



ONTARIO

PLANT PRESS

The Field Botanists of Ontario Newsletter
Summer 2023 Vol. 35(2)

**Island Lake
Cedarhurst Alvar
Callaghan's Rapids
Presqu'ile
False Mermaid
Terra Cotta
2023 Goldie Award
Vines as weeds
Remembering Paul
Cavers**

ISSN 2563-7754

President's Message

Greetings to our esteemed membership!

Summer 2023 has begun in Ontario with unusually high (for the south) concentrations of forest fires smoke. It is my hope that by the time you are reading this, it will have long passed, but it is always good to be mindful of the conditions for outings. We botanists are an adaptable bunch, and so I doubt it will pose much of a barrier to our geeky plant fun.

In other news, the 2023 John Goldie Award has been awarded to Larry Lamb for his considerable contributions to the field of botany in Ontario. As Larry is unable to attend the Annual Meeting in September, Awards Coordinator Will Van Hemessen met Larry at his home to present the plaque and our thanks. More info on that on page 16.

If you are still deciding on trips for the year, I urge you to sign up quickly as spaces are filling up! We have many trips planned from now until October, with an array of targets in mind - forbs, graminoids, mosses, lichens, and fungi. Our newsletter editor is eager to publish reports on them all from intrepid volunteers.

Happy botanizing!

Gwyneth Govers

On the cover: *Vallisneria americana* female flower stems. Island Lake Conservation Area, Orangeville. 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>

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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 and other articles are on website page Activities/Newsletter. Submitted photographs may be subject to selection and editorial editing. Trip location maps generated using Google Maps.

FIELD BOTANISTS OF ONTARIO

www.fieldbotanistsofontario.com

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

President Gwyneth Govers
gwyneth.govers@gmail.com

Vice President Pat Deacon
pat.deacon@gmail.com

Secretary Jennifer Doubt
jdoubt@nature.ca

Treasurer Daniel Van Osch
treasurer.fbo@gmail.com

Past President Troy McMullin
tmcmullin@nature.ca

Membership Mary Anne Young
fbomembership@gmail.com

Field Trips Jessica Consiglio
Sarah Mainguy
fbo.trips@gmail.com

Newsletter Editor
Christopher Zoladeski
editor.fbo@gmail.com

Awards Co-ordinator
Will Van Hemessen
awards.fbo@gmail.com

Associate Editor
Michael J. Oldham

Contributing Editor Bill McIlveen
wmcilveen@sympatico.ca

Website Paul Sokoloff
psokoloff@nature.ca

Directors Bill McIlveen,
Paul Sokoloff, Corey Burt,
Carl-Adam Wegenschimmel,
Kasia Zgurzynski



From the Editor

Aquatics will be just maturing by the time you receive this issue of the newsletter. Ontario is blessed with an abundance of ponds, lakes and rivers in which numerous floating and fully submerged plants await to be discovered. We hope that last year's great trip to Island Lake will inspire you to remove your walking shoes and go into the water in search of these interesting plants. For those preferring to stay dry, we offer reminiscences of the terrestrial trips: to alvars, waterfalls, dunes, and upland forests in springtime. During that early time of the year, who knows, maybe you will find ephemerals in an unsuspected location that will turn out to be a range extension? To spot a False Mermaid patch will be too late right now, but come next May, who knows? But then, on your botanical excursions, also look for some unusual non-native vines, some domesticated and edible that have escaped cultivation, or other, true local villains, like Japanese Hop. Learn about them from the final episode of Bill McIlveen's four-part series on weeds.

Island Lake: fun on the water

13 August 2022

Joseph Mentlik

What is faster than a group of field botanists walking down a trail? Certainly not a raft of them in canoes and kayaks.

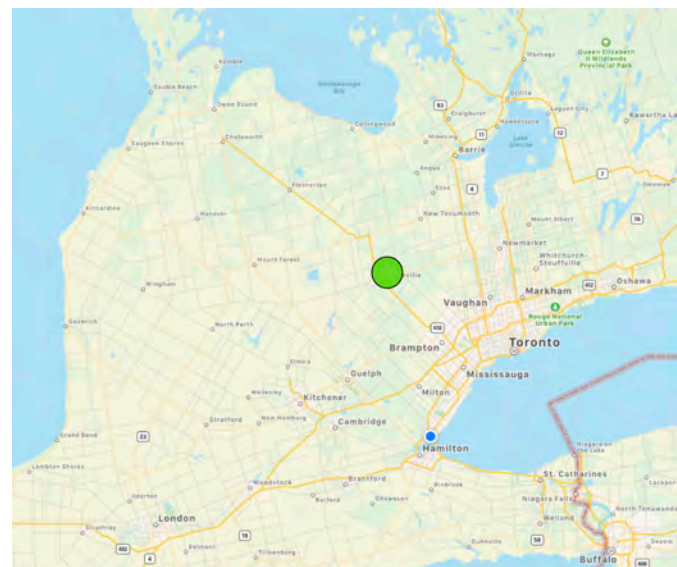
Named for the Island family who farmed the land two centuries ago, Island Lake Conservation Area is located in the Towns of Mono and Orangeville at the headwaters of the Credit River. The centre-piece is a large 153 hectare reservoir, which was dammed in 1967, that now supports recreational fishing and boating and is part of the Orangeville Wetland Complex (Credit Valley Conservation, 2018).

We paddled an approximately 4.5 km loop around the lake which is classified as a Water Milfoil Submerged Shallow Aquatic (SAS1-4) community (Credit Valley Conservation, 2018). Lisa Riederer, Natural Heritage Inventory Specialist of

Credit Valley Conservation (CVC), was an excellent teacher and group leader throughout. She demonstrated a highly advanced aquatic plant sampling technique for the group: using a garden rake to collect clumps of plants from the lake water. With this technique, Lisa ensured each trip participant received a piece of an aquatic plant discussed. Samples were dispensed either by carefully placing the specimen on a canoe paddle and reaching it out and across to people farther away; or alternatively, flinging a slimy, muddy clump to a participant who was out of reach. There was a certain glee in Lisa's eye when she threw wads of odorous, garlicky and potent Muskgrass (*Chara* sp.) at people. By the end of the trip, the system was like a well lubricated machine and we were actually catching the samples thrown at us.



