

ONTARIO



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The Field Botanists of Ontario Newsletter

Spring 2023 Vol. 35(1)

Amongst mosses

**Fall botany in
Palmerston Canonto**

Amongst sedges

**Species at risk
conservation**

Goldie Awards

**Dillenius Speedwell
discovered in Canada**

Book review

ISSN 2563-7754

President's Message

Greetings to our esteemed membership!

At the risk of summoning another wild swing in weather, the sun finally coming out today has me optimistic that spring is just around the corner. Field season will be upon us before we know it, which is why our Field Trip Coordinators are busy assembling the 2023 trip list. Keep an eye on your inbox for sign-up details in the next few weeks.

In other news, we will be holding the Annual General Meeting this fall in St. Thomas, Ontario. The exact date and venue are in the process of being finalized, so again keep an eye on your inbox for more information soon. We look forward to exploring the flora of Elgin County with you all then.

For now, whether it's on one of our hikes or on your own, I wish you a year full of exciting plant finds.

Happy Botanizing!

Gwyneth Govers

On the cover: White and Red Trilliums (*Trillium grandiflorum* and *Trillium erectum*)--soon to emerge in Southern Ontario's forests.

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.



From the Editor

It was a busy 2022 year for the FBO as we demonstrate in this feature-packed issue. The three trip reports take you back to places where we explored diversity of plant life, from small mosses to sedges, other herbs, to shrubs and trees. A new species to Canada, a rather unassuming Eurasian speedwell, *Veronica dillenii*, was discovered by our Vice President - may be you will find it too this year? However, if you stumble upon a Wood-poppy or Crooked-stem Aster in the rich forests in the southern parts of the province, quickly let Emma Neigel know! She knows these two rare species very well and will include the new populations (if they are new) as protected sites for their recovery program: Emma has submitted a very interesting article on rare plant conservation strategies, which may be a model for other species as well. While you will not be collecting the poppy or the aster, other - common - species are fair game: before you collect them, though, you may want to read a new little book that describes all details of the whole process - from acquiring the plant in the wild to it becoming a mounted specimen in your herbarium. Read, collect, admire, and enjoy.

FIELD BOTANISTS OF ONTARIO

www.fieldbotanistsofontario.com

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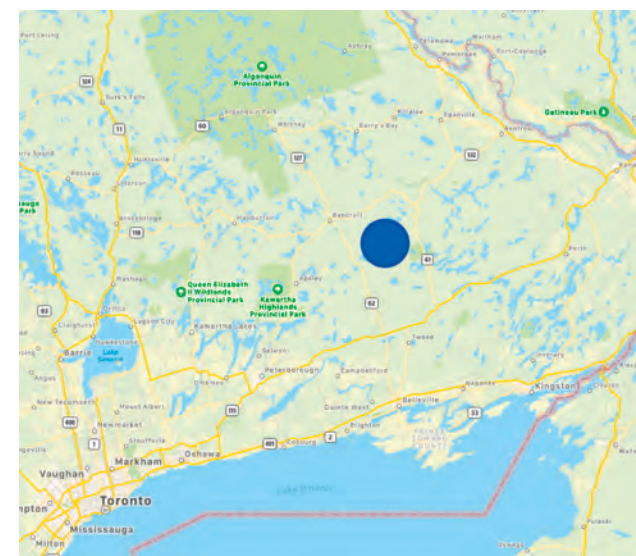
MOSSES, EVERYWHERE

1 October 2022

Avery Tyrell

Greeted by the vivid fall colours of Hastings County and one very friendly beagle, about fifteen attendees of the Bryophytes of the Land Between field trip convened and were welcomed by our gracious hosts and the owners of the property our trip would take place on, Jane and Peter Millican, as well as

our trip lead Jennifer Doubt. After exchanging pleasantries and introducing ourselves, Jennifer began to answer the group's questions about the basics of mosses. We learned that our diminutive friends do not draw nutrients up from the substrates they attach to but instead simply use them as anchor points using structures called "rhizoids" that are similar to true roots only in appearance.



Before setting out into the forest, we were introduced to Woodsy Thyme Moss (*Plagiomnium cuspidatum*), whose charming wide, round, and apically serrated leaves captivated the trip-goers. Just a few steps down the path at the forest's edge, we stopped and noted a patch of a Fern Moss (*Thuidium* sp.), characterized by its thrice branching pattern which produces a delicate and lacey appearance. In the same area, we also came across a moss in the genus *Atrichum*, sometimes called the "Smoothcaps", which are known to have thinner and fewer leaves along their stems than the "Haircap" genera *Polytrichum* and *Polytrichastrum*. After poring over the "lawn" mosses, we continued slowly into the forest,



Jennifer, supervising her pupils.

keeping our eyes fixed on the ground for more species.

Despite what some may see as “limitations”, mosses have been able to diversify and adapt to a variety of conditions, filling a multitude of

hanging tree branches were cushions of Curled Bristle Moss (*Ulota crispula*), with their tiny, curled leaves and bright yellow-orange sporophyte capsules on short stalks that peeked out from their foliage. Another arboreal genus we came across was a *Pylaisia* sp., exhibiting its pleasant silky and satiny



Hedwigia ciliata

leaves on curled branches. On the ground, we also noted some Grass Moss (*Brachythecium* sp.) which are apparently as difficult to identify as its namesake distant vascular cousins, the grasses.

Along the way, Jennifer provided some tips about posting mosses to iNaturalist to ensure that they are identifiable to experts. Pictures should be taken of the entire colony with an object for scale if possible and with the substrate it's growing on within view. Additionally, close-up pictures of branching patterns and the details of leaves and capsules will provide a more accurate ID.

