumfries Township, near border with Brant Co. In mixed forest, on top of banks of Grand River (Charles Cecile). Argus et al. (1982-1987) refer to records in Halton and Peel. The species has been found at a few other sites since; generally along rivers and streams and has a provincial S-rank of S2? (MNRF 2021).

- *Myosoton aquaticum* – Giant-chickweed

Haysville, edge of watercourse ([GB](#)). Wilmot Township ([PA](#)). A population at an unspecified location within Waterloo Region, was documented as early as 2000 ([Bonnie Kinder](#)).

- *Nuphar x rubrodisca* – Hybrid Pond-lily

Baden, Spongy Lake, shallow pool in organic mat ([WDV](#)). The hybrid of *N. microphylla* and *N. variegata*. *N. microphylla* is not known from Waterloo Region.

- *Oxybasis rubra* var. *humilis* – Marshland Goosefoot

Woolwich Reservoir Conservation Area, uncommon in exposed mud of reservoir at low water growing with much more common *O. glauca* (Mike Oldham & Virgil Martin 21431- WAT, MICH, NHIC, TRTE).

- *Oxybasis rubra* var. *rubra* – Red Goosefoot

Woolwich Reservoir Conservation Area, exposed mud of reservoir at low water (Mike Oldham & Virgil Martin 21433 - TRTE). Likely introduced by migratory waterfowl. Both varieties presented here were collected in 1998 and are considered native to North America and similar to *Chenopodium berlandieri*, were likely introduced by migratory waterfowl at this site and as such are treated as native species.

- *Panicum dichotomiflorum* – Fall Panicgrass

Ayr (in 1991) and Baden, along edge of railway tracks (Mike Oldham 15788 - DAO). Galt, stony shore of the Grand River north of Footbridge Road ([PD](#)). Waterloo, Eastbridge, edge of street ([Catriona Leven](#)). St. Agatha, field edge ([Ross Dickson](#)). This species was noted to be spreading in southern Ontario (Catling et al. 1977) and was identified as occurring in Elgin, Halton and Niagara by Dore & McNeill (1980) with mention that the species is "spreading sporadically along transportation routes".

- *Panicum tuckermanii* – Tuckerman's Panicgrass

Woolwich Reservoir Conservation Area in 1998, local in exposed mud of reservoir at low water, with *P. capillare* (Mike Oldham & Virgil Martin 21439 - WAT, DAO). *Panicum tuckermanii* is shown in Dore & McNeill (1980) as occurring in central and eastern Ontario.

- *Panicum virgatum* – Old Switch Panicgrass

Two well-established locations were documented in 2020 with naturalized populations along CP rail line; Ayr at Greenfield Road and Orr's Lake, east of Edworthy Side Road ([PD](#)). Prairie associates are present near Orr's Lake patch, but the species is presumed to have been introduced by rail cars. Known from the coastal areas of Lake Huron and Lake Erie, Dore & McNeill (1980) attribute many populations associated with railways as being introduced. Occasionally included in seed mixtures for naturalization projects and cultivars used in landscaping.

- *Pilosella flagellaris* – Whiplash Hawkweed

Rare CRR in 2018, east of the Grand Allée, recently fallow/naturalized agricultural field ([Ross Dickson](#)).

- *Pilosella officinarum* – Mouse-ear Hawkweed

Rare CRR in 2017 on moss-covered boulder on Cliffs and Alvares Trail near Grand River ([WDV](#)). Forest on Crown land south of Petersburg ([PA](#)). Near Waterloo Region Airport ([Yvonne Young](#)). Forest in Ayr ("[netteke](#)").

- *Plantago arenaria* – Sand Plantain

Highway 8 at Fairway Road, Kitchener in 1997, roadside (MJO).

- *Poa bulbosa* – Bulbous Bluegrass

Cambridge, a lawn weed at intersection of Hespeler Road (Highway 24) and Bishop Street in 1997 (Mike

Oldham & Wasyl Bakowsky 18534 - WAT, TRTE). Although the grass was not identified to subspecies, it is very likely to be *ssp. vivipara* as opposed to the much less common *ssp. bulbosa*. Dore & McNeill (1980) note the species as occurring in the GTA as discussed in Catling et al. (1977).