Botanists, floating. Photo: J. Mentlik.





***Nymphaea odorata*. The underside of floating leaves.**

Muskgrass is not actually a vascular plant. It is a form of macro-algae, a poorly understood group in Ontario (perhaps a great taxonomic group to do a Ph.D. on and develop some identification keys). Muskgrass is often covered in calcium carbonate deposits that give it that certain funk and make it even feel crusty. The photosynthesis performed by Muskgrass (and other aquatic plants) removes carbon dioxide from the lake water which is high in calcium from the limestone in the area. This removal of carbon dioxide from the wa-

ter causes calcite to precipitate and accumulate on said Muskgrass.

In addition to this sole non-vascular, many vascular plants were observed. Abundant swathes of American Eelgrass (*Vallisneria spiralis*, cover page photo) were present throughout much of the lake. This pan-continental species can be found in fresh to brackish (slightly salty) waters of streams, lakes, rivers, and bays. American Eelgrass sports a longitudinal, wide, white, almost translucent

band along the leaf midvein comprised of hollow cells known as lacunae. These specialized air-filled cells enable aquatic plants to float and also play a role in gas exchange. Besides the obvious white band, the peduncle of a fertilized flower is ultra-conspicuous. American Eelgrass is dioecious, with staminate (male) and pistillate (female) flowers on separate plants. The staminate inflorescence is a spadix enclosed in an egg-shaped spathe capsule, similar to flowers of the Arum family (Araceae). The spathe capsule de-



***Myriophyllum sibiricum*.**



***Myriophyllum sibiricum* emerged flowering spikes.**



Underwater forest of *Heteranthera dubia*.

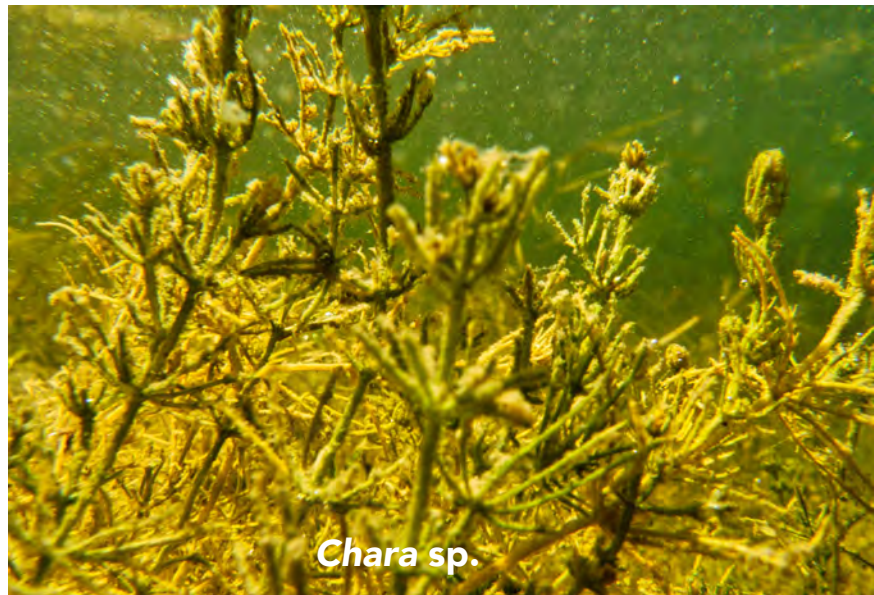
taches from the stalk and floats to the surface where the tiny male flowers, only 1 to 1.5 mm wide, are released. The solitary pistillate flowers awaiting pollination also float at the water's surface, but are anchored by long peduncles. Once a pistillate flower is pollinated, the peduncle coils and is pulled down lower into the water column forming a very visually pleasing and eye-catching spring or pigtail (see cover page photo). The remnant male flowers floating at the surface covered the water in a mat of little clumps of white spheres. It was quite beautiful when canoers



Najas minor. Photo: N. Rudkins.

cut through the mat, forming perfect, but temporary paths on the water's surface.

Other species we observed throughout the trip included the native Siberian Water-milfoil (*Myriophyllum sibiricum*) which has 5-11 lateral leaf segments on each side of the rachis and grows in high water-quality conditions. Comparatively, we only sparsely observed the non-native Eurasian Water-milfoil (*M. spicatum*), which has 14-17 segments per side and tends to be found in disturbed or turbid conditions. The native range of Siberian Water-milfoil is quite large, encompassing much of the northern



***Chara* sp.**

hemisphere in subarctic and temperate regions (including Siberia of all places). We also observed several pondweeds: Richardson's, Grass-leaved, and Flat-stemmed Pondweed (*Potamogeton richardsonii*, *P. gramineus*, and *P. zosteriformis*), though surprisingly no observations of the non-native Curly-leaved Pondweed (*P. crispus*). Also spotted along the way were: Canada Waterweed (*Elodea canadensis*), Water Stargrass (*Heteranthera dubia*), Fragrant Water-lily (*Nymphaea odorata*), Variegated (a.k.a. Yellow) Pond-lily (*Nuphar variegata*), a small patch of Northern Arrowhead (*Sagittaria cuneata*), some very handsome Long-beaked Water-crowfoot (*Ranunculus longirostris*)

in bloom, other pondweeds in the *Stuckenia* genus, Common Bladderwort (*Utricularia vulgaris*), Green-fruited Burreed (*Sparganium emersum*), Common Hornwort (*Ceratophyllum demersum*), Lesser Duckweed (*Lemna minor*) and Water Smartweed (*Persicaria amphibia*).