Continuing to rifle through the forest, we encountered three more species of mosses: Ciliate Hedwig Moss (*Hedwigia ciliata*), Feathered Neckera Moss (*Neckera pennata*), and a Broom Moss species (*Dicranum* sp.) which was likely *D. viride*.

After inspecting every rock, tree branch and moist patch of soil in the area, we traversed the forest

trail and approached a swamp. Our first find was the stunning Knight's Plume Moss (*Ptilium crista-castrensis*), which dazzled us with its bright shiny leaves and distinct diamond shape. Another species, Red-stemmed Feather Moss (*Pleurozium schreberi*), was present nearby – one the most



Polytrichum commune

common mosses of central and northern Ontario, found in a wide variety of habitats. After the *Ptilium* photoshoot was over, we came across a patch of Wavy Broom Moss (*Dicranum polysetum*), decorated with fluffy rhizoids along its stems, followed by Juniper Haircap Moss (*Polytrichum juniperinum*), characterized by its blue-green infolded leaves.

Within the swamp we discovered a diverse vernal pool, which was home to the final few species we observed before heading back for lunch. The notably large and round leaves of the Thyme Moss (*Rhizomnium* sp.) captivated the group, as we were surprised to learn that it was indeed a moss despite its size. Multiple Peat Moss species (*Sphagnum* sp.) created beautiful hummocks in and around the now dry vernal pool, interspersed with the aptly named Tree Mosses (*Climacium dendroides*) standing above the other mosses with their elongated and sparsely leaved stalks, along with the also aptly named Four-toothed Moss (*Tetraphis* sp.) displaying its sporophyte capsules with four prominent teeth along the edges of their openings.



Rhizomnium sp.

Although we were enamored by the diversity of moss species we were finding, our stomachs soon led us back to home base for lunch, where we enjoyed some surprise snacks and refreshments provided by our hosts. Trip attendees also had a chance to look at their samples under the microscope, peruse identification

guides, and ask for ID advice from our great field lead Jennifer while we rested. After familiarizing ourselves with some of our samples, we headed back into the forest.

In the woods, we passed through another swamp, and came across the ever-popular Spiky Bog-Moss (*Sphagnum squarrosum*), displaying its characteristic pale green leaves branching off their stems at right angles. Continuing to the upland, we came across the fluffy, white-green



Ptilium crista-castrensis

ecological niches. The forest we traversed was a testament to this, displaying a diversity of species on trees, fallen logs, on the soil, and on rocks within the forest. In a very small area, we observed a number of different genera.

We noted the charming red stems and curly leaves of a Plait Moss (*Calliergonella lindbergii*) in its preferred locale of damp soil, along with more *Atrichum* sp., this time displaying their characteristic flat, club-tipped sporophyte capsules. Perched gently on the tips of low



A well-equipped field laboratory.

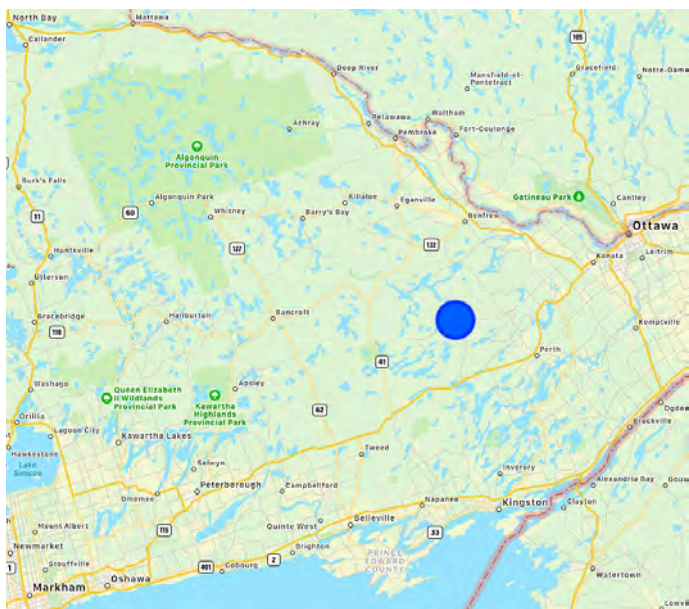
cushions of the Pincushion Moss (*Leucobryum glaucum*) – your dear writer’s favourite moss. Other moss encounters included: Whip Fork Moss (*Dicranum flagellare*) and Hypnum Moss (*Hypnum* sp.), as well as the non-moss “clubmosses”: Flat-branched Tree Clubmoss (*Dendrolycopodium obscurum*) and Stiff Clubmoss (*Spinulum annotinum*).

Nearing the end of our trip, we found the much-sought-after Stairstep Moss (*Hylocomnium splendens*), which grows a unique “staircase” stem and creates a new section each year.

Our final stop was at a dry upland forest full of ancient trees that was once a farm field. Here, we found another notable moss species, the Seductive Entodon Moss (*Entodon seductrix*), which grows silky-satiny leaves appressed on long branches.

Satisfied with the diversity of moss species we observed, samples we had taken, and mountain of notes we had all compiled, the group returned to Jane and Peter’s house and said our goodbyes.

Text photos and newsletter cover photo by Chris Zoladeski.



served to be in poor health following infection with Beech Bark Disease (initiated by the invasive Beech Scale (*Cryptococcus fagisuga*). The colourful Roundleaf Dogwood (*Cornus rugosa*) was encountered, and its characteristic maroon-streaked twigs were shown as an interesting field mark of the species. Nearing the lookout, we observed healthy populations of both Rock Elm (*Ulmus thomasii*) and Slippery Elm (*Ulmus rubra*). Rock Elm may be recognized even when corky twigs are absent via its relatively symmetric leaves with closely-spaced veins, and pointy yellow-tipped buds. Slippery Elm is easily recognizable too, with its large thick leaves exhibiting bifurcating veins near the middle, and reddish-tipped buds with dark scales. The only observed Red Maple (*Acer rubrum*) of this mostly calcareous site was adjacent to the lookout.