- *Polygonatum biflorum* – Giant Solomon’s Seal
Ayr, Milroy Lake in 2001 (Larry Lamb).
- *Potamogeton nodosus* – Long-leaved Pondweed
Nith River near Philipsburg in 2002 where it was abundant in large patches in slow moving muddy-bottomed stream (Carl Rothfels, N.R. Harper, Larry Lamb). Baden, creek ([AD](#)). Strasburg Creek ([Jenn Dyson](#)). Several other iNaturalist observations around Philipsburg and Cambridge that may represent other locations for the species.
- *Potentilla reptans* – Creeping Cinquefoil
Observed in 2000, location not indicated, penciled-in on a hard copy of the Riley 1989 list (Larry Lamb).
- ***Pycnanthemum tenuifolium* – Slender Mountain-mint**
Hespeler, occasional in a disturbed meadow (*Symphyotrichum* spp., *Solidago* spp. and cool season grasses) and *Cornus racemosa* thicket, approximately 100 plants observed in 2019 ([AD](#)). This species is ranked provincially as S3 (vulnerable) and is rare in the counties where it occurs (Varga 2000, Oldham 2017).
- *Quercus x palaeolithicola* – Hybrid Oak
Reidsville, roadside among other oak, hickory and pine ([Mathis Natvik](#)). The hybrid of *Q. ellipsoidalis* and *Q. velutina*, both of which are present in the vicinity. Declining roadside and fenceline oaks are slowly being removed by landowners and hydro crews in North Dumfries.
- *Rhus glabra* – Smooth Sumac
Baden, Gibney Tract Regional Forest, base of sandy road cut slope ([WDV](#)) ([PA](#)). This population was first observed in 2017 but has likely been present for many years. Galt, Cambridge-Paris Rail Trail, across from Churchill Park ([WDV](#)). Both presumably natural occurrences are found on well-drained soils; Gibney Tract (also known as Baden Sandhills) is on a kame moraine, the Galt location is in an area that was tallgrass prairie historically and on or near the Galt Moraine. This species may be overlooked and could be present at other locations in North Dumfries Township. The nearest locations mapped by Soper and Heimburger (1982) include Middlesex County, Haldimand County and the GTA with more recent observations in Norfolk County and Brant County. This species has been planted both for landscaping and as part of naturalization projects at a few locations in Waterloo as well as Stratford and Guelph among other places.
- *Rhus x borealis* – Hybrid Sumac
Galt, Cambridge-Paris Rail Trail, across from Churchill Park in same area as *R. glabra* noted above ([WDV](#)).
- *Rhynchospora capitellata* – Small-headed Beakrush
Barrie’s Lake, floating organic mat in centre of lake, observed in 2015 ([GB](#)). Uncommon throughout southern Ontario.
- *Ribes lacustre* – Bristly Black Currant
Rare CRR, Indian Woods in 2017 ([GG](#)). Mapped in Soper and Heimburger (1982) as occurring only as far south as Wingham, Durham and Markham (approximately); this would represent one of the sparse occurrences of this species this far south in the province.
- *Rosa acicularis* ssp. *sayi* – Prickly Rose
Elmira, Kissing Bridge Trailway in 2020 ([AM](#)). The nearest locations mapped by Soper and Heimburger (1982) include sparse records from the vicinity of Woodstock in Oxford County and from Halton Region.

...TO BE CONCLUDED AS PART 3 IN THE NEXT ISSUE

A note from Don Campbell on his Crowley Photographic Award:



Time and space were so controlled at both the AGM and in the last Plant Press, that I did not get the opportunity to acknowledge this award. It is an honour to win any contest but to be chosen first on the first one is something very special. Thank you to the Executive and Will for organizing this and thanks to the judging panel for their choice.

As a relatively new member of the FBO, and not knowing anything about late Bill Crowley's passion, or his work, choosing only one submission was a challenging stab in the dark. I appreciate the time Rita Bauer took to peruse some of my work, and to say that there were several photographs that I could submit. That still left it as my choice, ... and my dilemma.

To me, photography is about capturing light and telling a story. The photograph on the cover of the last issue of Plant Press was my choice for these times, when biologists have such concern for carbon sequestration, and collectively, politicians have so little political will to slow the world economy so that our natural systems can get back to a balanced regulation of our environment. To me, that outlook of a slower pace appears to be the only economically reasonable and naturally sensible way forward, so that we can continue to live on this earth.

If that photograph were seen as a portrait of the earth being supported by a pine tree (as a symbol of the plant community, instead of, or as well as turtles), or the hope of a new beginning, or the exquisite geometry of plant life at its beginning was up to you. You can interpret this photograph any way you like, and that is the story. I am pleased with the way I captured the light.

I am also happy to share my work with you, so if you need images for publications or would like to discuss photography in any of its many aspects, I am available for that, too.