At the farthest spot and turn-around point along our water route, neatly tucked into the northeast corner of the lake was about 300m² of a floating Leatherleaf – Forb Shrub Fen (FES1-4). This small patch of floating vegetation was dominated by Leatherleaf (*Chamaedaphne calyculata*) with Bog Buckbean (*Menyanthes trifoliata*), Spikerush (*Eleocharis* sp.), Marsh Fern (*The-*



Dan Engelking was a connoisseur of the more delicate static-like crackle of the Soft-stemmed Bulrush. (Wait until

the birders find out we can identify species by sound alone too!) For the benefit of some of the more seasoned botanists whose hearing may be waning, I will describe the visual characters as well: the two bulrushes could be separated on colour, texture of the interior pith at about 2/3rds up the stem, and habitat. Soft-stemmed is a softer green, with a spongy pith (on the right in photo above, by Emily Stacy), and prefers swamps and marshy places whereas Hard-stemmed is a darker green, with a denser cigarette-filter-like pith (on the left in the photo), preferring the edges of open water.

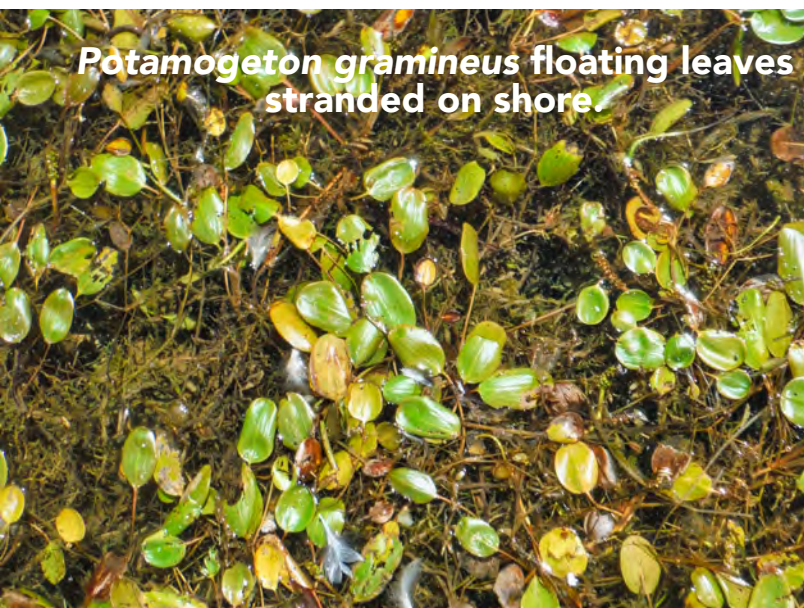
Unfortunately, a species new to the watershed was observed. Brittle-leaved Naiad (*Najas minor*), a native of Eurasia, was collected by myself and later identified by Natalie Rudkins at the CVC lab. Compared to the native slender Naiad (*N. flexilis*), also present in the lake, Brittle-leaved Naiad has fewer and noticeably larger teeth than the *N. flexilis*, it is darker green, and the leaves are crowded and very recurved.

It was a very enjoyable sunny day that ended with watermelon, shared among the participants at a picnic table when we regained our stability on firm ground. We also saw Loons, a Blue Heron, Painted Turtles, Trumpeter Swans and a Bald Eagle. What's not to like? I hope this encourages other field botanists to get their boots wet and explore some of the species that you can't usually identify from the shoreline.

Reference

Credit Valley Conservation. 2018. Background Report for Island Lake Conservation Area Management Plan. x + 153p.

Photos, unless otherwise indicated, by Chris Zoladeski.
Title graphics by Vecteezy.



Potamogeton gramineus floating leaves stranded on shore.

lypteris palustris), Harlequin Blue Flag (*Iris versicolor*), and Northern Pitcher Plant (*Sarracenia purpurea*). Lisa explained how the floating fen dispersed from a kettle depression when the lake was originally flooded and only a marginal amount of the floating fen now remains at this location.

As the day wore on, it was clear some paddlers had arms of steel and they forged ahead while others took a moseyed pace trailing along behind. We (the riff raff stragglers, not led by Lisa) compared the ASMR (autonomous sensory meridian response) qualities of Soft- and Hard-stemmed Bulrush (*Schoenoplectus tabernaemontani* and *S. acutus*). I personally preferred the sharp snapping crunch of the hard-stemmed, but

Dale Leadbeater presents: Cedarhurst Alvar

28 August, 2022

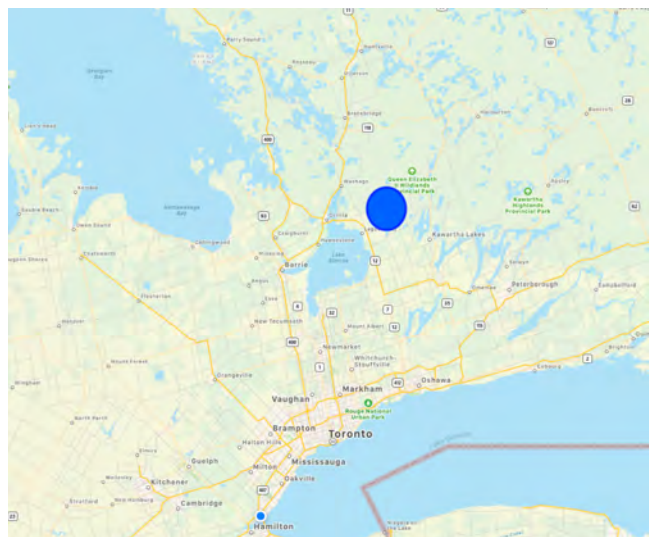
Carl-Adam Wegenschimmel

Little Bluestem (*Schizachyrium scoparium*)
dominated alvar. Photo: C-A. Wegenschimmel.

The day began in the heart of Carden Alvar along a dusty stretch of Wylie Road at the Nature Conservancy of Canada (NCC) and the Couchiching Conservancy's newly acquired Cedarhurst Alvar. The flat expanses of Alvar and Big Sky have a particular feel that is rarely felt elsewhere in Ontario. I was excited to take the trip because, like many naturalists, Carden Alvar is place I have spent many hours in the past exploring for birds, plants and lichens.