Exploring Palmerston Canonto Conservation Area

4 September 2022

Owen Clarkin

Mapleleaf Viburnum (*Viburnum acerifolium*). Photo: O. Clarkin.

The goal of this trip was to show the general botanical biodiversity of Palmerston Canonto Conservation Area (PCCA), with an emphasis on woody plants as per the leader’s primary interests. PCCA is notable for its relative remoteness and its correspondingly low number of exotic/invasive plants. This site is hilly, with habitats varying from lakeshore to rocky upland lookouts with spectacular views of the surrounding landscape.

The tour began at the parking lot, with a brief introduction of the site and its characteristics for the attendees. We then followed the Pickerel (green) Trail, which starts at the edge of Palmerston Lake to the Lakeview Lookout, approximately 55m above the adjacent Canonto Lake. On the way up the trail, early signs of the coming autumn were hinted by Mapleleaf Viburnum (*Viburnum acerifolium*), which had started turning its distinctive pinkish colour. Beech (*Fagus grandifolia*) were ob-



Heavily diseased beech tree. Photo: O. Clarkin.

At the top of the Lakeview Lookout we found Pin Cherry (*Prunus pennsylvanica*), Glaucous Honeysuckle (*Lonicera dioica*), Rock Polypody (*Polypodium virginianum*), Low-bush Blueberry (*Vaccinium angustifolium*), Downy Arrowwood (*Viburnum rafinesqueanum*), and Pink Corydalis (*Capnoides semper-virens*).

Still on high ground, now along the Beaver (orange) Trail, we encountered Upland Willow (*Salix humilis*) and noted its characteristic hairy leaf undersides.

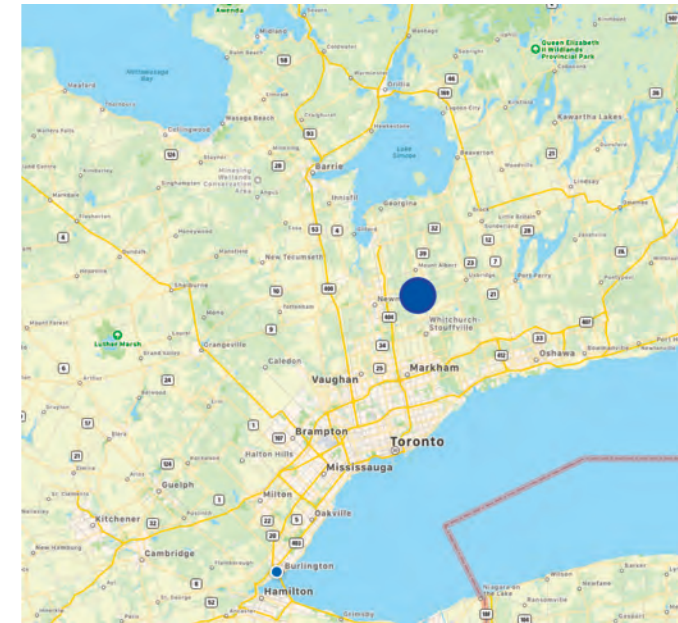
We continued to the next lookout (Vista Lookout) on the Cattail (yellow) Trail, before heading back to our starting point at the parking lot via the Crow (blue) Trail. Along the way, we encountered a variety of habitats ranging from upland to lowland. Hairy Honeysuckle (*Lonicera hirsuta*) was a notable find on higher ground, while numerous plants were observed along the lower sections of the Crow Trail, such as Striped Maple



Palmerston Canonto explorers. Photo: R. Bauer.

(*Acer pensylvanicum*), Mountain Maple (*A. spicatum*), Canada Fly Honeysuckle (*Lonicera canadensis*), Meadow Willow (*Salix petiolaris*), Joe-Pye Weed (*Eutrochium maculatum*), Boneset (*Eupatorium perfoliatum*), Swamp Milkweed (*Asclepias incarnata*), Marsh Fern (*Thelypteris palustris*), Maidenhair Fern (*Adiantum pedatum*), Marsh Pennywort (*Hydrocotyle americana*), American Spikenard (*Aralia racemosa*) and Yellow Lady's Slipper (*Cypripedium parviflorum*).

Throughout the day the leader searched for evidence of the new invasive insect Elm Zigzag Sawfly (*Aproceros leucopoda*), which only a few days prior had been observed along the north shore of Lake Ontario, as far west as the GTA. Happily, the insect's distinctive zig-zag feeding traces were not found during this trip to PCCA.



Carex backii. Photo: P. Strzalkowski.



Carex arctata. Photo: P. Strzalkowski.

Walking with sedges (with Steve Varga)

4 June 2022

Hayley Brown

Steve Varga led the Upland Sedge, Grass and Rush Identification trip at the east side of the Hollidge Tract trail in the beautiful York Region Forest located in Whitchurch-Stouffville. The area is comprised of deciduous and Red Pine (*Pinus resinosa*) forest and large Eastern White Cedar (*Thuja occidentalis*) swamps, with Vivian Creek flowing through it. York Region Forest encompasses over 5000 acres on 18 tracts within the boundaries of Georgina, Whitchurch-Stouffville and East Gwillimbury.

Steve is a Management Biologist specializing in botany, wetland biology, and Areas of Natural and Scientific Interest (ANSI) at the Ministry of Natural Resources and Forestry (MNRF), Aurora District.