I hope all of you enjoyed the photograph.

Don Campbell

Taking care of, administrative, business:

Field Botanists of Ontario Revenue and Expense Statement January 1, 2019- December 31, 2019		
	2018	2019
Bank Balance Beginning	\$ 27,782.52	29,746.50
Revenue		
Life Memberships	\$ 700.00	\$ 2,800
Field Trips	\$ 3,997.00	4,389.47
Annual General Meeting	\$ 1,357.00	1,705
Donations	\$ 642.52	340
US Exchange	\$ 4.99	- 11.73
Bank Credit	\$ -	\$ -
Bank Interest	\$ -	\$ -
Newsletter Advance Repayment	\$ -	\$ -
Memberships	\$ 3,486.00	\$ 4,454.20
Total Revenues	\$ 10,187.51	\$ 13,700.40
Expenses		
Field Trips	\$ 751.06	\$ 13.82
Field Trip Refunds	\$ -	- 50
Field Trip Honoraria	\$ 1,250.00	\$ 2,125
AGM Honoraria	\$ 750.00	625
AGM Expenses	\$ 1,543.97	1,638.75
Newsletter Expenses	\$ 1,756.84	\$ 1,905.85
Newsletter Honorarium	\$ 375.00	\$ 500
Membership Expenses	\$ 141.79	\$ 353.72
Executive	\$ 314.38	\$ 326.80
Liability Insurance	\$ 1,110.24	\$ 1,131.84
Bank Charges & Online Fees	\$ 73.36	\$ 781.11
FON Membership	\$ 55.00	- 110
Website expenses	\$ -	\$ 480.60
Treasurer Expenses	\$ 102.30	\$ 120.50
Student Award	\$ -	- 900
Total Expenses	\$ 8,223.94	\$ 11,063.03
Bank Balance Ending	\$ 29,746.50	\$ 32,383.87
Gain	\$ 1,963.57	\$ 2,637.37
L. Lebert Treasurer		

2019 Audit Letter from George Bryant sent via email to Larry Lebert (Treasurer) and Troy McMullin (President)

January 11, 2021

Troy (representing FBO directors) Larry,
Below is my audit letter for Larry's 2019 financial statement.
Good luck in the 2020 season.
George

January 11, 2021

To: The President and Members, Field Botanists of Ontario

Financial Review (Unaudited)

Field Botanists of Ontario

I have reviewed the financial statements and books of record of the Field Botanists of Ontario, as prepared by your Treasurer Larry Lebert, for the year ending 31 December 2019.

In the course of this review, I examined the bank statements, bank deposit records, donated cheques, board expenses and all receipts.

My conclusion is that the accounts balance with the bank statements and are accurately described in the Revenues and Expense Statement for 2019. All questions arising from my review have been explained by the Treasurer to my complete satisfaction.

I have verified the accounts and am satisfied that the statements as presented do accurately reflect the financial position of the Club for the year ending 31 December 2019.

We did discuss the high Newsletter and Website expenses but they are non-recurring and associated with new procedures. As well the number of life members (8) is high and possibly the Board may consider increasing life member dues.

It is always difficult for a small non-profit club to obtain a Treasurer. FBO has been fortunate to have Larry Lebert for the previous three years. He leaves the finances in excellent shape.

George Bryant,
1343 Dundas Street West,
Toronto, M6J 1Y3
g.bryant@sympatico.ca

March 22, 2021

To: The President and Members, Field Botanists of Ontario

Financial Review (Unaudited)

Field Botanists of Ontario

On March 21, 2021, I reviewed the financial statements and books of record of the Field Botanists of Ontario, as prepared by your Treasurer Larry Lebert, for the year ending 31 December 2020.

In the course of this review, I examined the bank statements, bank deposit records, donated cheques, board expenses and all receipts.

My conclusion is that the accounts balance with the bank statements and are accurately described in the Revenues and Expense Statement for 2020. All questions arising from my review have been explained by the Treasurer to my complete satisfaction.

I have verified the accounts and am satisfied that the statements as presented do accurately reflect the financial position of the Club for the year ending 31 December 2020.

Because of the impact of Covid, there was little financial activity, hence little to audit. Although the club ended up with a loss on the year, this is negligible and assets are well in hand to handle these contingencies.