Our trip leader, Dale Leadbeater, began the day by providing a very informative history of Carden Alvar. The region was heavily forested before Europeans arrived in the area. However, the Wendat had lived here, clearing areas with fire for farming and to maintain openings to encourage the growth of fruit bearing plants. The Wendat had fled the area during due to conflict with the Haudenosaunee in the 16th century. Eventually, much of the land regenerated to White Pine (*Pinus strobus*) which was subsequently logged and later burned by settlers to make way for cattle ranching. Human activities made the soils in Carden more vulnerable to wind and water erosion, which has in part maintained the open alvar. In combination with past human activities, ongoing cattle grazing has maintained the alvar that we see today.

We soon set off through an expansive grassy area which was dominated by Little Bluestem (*Schizachyrium scoparium*), Poverty Oat Grass (*Danthonia spicata*) and Crawe's Sedge (*Carex crawei*), with locally common species interspersed throughout, like Prairie Brome (*Bromus kalmii*), Upland White Aster (*Solidago ptarmicoides*), Prairie Cinquefoil (*Drymocallis arguta*) and Prairie Smoke (*Geum triflorum*). Also of interest here, were a variety of lichen species, like Sand-loving Iceland Lichen (*Cetraria arenaria*)





Investigating a grike.
Photo: C-A. Wegenschimmel.

and Rosette Pixie-cup Lichen (*Cladonia pocillum*), seemingly taking advantage of openings in the grassy landscape.

Eventually, at the rate of a typical botanist outing, we made it to a wetland at the edges of a wooded area which experiences annual flooding. Here, the vegetation community was drastically different, indicated by a number of sedge species, for example Hairy Sedge (*Carex hirtifolia*) and Yellow Sedge (*C. flava*). Additionally of interest here were the orchids, and we found a number Hooded Ladies'-tresses (*Spiranthes romanzoffiana*) and a few Sphinx Ladies'-tresses (*Spiranthes incurva*). Perhaps the most exciting find of the day was Case's Ladies'-tresses (*Spiranthes casei* var. *casei*) – a new species for many of us on the hike. Dale informed us that the species was recently a new discovery in Carden Alvar and is typically found farther north on the Canadian Shield.

After our exciting find, we broke through the treeline into a conifer swamp mostly composed

of Eastern White Cedar (*Thuja occidentalis*) and Balsam Fir (*Abies balsamea*). Plants species here were pretty typical for this region of Central Ontario, and included Two-seeded Sedge (*Carex disperma*), Dwarf Raspberry (*Rubus pubescens*) and Canadian Bunchberry (*Cornus canadensis*). We decided to take lunch in the cool retreat of the conifer swamp, an experience that was recently shared by some Moose (*Alces alces*), given the presence of their tracks. As we sat on some conveniently fallen logs, one FBO member pointed out Arctic Sweet Coltsfoot (*Petasites frigidus*), a species that many of us were happy to see.

We slowly meandered out of the conifer swamp into another opening of alvar. At this location, there was an interesting mix of wet depressions and open limestone pavement, which offered us still more interesting plants for the day. However,



Spiranthes casei var. *casei*.
Photo: C-A. Wegenschimmel.

before we could get down to our botanical business we were interrupted by a curious family of Black Bear (*Ursus americanus*) who politely ran into the swamp we had just exited. Back to botanizing, Tufted Hairgrass (*Deschampsia cespitosa*) was one of the more dominant species in this area. The open limestone had some interesting species, like Long-leaved Bluets (*Houstonia longifolia*), Richardson's Sedge (*Carex richardsonii*), Rock Spikemoss (*Selaginella rupestris*), and Slender Wheat Grass (*Elymus trachycaulus*). We continued traversing this sun-baked stretch of alvar occasionally noticing the beautiful fragrance of False Pennyroyal (*Trichostema brachiatum*). Carefully, we examined the grikes (fissures in the limestone pavement) hoping to turn up some ferns, like Maidenhair Spleenwort (*Asplenium trichomanes*). Occasionally dense patches Fireberry Hawthorn (*Crataegus chrysocarpa*) broke up the openness of the alvar here. I was particularly interested in some of the cyanolichens that occupied the bare limestone: the rare Schrader's Jellyskin Lichen (*Scytinium schraderi*) and the more common Jelly Flakes Lichen (*Lathagrium undulatum*, photo on right, by C-A.W.).

As the day grew on long and our water stocks depleted, we headed back to our vehicles, continuing to botanize along the way. The journey back took us through an area densely covered in shrubs, like American Bittersweet (*Celastrus scandens*), Downy Arrowwood (*Viburnum rafinesqueanum*) and Fragrant Sumac (*Rhus aromatica*).



A few Wood Lilly (*Lilium philadelphicum*), although past their prime, were a nice finish to an excellent day.

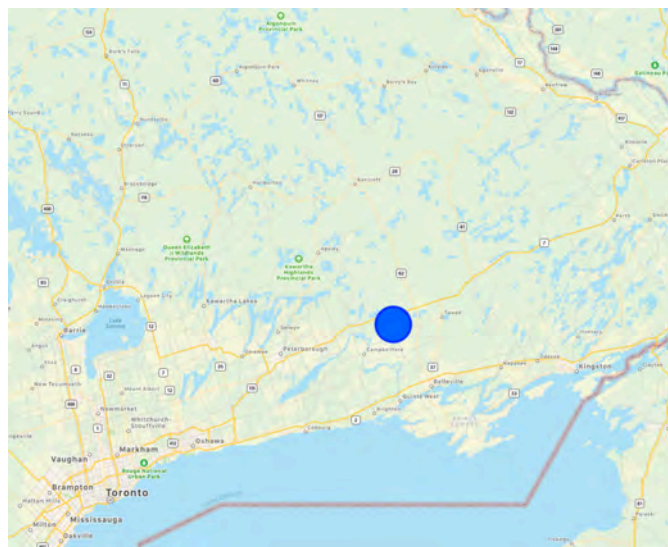
As we stood reflecting on the time we spent here, we thanked our trip leader Dale Leadbeater for leading a very informative trip. I certainly had gained more knowledge and appreciation for the biodiversity of Carden Alvar, of which Cedarhurst is an important part.