Steve started with the parts of a grass and sedge before the plant walk commenced and gave the ecological history of the York Region Forest. Multiple grass samples were picked from the side of the road and were handed out and keyed together as a group. Later, we

were off to the races to see who would have the most observations – sedges or grasses. It was later concluded that sedges won with 18 observations and grasses with only six. The species list was as follows:

White Bear Sedge (*Carex albursina*)

Drooping Woodland Sedge (*Carex arctata*)

Back's Sedge (*Carex backii*)

Fibrous Root Sedge (*Carex communis*)

Dewey's Sedge (*Carex deweyana*)

Graceful Sedge (*Carex gracillima*)

Hitchcock's Sedge (*Carex hitchcockiana*)

Greater Bladder Sedge (*Carex intumescens*)



A year in the life of a forest: Bruce Trail at Crawford Lake through the seasons. Photo: C. Zoladeski.

- Broad Loose-Flowered Sedge (*Carex laxiflora*)
- Nerveless Woodland Sedge (*Carex leptoneuria*)
- Peck’s Sedge (*Carex peckii*)
- Long Stalked Sedge (*Carex pedunculata*)
- Pennsylvania Sedge (*Carex pensylvanica*)
- Eastern Star Sedge (*Carex radiata*)
- Rosy Sedge (*Carex rosea*)
- Eastern Rough Sedge (*Carex scabrata*)
- Bur-reed Sedge (*Carex sparganioides*)
- Sprengel’s Sedge (*Carex sprengellii*)
- Smooth Brome (*Bromus inermis*)
- Orchard Grass (*Dactylis glomerata*)
- Wood Millet (*Milium effusum*)
- Grove Bluegrass (*Poa alsodes*)
- Canada Bluegrass (*Poa compressa*)
- False Melic Grass (*Schizachne purpurascens*)

The one rare species observed along the walk was Back’s Sedge. Hitchcock’s Sedge was also an interesting species to find. The white hairs were obvious to the naked eye, together with a triangular stem. The species is also an indicator of rich woodland habitat.

Some interesting key features of a few species we came across are as follows:

Carex pedunculata forms dense clumps, while *Carex pensylvanica* forms runners (lines, not clumps);

Carex scabrata and *Carex sprengellii* are wetland plant indicators;

Poa species have webbed hairs at base of the lemmas;

Brachyelytrum erectum can be found of the edge of swamps; and

Milium effusum, the shine on the leaves can be rubbed off.

The plant walk was a success with an abundant species list.

Improving rare plant conservation with experimental translocations

Emma Neigel*

University of Lethbridge, Biosystems and Biodiversity PhD Candidate (Ecology major)

Research partners: University of Guelph, Nature Conservancy Canada, Kayanase, The Wilder Institute (Calgary Zoo), NSERC

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Study length: Jan 2021- Dec 2024

*Emma Neigel is the 2022 FBO Student Award recipient.

Currently, 36% (n=88) of Canada’s vascular plants listed federally as Species At-Risk (SAR) occur in Ontario.¹ Plant diversity in southern Ontario is threatened primarily by habitat loss, largely due to urbanization and agricultural land development that has reduced many plant species at-risk to small, fragmented populations, reinforcing the high degree of these threats to SARO-listed (Species at Risk in Ontario) plants.²

Conservation translocations are a type of reintroduction that involve moving species within or outside their indigenous range to help establish new populations *in situ* (in the wild).³

Translocation can be a useful conservation tool for plant species at-risk with few remaining wild populations that are declining and/or under threat. Over 100 plant species at risk have translocation mentioned as a potential recovery tool in their Recovery Strategies.⁴

Yet, very few studies in Canada have tested the use of conservation translocation for rare plant conservation.^{5,6}

Research on plant translocation will aid in rare plant recovery in Canada, while also addressing fundamental questions of plant community dynamics such as a species' ability to occur in a community based on: (1) ability to withstand the abiotic and biotic conditions (environmental filters), and (2) ability to access the site (dispersal filter). The objective of my study is to conduct

conservation translocations for two SARO-listed plant species to determine the relative influence of ecological filters in limiting species' distribution.

My two study species are Wood-poppy (*Stylophorum diphyllum*, endangered), also known as Celandine Poppy, and Crooked-stem Aster (*Symphyotrichum prenanthoides*, special concern). Wood-poppy is identifiable by its four-petaled yellow flowers and lobed leaves. It is ant-dispersed, meaning ants move the seeds around in exchange for a jelly-like, nutrient-rich attachment on the seed called an eliasome. Crooked-stem Aster is named for its zig-zag stem and can also be identified by its clasping leaves and pale-purple blooms. It is wind-dispersed, growing along streambanks and in wet meadows.

To test the role of broad-scale habitat suitability for these species, I used computer models called species distribution models (SDMs). SDMs are built from species' occurrences in combination with geospatial data on environmental variables (i.e., climate, soil, vegetation type) to predict locations with potentially suitable habitat.⁷ SDMs provide a map of where a species is more likely to occur and help scientists to narrow down the search for finding new populations, while also providing a guide map of where suitable habitat may exist for future protection and plantings.



Crooked-stem Aster.
Photo: E. Neigel.



Self-portrait with Wood-poppy.
Photo: E. Neigel.