George Bryant

Sent via email on March 22, 2021 to Larry Lebert (Treasurer) and Troy McMullin (President)

Book review by George Bryant

Ontario is a huge province with 50-odd counties, districts, and regional municipalities. This immense geography may explain our lack of a hardcopy provincial flora—unlike Michigan, with its magisterial *Field Manual of Michigan Flora* by Reznicek and Voss, 2012. Every so often a new county flora list is published. I have now collected about ten of these, virtually all now out-of-print collector's items and often quite obsolete by taxonomic changes and on-line publications. Still, it is joy for those of us who cherish holding a book and revel in those common names which retain the consistency now lacking in scientific nomenclature.

The most recent regional flora and undisputedly the best is now at hand. It has set such a high standard that I wonder whether we will ever see a similar hard-copy county/regional flora published in Ontario. The book is much more than is suggested by the title. Dale Leadbetter and Anne Barbour spent 14 years preparing this volume, as attested by the wealth of detail. Coil bound, the glossy paper supports detailed plant drawings lovingly sketched by John J. Vandenberg (e.g., Prickly-Ash), tables and figures. I appreciated the photographic selections such as p. 95 with a close-up of Baltic Rush bedecked in flowers like Christmas-tree ornaments and Big Bluestem backdropped by a brilliant blue sky.

The book can be divided into three sections: an introduction and two species lists—one with synonyms and one by township. The average field botanist will normally gravitate to the species list in any regional flora; however, the 78-page Introduction to this book is in a class by itself. It provides a wealth of information about flora generally and the Kawartha Lakes particularly, reflecting the authors' extensive

knowledge of both. It is a primer of botanical information and a major discussion of local biogeography.

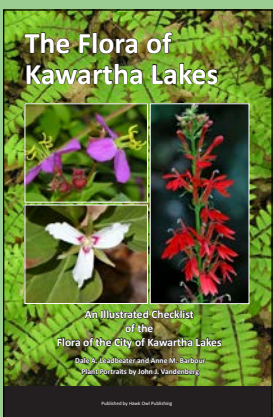
The City of Kawartha Lakes has some of the best displays of glaciation features in Ontario. These include the Oak Ridges Moraine, a chunk of the world's largest drumlin field and scattered eskers, all lovingly described in the book. There is

an excellent analysis of land use patterns including a list of historic plant records and a full discussion of both species at risk and extirpated ones. Interesting species complexes, e.g., Freeman's Maple, *Wolffia*, Lemma, Pringle's Coralroot—are given special analysis. Who knew that White Spruce is a victim of warming trends?

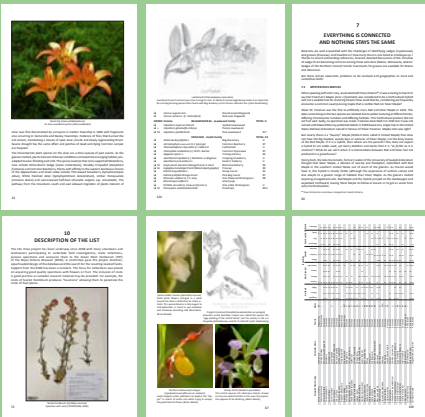
I enjoyed the photo-essay on the historic 3-km long dry-stone walls of Balsam Lake—worth a side trip from Carden Alvar. While there, one might arrange a tour of the Mariposa Woolen Mill near Lindsay. There are excellent figures and tables such as watersheds and changes in forest cover. I only wish a figure of physiographic features had been included so that the reader could visualize features such as Schomberg Clay Plain or Carden Alvar.

The species lists are comprehensive as one would expect given the 14-year gestation period for the book. The most current taxonomy is employed. The second species list—that of records by township employs a tiny font, necessary for the 32-page list—reading glasses to the rescue.

The book concludes with a glossary, a huge bibliography, and an index. In conversation with the authors, we determined that the index took about 100 hours (three weeks' work) to prepare by the authors and publisher. Something we seldom think of when considering a book, but in this case that effort was well justified. The book retails for \$39.00 + shipping (see <https://mattholderfund.com/>). Get one before it is too late!



New Publication



The Flora of Kawartha Lakes

An Illustrated Checklist
of the
Flora of the City of Kawartha Lakes

Dale A. Leadbetter and Anne M. Barbour
Plant Portraits by John J. Vandenberg

A fully researched, current and historical list of all documented plant species found in this wonderfully diverse part of Ontario. Introductory chapters cover history, geography and geology. The main list has the status of each species and a complete matrix lists all plant records as of 2021 geographically by CKL Townships. 216 pages with over 150 photographs and illustrations. Spiral bound for ease of use.

\$39.00 Inc. Taxes

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