Callaghan's Rapids Conservation Area

September 24, 2022

Judith Pelley

In the fall of 2022, I had the pleasure of joining another FBO Field Trip, to Callaghan's Rapids Conservation Area near Marmora, just south of Hwy. 7 between Oshawa and Kingston. We hiked two sections, one around the rapids and another





on some of the alvars that occur along the Crowe River.

The area surrounding the rapids is the frontage of a conifer forest which had been severely damaged due to ATV use. Tim Trustham, who is a Conservation Forester with Quinte Conservation, showed us the work that has been done to discourage access by the ATVs. This effective result was put together by Marc Forget, who has contributed to several restoration projects. As is often the case, if given enough time undisturbed, nature will repair itself and almost erase out any evidence of mistreatment.

It is always fascinating to me, as I am new to botany, to see and understand the complex growing process in a restoration area. Plants A and B will arrive first, because they provide a bit of shade to the soil that allows plant C to grow, then allowing plant D and E to take root.... and so on,

and so on. In one particular section near the rapids, Greater Water Dock (*Rumex brittanica*) had taken root. I have never seen this plant before and was taken back by its large leaf size, not to mention the fact that it can grow over 6ft tall.

The forest also provided many species of lichens and mosses and with them, being late September, a variety of fungi. The lichens and mosses were even more abundant in the alvars we visited around the Crowe River. The river itself revealed many interesting rock formations including water drill holes and fossils.

To my delight I was able to see some new species while exploring the alvars: the "fur plants", as you can guess, have a well-suited name. Common Mullein (*Verbascum thapsus*) was a good example of a "fur" or "velvety" plant, while Viper's-bugloss (*Echium vulgare*) was interesting as it reminded me of a snake shedding its skin—the base of the



Looking for herbs amongst Common Juniper (*Juniperus communis*).

to beige, its inflorescence being an open panicle 10–15 cm long, nodding to one side, which was in contrast to Virginia Wild-Rye (*Elymus virginicus*) whose panicle remained standing at attention.

Thank you, Mother Nature, for having provided a warm, sunny fall day. Thank you FBO for the opportunity

to see another part of Ontario and to learn.

plant is a litter of curly, fuzzy, grey plant matter. Alvares also support tiny plants like Sedums, where there were many plus of what I call "mini plants": you know, the ones where you need to get on your hands and knees to see and pull out a loupe for a closer view. Once again, nature shows us it does not need much to sustain plant life. False Pennyroyal (*Trichostema brachiatum*) was still producing delightful tiny purple flowers, which reminded me of the flowers on Creeping Charlie (*Glechoma hederacea*). If you rolled the leaves of the False Pennyroyal in your fingers, you got the lovely smell of peppermint. Another purple flowering plant we found was Soapwort (*Saponaria officinalis*), its shape of a single flower reminded me of a Phlox.



Generally, I don't take the time to look at grasses, but several species in the alvars and along the Crowe River demanded my attention. The first was Witch Grass (*Panicum capillare*), which by the end of September had gone beige in colour, the panicle has a point similar to a witch's broom. Kalm's Brome (*Bromus kalmii*) had also changed

For additional information consult:

<https://www.crowevalley.com/wp-content/uploads/Barricade-Specification-for-Callaghans-Rapids-CA.pdf>

Photos: C. Zoladeski.



Opposite page: Memories of the 2022 FBO AGM. A casual botanical exploration of the dunes and other habitats in Presqu'île Provincial Park. No assigned scribe, no written report, only photos - clockwise from top left: *Aster lanceolatus*, *Xanthium strumarium*, *Bidens cernua*, botanists, stopping frequently, *Solidago nemoralis*, *Polygonum lapathifolium*. Photos: C. Zoladeski.

Note: Massassauga Point, Prince Edward County Vascular Plant Checklist

Participants on the September 2022 FBO Field Trip to Massassauga Point will be interested to know that the list which they helped to update is available at the Prince Edward County Field Naturalists (PECFN) website (https://pecfieldnaturalists.org/wp-content/uploads/bsk-pdf-manager/2022/10/Massassauga-combined-checklists_MJO-revised-2022-10-01.pdf).

Update on FBO members' publications:

Catling, P.M., S. McKay-Kuja, E. Haber, J.L. Riley, K.M. Lindsay, and R. Thorpe. 2022. A tribute to James Edwin Cruise, Ph.D., L.L.D., 1925–2021. *Canadian Field-Naturalist* 136(1): 49–57. <https://doi.org/10.22621/cfn.v136i1.2951> <file:///C:/Users/Paul/Downloads/2951-Article%20Text-13783-1-10-20220729.pdf>

Catling, P.M. and B Kostiuk. 2022. Mesic open sand and Blood Milkwort: an indicator, a flagship, or just a tricky question? *Trail and Landscape* 56(3): 153-159.



False Mermaid (*Floerkea proserpinacoides*), a new addition to the Bruce County Flora (Photo credit: Erin Faulkner, iNaturalist).

By Nikki May
Saugeen Nature

A conservation mindset can yield great dividends. Byron Monk follows his father's and grandfather's footsteps in the protection of rich woodlands on their farms. These stand out as beacons in the middle of Bruce County farm country where the cropped fields stretch for kilometres.

In May 2023, a group of Saugeen Field Naturalists visited a couple of woodlands on Byron's farm. One of them is home for the White Trout Lily (*Erythronium albidum*), a rare occurrence in Bruce County, but known from other sites. The second is a rich, wet 20-acre woodland comprising Maple (*Acer* spp.), Basswood (*Tilia americana*), Black Cherry (*Prunus serotina*), and a Hack-

berry (*Celtis occidentalis*) among other species. The soil is clay with very few rocks. In the middle of the woodland we found a 50 m² patch of False Mermaid (*Floerkea proserpinacoides*).