Based on SDMs, I selected nine to twelve 100 m x 100 m (1 hectare) sites per species with varying suitability rankings (i.e., 3 high, 3 medium, and 3 low sites). Within each site, I established plots and assigned different management treatments to the sub-plots. For Wood-poppy I fenced half of the sub-plots with wire-mesh fencing to test the role of herbivory, and for Crooked-stem Aster I removed competition (weeded) in half of the sub-plots, while cutting down competition (imitating mowing) in the other half of the sub-plots. Over the 2022 field season, my team and I planted ~1,400 Wood-poppies and ~4,000 Crooked-stem Aster plants on protected properties, and will continue to monitor survival and reproduction, including flowering and any seedling recruitment, until 2024. I will also measure microclimatic or 'microsite' conditions at each plot including soil moisture and canopy gap light to determine small-scale environmental effects not measured by the SDMs. If dispersal limitation is the primary barrier, then the translocations will have high success rates regardless of the suitability rankings. Alternatively, if local-scale factors (biotic or abiotic) limit survival or establishment, then careful selection of microsites and management treatments will be key to ensure successful translocations, even in high-ranked suitable habitats. My goal is to establish more *in situ* safeguarded populations of Wood-poppies and Crooked-stem Asters that reproduce and survive long-term, while also testing if conservation translocations based on SDMs are a useful tool for other plant species at-risk recovery.

Thank-you to all our partners including the University of Guelph, Nature Conservancy Canada, Kayanase, the Wilder Institute and Calgary Zoo, NSERC, and local landowners for their helping hands on this project. Also a big thank-you to the Field Botanists of Ontario for selecting me to receive the 2022 Student Award.

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We have erroneously attributed authorship of this beautiful photo of Indian Grass to Don Sutherland. In fact, this runner-up photo of the 2022 Crowley Memorial Award was taken by Don Campbell. We apologize to both gentlemen for the confusion.

November 26th, 2022

From William Van Hemessen, FBO Awards Coordinator

A Posthumous John Goldie Award for Dr. Jane Bowles

In 2022, the FBO elected to give a posthumous John Goldie Award to Dr. Jane M. Bowles. Jane made vast contributions to Ontario’s botanical and ecological body of knowledge over several decades in her work as a student, teacher, consultant and government scientist. Her work took her to nearly every corner of Ontario and was foundational in many of the current ecosystem classification systems, but perhaps some of her best-known contributions were her floristic studies of Ontario’s Carolinian Zone. In the latter part of her career, she was adored by her students at Western University and other young scientists she mentored. Jane passed away tragically in 2013.

Michael Oldham accepted the Goldie Award on behalf of Jane’s surviving husband Dr. Andre Lachance at FBO’s AGM on September 24th, 2022. A transcript of Mr. Oldham’s remarks, and remarks submitted by Dr. Lachance, are below.

[Transcript of Mike’s comments:]

I am disappointed that I could not be present in person to accept this award on behalf of Jane Bowles. In accepting Jane’s award, I was to have replaced her husband, André Lachance, who was unable to attend the meeting.

Will’s comments (including those from André) have covered many of Jane’s significant contributions to Ontario field botany, so I will only add a few personal recollections of Jane.

I was trying to remember the first time I met Jane Bowles, but memory fails me. It was likely in the early 1980s, perhaps at one of the first FBO meetings or fieldtrips or at some government or advisory committee meeting. Our friendship grew through the mid and late 1980s and lasted until her untimely death in 2013.

Jane and I spent many hours and days together both in the field, at the University of Western Ontario herbarium, and in various meeting rooms. We also worked closely together when Jane was editor of the FBO Newsletter between 1989 and 1994. We served on several committees together for many years: the

City of London Environmental and Ecological Planning Advisory Committee (EEPAC), the Committee on the Status of Species at Risk in Ontario (COSSARO), and the Plants Subcommittee of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Jane was passionate about conservation and donated her time to assisting many groups on conservation matters.

*Jane was also passionate about fieldwork and travel, and we had the opportunity to travel and botanize together in many parts of Ontario and Canada. One of the perks of being a member of the COSEWIC Plants Subcommittee is that the committee meets once a year in-person in a different part of Canada. Jane and I, usually with fellow **committee** member, Joyce Gould, would typically spend a few extra days either before or after the meeting exploring the local area. We spent time together botanizing near Whitehorse, Calgary, Saskatoon, Winnipeg, Fundy National Park, Quebec City, Cypress Hills, and elsewhere as a result of these COSEWIC meetings.*

Another thing we had in common is that we both married francophones from Québec. Jane and André and Mireille and I spent several enjoyable trips together, camping, kayaking, and even wine-tasting in Prince Edward County.

Jane was a joyful person, always enthusiastic and upbeat and with a great sense of humour...she was fun to be around.

My dad, who is in his 90s and doing well, told me a few years ago that the worst thing about growing old is seeing all your friends die. I’m still young enough that fortunately I haven’t had to live through the deaths of many close friends my own age. Of the friends I have lost, Jane’s death was by far the most difficult for me. I still think of her often and I know she is missed by many others as well.

It is my pleasure to accept the 2020 Goldie Award on behalf of Jane Bowles. Jane made a lasting contribution to conservation and field botany in Ontario.

Following this Zoom call, I plan on drinking a toast to Jane Bowles and I hope that some of you will join me.

[Remarks from Andre LaChance:]

Were Jane here to accept this award, modesty would prevent her from extolling the virtues of her own lifetime achievements and contributions to Ontario

botany. However, I have no such constraints, so I’m happy to give you the elevator speech version of her accomplishments. Jane was trained as a botanist from a very early age by her mother, who herself was a botanist. As soon as she could walk, she learned to stop and wonder about every plant in sight. After finishing her PhD in sand dune ecology, she entered the professional world of botany as a consultant. The first big item was the 3rd edition of the Field Guide to Forest Ecosystem Classification for the Clay Belt, which gave her the luxury of spending weeks in loggers’ camps, way north of here. In the early 80s, she attended her first FBO field trip, which was at the Wye Marsh. It didn’t take long that she took over the production of The Plant Press, which she managed for a few years. At some point, this involved the exchange, between editorial board members, of a fake issue of the newsletter, full of egregious errors, to see what reaction that would arouse. This is also the time that she started taking on contracts for life science inventories, soon earning a reputation for thoroughness and reliability. Recently, at an opening ceremony for the Sydenham Reserve Nature Reserve, Larry Cornelis repeatedly mentioned the importance of Jane’s assessment of that property. Jane served on*

both the Provincial and Federal committees for species at risk. In the 2000s, she was appointed curator of the University of Western Ontario herbarium and director of its arboretum, initiating an active outreach program for these institutions. Hardly a month before her death, she gathered the energy to lead a public tour of the arboretum. Also important was her decade-long volunteer service as Conservation Property Manager for the Thames Talbot Land Trust, a task that is now assumed by a full-time employee. All this was interlaced with Ontario Universities Field courses in the Sonoran Desert or Northern Argentina, as well as yeast collection trips in every part of the tropical world. Jane was very fond of gadgets, including several of her own invention. Most noteworthy are the Sag Stick, a collapsible contraption designed to measure Saguaro cacti but easily convertible to a standard quadrat, as well as the Bowles Scroll, a more portable alternative to the collection plant press. Jane was an intense person who left no one indifferent. She saw the funny side of about everything but was dead serious about her plants.

**George Bryant knows the full story on that.*

November 26th, 2022

From William Van Hemessen, FBO Awards Coordinator

The 2022 John Goldie Award Presented to Michael J. Oldham

The FBO were pleased to give the 2022 John Goldie Award to eminent Ontario botanist Michael J. Oldham. The John Goldie Award is the FBO’s lifetime achievement award presented annually to an individual in recognition of his or her contributions to the knowledge of Ontario’s flora. Michael was a founding member and past president of the FBO, and he is probably best known for his role as provincial botanist at the Natural Heritage Information Centre (NHIC) at Ontario’s Ministry of Natural Resources (MNR), where he worked from 1993 to 2021. Prior to NHIC, he worked as a biologist at MNR’s Aylmer district office and as an ecologist at the Essex Region Conservation Authority (ERCA). Michael’s contributions to Ontario field botany include dozens of peer-reviewed publications, vascular plant species

checklists and conservation assessments, life science inventories for natural areas throughout Ontario, and tens of thousands of voucher specimens housed at herbaria across North America. Michael’s attention to detail and extensive collections from every corner of Ontario have established him as one of the foremost experts on Ontario’s flora and a “household” name among the North American naturalist community. Although he is best known as a botanist, he has also made considerable contributions to the knowledge of Ontario’s reptiles and amphibians and held the title of herpetologist for part of his career.

Michael accepted his award at FBO’s AGM on September 24th, 2022. A transcript of his acceptance remarks is below.

Thanks, Will for the kind words.

I had expected to be in Belleville with you this evening but as some of you may know my wife and I came down with Covid earlier this week, despite being fully vaccinated, so unfortunately, we had to cancel our in-person participation.

I am very honoured to be receiving this year's Goldie Award. In looking over the previous 15 Goldie Award winners I feel fortunate to have known all of them personally and to have spent time in the field with most of them. Many of the previous Goldie award winners were my mentors early in my career and it is humbling to be included on a list with them.

My involvement with the Field Botanists of Ontario goes back a long time. I was one of 15 botanists who gathered on the 26th of March 1983 at Jocelyn Webber and Jeff Kaiser's apartment in Mississauga to discuss the formation of the FBO and its newsletter "The Plant Press". I was an Associate Editor of the first issue of The Plant Press published in March 1983 and have been an Associate Editor ever since ... 39 years with 11 different editors!

I was present at the first formal gathering of Ontario field botanists in Red Bay on the Bruce Peninsula in June 1984 and have attended many field trips and AGMs since then, particularly in the 1980s and 1990s. It is really great to see the FBO continuing to thrive under enthusiastic and capable leadership.

Although I've retired from a 40-year career with Ontario Conservation Authorities and the Ministry of Natural Resources I expect to continue to be involved with the FBO and field botany in Ontario for as long as possible. I've been fortunate to have had a career that allowed me to spend a considerable amount of time doing fieldwork, in particular the last 28 years of my career with the NHIC in Peterborough allowed me the opportunity to visit many remote parts of the province.

I would like to thank the FBO Executive for honouring me with this award. Last, but not least, I would like to thank my wife, Mireille, for tolerating a basement and garage full of plant specimens and books and a husband who would be away for sometimes weeks at a time doing fieldwork or attending meetings. When our two children were young Mireille was often on her own with them while I was indulging in my passion for fieldwork and natural history. Without her support I couldn't have accomplished many of the things I was able to do during my career.

Thanks again and hope to see you at an FBO event in 2023.

Dillenius Speedwell (*Veronica dillenii*), a new species for Canada

Pat Deacon

On May 17, 2021, I found myself driving along Highway 401 toward Trenton and in need of a break. I had recently read an article authored by Paul Catling titled "The Extent and Floristic Composition of the Rice Lake Plains Based on Remnants" (Catling 2008) and had been intrigued by a location referred to as Murray Hill North Prairie just west of Trenton. Pulling into the Wooler Road carpool lot I set off for a short hike.

A well-used all-terrain vehicle trail meandered through a forest of Red Oak (*Quercus rubra*) and White Pine (*Pinus strobus*) with a ground-cover of Wild Sarsaparilla (*Aralia nudicaulis*), Large-leaved Aster (*Eurybia macrophylla*) and May-apple (*Podophyllum peltatum*). I passed through a low-lying stand of Eastern White



A patch of Dillenius Speedwell growing along a trail sand barren habitat at Murray Hill (17 May 2021). Photo: P. Deacon.