This inconspicuous plant had not been identified before in Bruce County; it was not included in either the *Vascular Plant List of Bruce and Grey Counties* published by the Owen Sound Field Naturalists in 2023, or Joe Johnson's *The Vascular Plants of the Bruce Peninsula Ontario*, published in 2016. The find has been recorded in iNaturalist (<https://inaturalist.ca/observations/162523367>) and specimens will be sent to the Herbarium at the University of Guelph Biodiversity Institute of Ontario and the Dr. Laurie L. Consaul Herbarium at Western University.



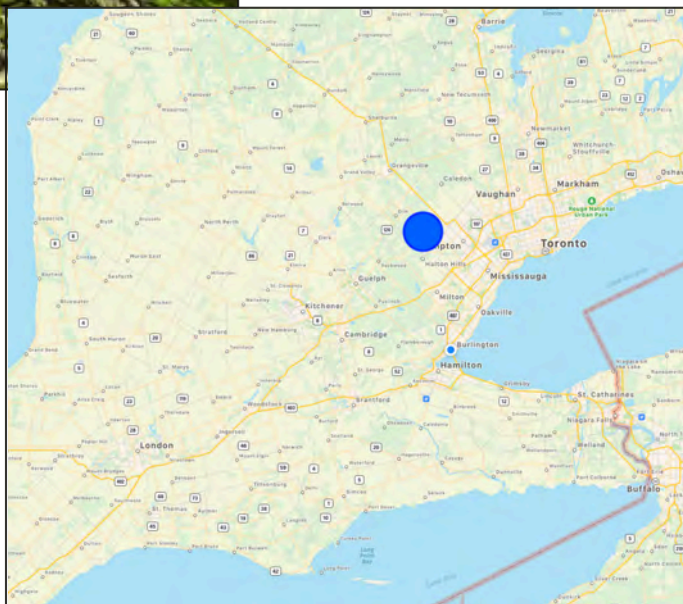
Spring ephemeral social hike at Terra Cotta Forest near Caledon

15 May, 2022

Jacqueline Weber

tershed's plant life, including our two trip leaders Leanne Wallis and Jessica Consiglio, and myself, your humble trip report writer. This gives the reader an idea of the enduring attachment botanists have to this area once they've spent time studying the rich botanical offerings of the Credit River watershed.

Our field trip began on a sunny afternoon on the road that runs alongside Terra Cotta Forest in Caledon, where droves of keen botanists squeezed into the roadside parking area and gathered in anticipation of spring ephemerals. Terra Cotta Forest (photo above, by J. W.), across the road from Terra Cotta Conservation Area, lies along the Niagara Escarpment and is one of the jewels of the Credit River watershed. Four of our group were past or present employees of the Credit Valley Conservation Authority where they had studied the wa-





Canada Violet (*Viola canadensis*). Photo: J. Weber.

With introductions made, our group stuck out into the Terra Cotta Forest where we were greeted by a profusion of spring ephemerals – we made it only 15 feet before a particularly fine patch caught our attention. Canada Violet (*Viola canadensis*) was abundant along the trail and was discussed by Lianne as being a standout among Ontario's white-flowered violets because it has both basal leaves and tall leafy stems. Our other locally common leafy-stemmed violets, Downy Yellow Violet (*V. pubescens*) and Labrador Violet (*V. labradorica*) soon showed up to demonstrate how their forms and sizes compare to Canada Violet.

This began a theme of our hike, as we discussed nearby plants and their look-alikes, and those look-alikes cropped up helpfully a few feet down the trail. We soon encountered Virginia Waterleaf (*Hydrophyllum virginianum*), whose leaves are marked with charming "water spots" and are deeply pinnate. We began discussing its regionally rare relative Canada Waterleaf (*H. canadense*), and moments later we came upon an enormous drift of it, displaying its palmately lobed leaves that are so similar and yet so different from *H. virginianum*. False Solomon's Seal (*Maianthemum racemosum*) soon was seen arching elegantly over the wildflowers, and our group discussed how it differs from true Solomon's Seals with its terminal as opposed to axillary inflorescences. When plants are immature, some might mistake *M. racemosum* for the common

forest-dwelling species Hairy Solomon's Seal (*Polygonatum pubescens*), but *P. pubescens* has lines of hairs on the minor veins of its leaf undersides which are easily visible with a hand lens or a very sharp eye.

As we ventured deeper into Terra Cotta Forest, lush clumps of sedges stood out along the trail and our conversation veered away from spring ephemerals and into the mysterious world of *Carex*. Jessica showed the

group the lovely magenta basal sheaths of Plantainleaf Sedge (*C. plantaginea*) and advised us all to keep an eye out for its relative and look-alike in *Carex* section *Careyanae*, the provincially rare Carey's Sedge (*C. careyana*, S3). Carey's Sedge shares the shockingly purple bases and broad leaves of *C. plantaginea*, but it has leafy blades along its culms where *C. plantaginea* has none. More charming sedges were spotted as we walked, including the early-flowering Peck's Sedge (*C. peckii*) and an immature clump of Sprengel's Sedge (*C. sprengelii*). The sedge-lovers among us tried to stay on topic but it is hard to be patient when sedge season is right around the corner!

As we ran out of new plants to investigate this early in the season, we completed our walk by hiking on and considering the forest in a broader way, enjoying the diversity of trees (look, a Butternut!) and the lilting songs of the Rose-breasted Grosbeaks that were migrating through Terra Cotta that day. Once we returned to the trailhead, those who were interested gathered nearby at the Spirit Tree Cidery for tasty beverages, more plant discussions and good company. Our outing inspired a thirst not just for quality cider but also for the challenges and joys of another season of botany in 2022.

Note: For more on the elusive Carey's Sedge see Charles Cecile and Michael Oldham's article in the Ontario Plant Press Vol. 33 (3) from Fall 2021.