Cedar (*Thuja occidentalis*) where a carpet of Variegated Horsetail (*Equisetum variegatum*) and Bristle-leaved Sedge (*Carex eburnea*) was blanketed with the fresh trailing leaves of American Hog-peanut (*Amphicarpaea bracteata*). Onward and upward I ascended a hill of Brighton sandy loam, an elevation gain of about 30 metres.

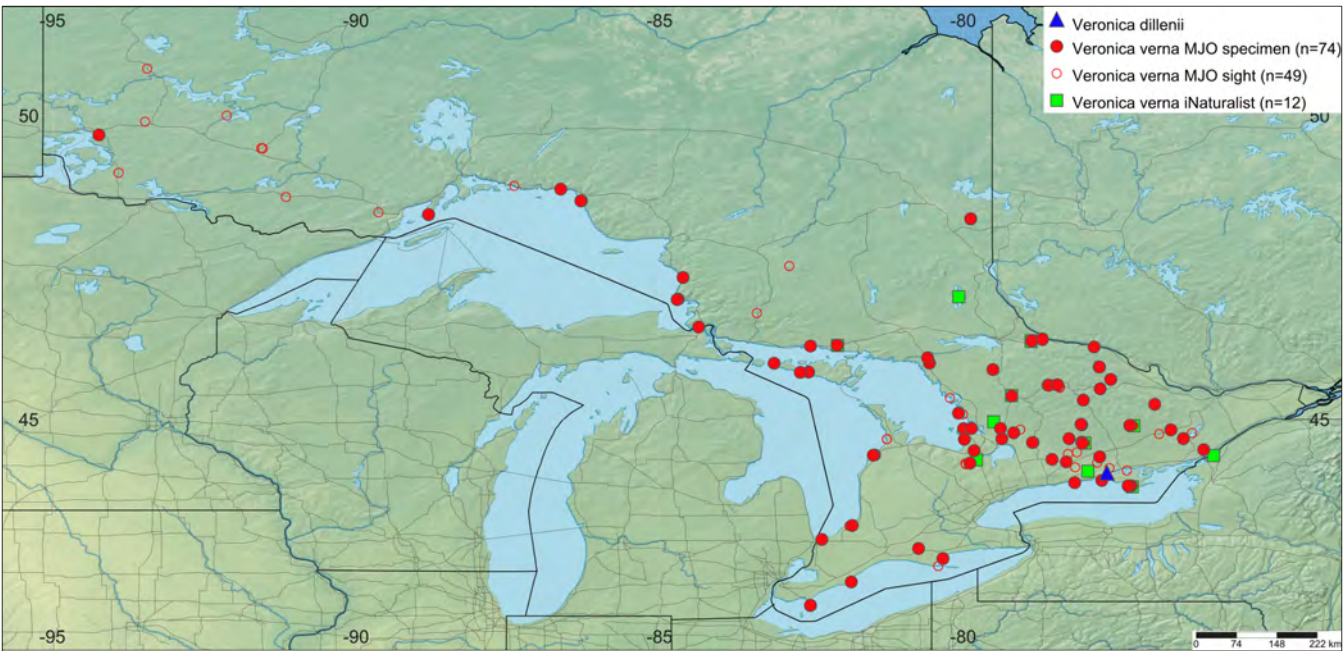
The tree composition on the slope remained dominated by a canopy of Red Oak and White Pine, but the conditions were notably drier than

leaved New Jersey Tea (*Ceanothus herbaceus*) persisting under a closed canopy along the trail edges. The path was flanked with Pennsylvania Sedge (*Carex pensylvanica*) and dotted with clumps of Bastard Toadflax (*Comandra umbellata*), Large Tick-trefoil (*Hylodesmum glutinosum*), and bedstraws (*Galium circaezans* and *G. lanceolata*). Wild Columbine (*Aquilegia canadensis*) and Hooked Violet (*Viola adunca*) added a splash of red and mauve to the trail edges. I would have been happy to head back to

the low-lying area I had passed through moments before. The groundcover became more interesting and started to reflect the Catling article I had read. Along the trail I passed patches of Round-leaved Dogwood (*Cornus rugosa*) with its dull pink-yellow stems displaying the round, saucer-shaped leaves. Thin-leaved Snowberry (*Symphoricarpos albus*) and Early Lowbush Blueberry (*Vaccinium angustifolium*) were also fairly common with a few stems of Narrow-



Johann Jacob Dillenius (1684-1747). German botanist, professor of botany at Oxford University. Then-living testament to food security in his circles.



my vehicle at this point after taking in this wonderful display, but through the tree cover I could see an opening ahead.

As the trail levelled off near the peak of the hill the tree cover shifted from pine-oak forest to a sand barren with scattered White Oak (*Quercus alba*) and Black Oak (*Q. velutina*). A few clonal stands of Gray Dogwood (*Cornus racemosa*) and Staghorn Sumac (*Rhus typhina*) lined the edges of the barren. Depressed Juniper (*Juniperus communis* var. *depressa*) was scattered throughout and had created an obstacle course for ATVs which clearly frequented the peak. Herbaceous species typical of sand barrens included Little Bluestem (*Schizachyrium scoparium*), Dry-spike Sedge (*Carex siccata*), Long-headed Anemone (*Anemone cylindrica*), Rough Fleabane (*Erigeron strigosus*), Star-flowered False Solomon's Seal (*Maianthemum stellatum*), Bracken Fern (*Pteridium aquilinum*), Early Goldenrod (*Solidago juncea*), White Heath Aster (*Symphotrichum ericoides* var. *ericoides*), Slender Wildrye (*Elymus*



The purple-tinged style of Dillenius Speedwell measuring 1mm in length with immature fruit capsule (17 May 2021). Photo: P. Deacon.

trachycaulus), and the evergreen rosettes of a panicgrass (*Dichanthelium* sp.). As I explored the area, a brittle cover of lichens and mosses crunched beneath my feet.