The FBO is pleased to present the **2023 John Goldie Award to Larry Lamb** of Woodstock, Ontario. The Goldie Award is the FBO's lifetime achievement award presented annually to individuals in recognition of their contributions to the knowledge of Ontario's flora. Larry spent much of his career as an instructor and lab coordinator at the University of Waterloo's ecology lab, where he is remembered as a mentor to many young naturalists. His work on environmentally significant areas and areas of natural and scientific interest in Waterloo Region, Walpole Island and elsewhere in Ontario has left a legacy of scientific and regulatory significance. His contributions to ecological restoration and natural heritage planning in Ontario earned him a lifetime achievement award from the Lieutenant Governor's Ontario Heritage Trust in 2019. In addition to being an all-around naturalist, Larry has also made contributions to the knowledge of Ontario's geology and cultural heritage, and is a collector of Canadian Indigenous artwork.



FBO Board and Members

Thank you sincerely for honouring me with the FBO's 2023 John Goldie award.

To receive this tribute is immeasurably important to me considering the company of those who have previously received the award, certainly an illustrious list of the finest field botanists in Ontario. Several are or were my heroes and mentors – Britton, Morton, Reznicek, Semple. Others were Craig Campbell, Roy Dickson, Morton Eddy, Munro Landon and Fred Montgomery. Many of the recipients were professional botanists – for me – it was mainly a hobby. Although through involvements with courses I instructed and or assisted others with, I did get to know Ontario's flora, especially the Bruce Peninsula, Rice Lake plains, Prince Edward County, even Southwest Texas! My Environmentally Sensitive Areas Surveys: Waterloo Region, Lambton, Perth and assistance with Brant and others were golden opportunities for exploration.



I was hired at the University of Waterloo in 1969 to assist with mapping the historic vegetation of Norfolk Haldimand. Since childhood Norfolk Haldimand was one of my main stamping grounds. Scores of EIS projects as a freelance consultant opened the door to explore the province extensively. Volunteering with numerous organizations such as FON Nature Reserves Committee, rare, Tallgrass Ontario, SerOnt, Canadian Wildflower Society, FBO, Waterloo Region Nature and Woodstock Field Naturalists were also enriching.

My special interest in prairie and savanna in Ontario, Manitoba and every tallgrass state other than South Dakota provided the most treasured moments for botanical exploration in my life. Previous to this was a passion for Cove hardwood and heath bald systems in North Carolina and Tennessee. I have discovered significant new taxa and new locations for many highly restricted species. These are represented in hundreds and hundreds of herbarium sheets. A life highlight was co-authoring the preliminary Annotated Flora of Waterloo Region with Craig Campbell in 1984.

Through my teaching, volunteerism, countless speaking engagements and field trips, I hope others have benefitted from my intense passion for field botany. Thank you for recognizing my contributions.

*Sincerely,
Larry Lamb*

Sources of Weeds

Part 4 – Vine Fruit

Part 1 was published in the Spring 2021 issue
Part 2 was published in the Fall 2021 issue
Part 3 was published in the Winter 2022 issue

W.D. McIlveen

We rely on several types of vine plants to provide us with edible fruit though some may be treated as a vegetable in a culinary sense. Some vines have woody stems while others are strictly herbaceous. This account deals with species that produce fruit on vines and have a potential to escape from cultivation and establish in a wild state.

Woody Vines

Three plant types are considered here. The first is grape, which is mainly associated with the fruit belt around Niagara but is also grown at many other locations in the warmer parts of Southern Ontario such as the north shore of Lake Erie and in Prince Edward County. Grapes are grown mainly for the wine industry, mostly in commercial vineyards, but individual landowners sometimes grow a few plants for their personal use. The grapes in the vineyards have a complex genetic composition with numerous hybrids. Wine is produced from grapes that are largely derived from the introduced Wine Grape (*Vitis vinifera*). The native *Vitis labrusca* is well-represented in the production of juice, jam, and jelly. Other species used in breeding programs and for root-

stocks include *Vitis riparia*, *V. rupestris*, *V. berlandieri*, *V. aestivalis*, and *V. champinii*.

The list of grape species growing wild in Ontario includes four native species but excludes *Vitis vinifera* [Newmaster et al. 1998, Riley 1989, Varga et al. 2000]. The natives are *V. aestivalis* (Summer Grape), *V. riparia* (Riverbank Grape), *V. labrusca* (Fox Grape), and *V. vulpina* (Frost Grape). The latter two species are listed as very rare (S1) in Ontario. We can be reasonably confi-



Abandoned vineyard south of Acton, 2020.

dent that the Wine Grape is not spreading from the vineyards. It may persist for some time at the sites of abandoned vineyards but such plants gradually lose vigour and die due to attacks from a suite of insects and diseases. If any seedlings should by chance become established, they would soon be overcome by the same scourges. In conclusion, Wine Grape does not pose a threat as an invasive species while any native species used in breeding or as rootstocks would not be recognized among the wild relatives.

The second group included in the present discussion is hops. Hops are significant as a key ingredient of beer and therefore constitute a commercial crop. To place some perspective on how hops came to be very significant, consider the following background. In the 1800s, there were



Common Hop (*Humulus lupulus*) 4th Line,
Nassagaweya, 2019.

21 hotels strung out along Trafalgar Road alone between Oakville and Ballinafad at the northern edge of the Region of Halton. That road is only 37 km long, which means that the average distance between hotels and their associated drinking facilities was only about one mile. The de-

mand for beer was largely satisfied by the local Brain Brewery located near Hornby, Ontario where 5000 barrels a year were produced. This in turn required a source of hops. In 1870, Ontario produced 1,188,940 pounds of hops of which local production in Halton was 117,071 pounds. The statistics for 1871, showed 200 acres of Halton were in hop production, mostly near Georgetown. But the happy industry was crushed when prohibition came into effect in 1916. By 1920, Ontario hop production in fell to just 1200 pounds - a drop of 99.9% (Jones 1946, McDonald 1996).

After the consumption of alcohol was permitted once more, the ale and lager were provided via a few very large commercial breweries. The source of their hops in not known but it was certainly not from Ontario producers. The spike in the number of craft breweries in Ontario since about 2010 has created increased demand for hops, sometimes with special characteristics. From 2011 to 2016, the number of growers in Ontario has increased from about four or five to approximately 35 commercial producers [Anonymous 2020]. In that same period, the acreage of hops increased from approximately 15 to 130 acres. This is still only about 7% of the former acreage of 150 years ago. Even disregarding human population growth over that time, it would appear that there is a great potential for increasing the area under hop cultivation. We can be quite confident that recent expansion in cropping of hops has not contributed to the population of wild hop plants. The elapsed time is simply too short to allow for that.

Hops are known botanically as Common Hop (*Humulus lupulus*) that is found naturally occurring in both Europe and North America. The Common Hop from Europe is *Humulus lupulus* var. *lupulus* while the American Hop is *H. lupulus* var. *lupuloides*. The two are distinguished by the degree of hairiness of the leaves. There are two additional botanical varieties of Hops in North America but since they do not occur in Ontario, we need not concern ourselves with those. The two varieties of Hops are distinguished and listed as growing in Ontario on the NHIC website and

by Newmaster *et al.* [1998]. The species compilations by Riley [1989] and Varga *et al.* [2000] do not distinguish between the two varieties. The situation is further confused by the fact that extensive hybridization that has taken place to obtain ideal cultivars for the beer industry. It is therefore very difficult to attribute a plant growing wild in Ontario to a true wild-growing native or to a residual of the former crops that were once grown in the province. Overall, though, Hop is not common enough to constitute a significant invasive threat. Also, Newmaster *et al.* [1998] indicates that *H. lupulus* is an ornamental. Perhaps this designation comes from the fact that a cultivar with yellowish foliage, *H. lupulus* 'Aureus', is cultivated in the manner of a vine though we have no evidence that these have yet escaped from cultivation.

A related species, the Japanese Hop (*Humulus japonicus*) is not used in the production of beer. It was introduced to North America from Japan in the 1800s. Its purpose was for use in an Asian tonic and as an ornamental plant. Japanese Hop has become widely established in the eastern half of North America and has been designated as invasive in some jurisdictions. In Ontario, it is listed as a common alien and has been reported to occur in at least Hamilton, Niagara, Peel, and York Regions [Riley 1989].

A third species just makes it on the present list of woody fruit vines. It is the Northern Kiwi (*Actinidia arguta*). To date, there has been only modest demand and planting of this species by private individuals. This cultivation has only happened in the last approximately 20 years or less, so any opportunity to escape from cultivation and become established elsewhere is nearly impossible at this time. The species requires separate male and female plants to produce fruit and this condition would also likely slow any possible spread. The risk that this species would ever become a species of invasive concern appears minimal indeed.



Giant Squash (*Cucurbita maxima*) display, Holland Marsh, 2017.

Herbaceous Vines

There are several weedy herbaceous vines of various sorts but only those that produce edible fruit crops are included here. All are members of the family Cucurbitaceae and are normally considered as vegetables in the culinary sense.

Due to a long history of selection and breeding, the fruits are available in a number of forms, notably in *Cucurbita maxima* and *C. pepo*. The diversity of forms can lead to difficulty in distinguishing among species. As the table indicates, five of the seven species have been recorded in the wild in Ontario. The rare to very rare status of most of these indicates that these species do not represent a serious invasive threat. The most extensive areas planted are for Cucumber and Pumpkin. Each fall, particularly around Halloween, copious quantities of Pumpkins are left in fields or are smashed, albeit the seeds have been cleaned from jack-o-lanterns. If any of the species were to escape in significant numbers and establish in the wild, pumpkin would be the prime candidate. The fact that so few species of this group behave as weeds is likely based on overall low longevity and poor frost hardiness of the seeds.

Species	Fruit Type	Rank
<i>Citrullus colocynthis</i>	Colocynth	*
<i>Citrullus lanatus</i>	Watermelon	SE1
<i>Cucumis melo</i>	Cantaloupe	SE1
<i>Cucumis sativus</i>	Garden Cucumber	SE1
<i>Cucurbita maxima</i>	Butternut Squash Pepper Squash Squash Giant Pumpkin	
<i>Cucurbita pepo</i>	Zucchini Field Pumpkin Vegetable Marrow Summer Squash Ornamental Gourds	SE1
<i>Thladiantha dubia</i>	Manchu Tuber-gourd	SE2

*Apparently, Ontario records of *Citrullus colocynthis* outside cultivation (e.g., Morton and Venn 1990) are mostly or entirely *C. lanatus* (A.A. Reznicek pers. comm. to M.J. Oldham).

Photos by Bill McIlveen.

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Memoriam for Paul Cavers

The Field Botanists of Ontario were sad to learn that Dr. Paul Cavers had passed away on April 18, 2023. While he was never directly active with FBO, his work was greatly aligned with the general goals of our organization. Many of his studies involved weeds which are a significant part of the Ontario Flora. Born in Toronto, Paul began his university career at the Ontario Agricultural College, which was part of the University of Toronto at the time. He earned a BSA in Agronomy there in 1960. He won an Agricultural Institute of Canada award, which allowed him to continue his studies at the University College of North Wales in Bangor, Wales, where he completed his Ph.D.

In 1963, Paul moved to London, Ontario to take up a teaching and research position in the Biology Department at the University of Western Ontario. His career at Western lasted for 40 years during which time he supervised 45 graduate students, served on a multitude committees and societies, and as an editor for several journals. During his career, he received numerous awards, including Outstanding Contributor with Canadian Weed Society, Outstanding Teacher Award from the Weed Science Society of America, the Mary Elliott Award for service, as well as the Lawson Medal for lifetime contribution to the Canadian Botanical Association. He played a significant role in the formation of the Canadian Botanical Association. His studies, along with the work of his students, resulted in a great increase in our knowledge about the Biology of Canadian Weeds. This included studies of many quite common weed species that were published in the Canadian Journal of Plant Science.