I stopped to inspect a “fairy ring” formation that a sedge had created. I had only observed this phenomenon of the central area dying back while a concentric ring expands outward with Sprenge’s Sedge (*Carex spengelii*). The very low growth form on dry sand made me think it could be Umbellate Sedge (*C. umbellata*), but the fruits were rife with ergot fungus making a positive

identification difficult and so I decided to start heading back.

With a choice of trails thanks to the ATV use, I opted for a different route back. I had hardly reached the edge of the barren when I spotted the recognizable leaves of a non-native Speedwell (*Veronica* sp.). With the drive to Napanee ahead of me and parched from my brief foray of the barren, I grabbed a handful of plants and headed out.

That evening I checked the samples using the Michigan Flora Online (MFO) key. The corolla width and fruiting pedicel length seemed to rule out Spring Speedwell (*Veronica verna*), an introduced species known from disturbed open sites in southern and central Ontario (Crins et al. 1987; see map on previous page). Following conversations with Don Sutherland and Mike Oldham, I decided I needed to re-visit the site a couple of days later to locate plants with more intact flowers. Sure enough, some plants held on to flowers



The mature capsule of Dillenius Speedwell showing the style surpassing the capsule lobes and the fruiting pedicels >2.5mm in length (26 May 2021) Photo: M. Oldham.

that exhibited long styles and violet-coloured stigmas that confirmed the plants as Dillenius Speedwell (*Veronica dillenii* Crantz), a species not previously known from Ontario or Canada (Brouillet et al. 2010+). Both my iNaturalist observation and a later observation from the same site by Mike Oldham were confirmed by Dirk C. Albach who wrote the Flora of North America (FNA) treatment of the genus *Veronica* (Albach 2019).

Dillenius Speedwell, is a member of the Plantaginaceae family (formerly in the Scrophulariaceae), considered native to Eurasia, and is introduced in

Michigan, New York, Virginia, Indiana, Illinois, and Wisconsin (POWO 2017). The common and scientific names refer to German botanist Johann Jacob Dillenius. This short-statured annual was first collected in Michigan by Oliver A. Farwell in sandy fields near Ortonville in 1928 and is now known from six southern Michigan counties (MFO 2011). In the state of New York, voucher specimens date back as early as 1949 and all are from the Adirondack region (Weldy et al. 2021). Some of the New York voucher specimens note the plants occurring in “railroad yards” and “around campfire ring” (Brooklyn Botanic Garden 2021).

The map shows the location of the Ontario Dillenius Speedwell as well as the Ontario distribution of Spring Speedwell based on the specimen and sight records of Mike Oldham (MJO) and additional records in iNaturalist. Crins et al. (1987) map additional Spring Speedwell locations (within the same general range) based on specimens examined, they also map the Ontario distribution of Corn Speedwell (*Veronica arvensis*).

With the minute differences in flower structure, it is very possible that some past collections or sight records of Spring Speedwell are in fact Dillenius Speedwell. The former retains a greenish colour in pressed material while the latter often turns blackish when pressed due to a compound called aucubin within the tissue (Albach 2019).

Ontario botanists should watch for this species in May and early June; in particular where sandy soil is subject to regular disturbance such as campsites, ATV trails, road cuts and utility corridors.

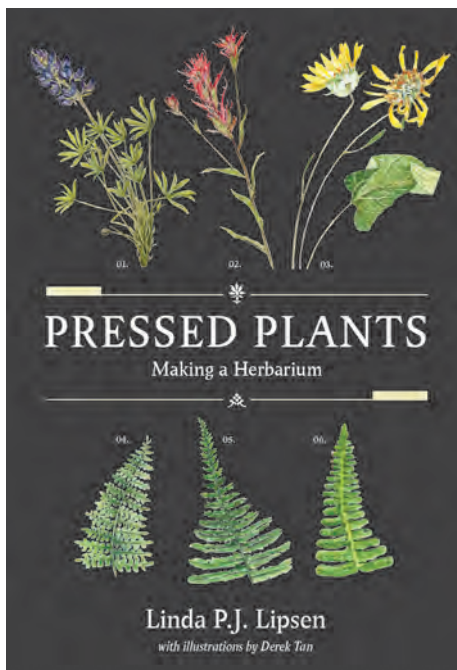
Voucher Specimens

Canada, Ontario, Hastings Co., Lot 12, Concession 2, Murray Township, 5km northwest of Trenton, 44.122°N, -77.641°W, along trails in sparsely treed sand barren, 17 May 2021, P.W. Deacon 97 (specimen to be deposited at OAC) (photos iNaturalist: <https://www.inaturalist.org/observations/79224675>); 26 May 2021, M.J. Oldham 44638 (specimen to be deposited at CAN and NHIC) (photos iNaturalist: <https://inaturalist.ca/observations/80405451>).

A thank you to Mike Oldham for providing insight into this observation and for his help preparing this article.

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Book review

Chris Zoladeski

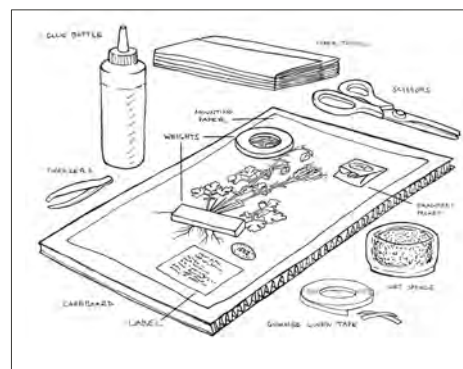
Pressed Plants, Making a Herbarium, by Linda Lipsen

In the last several issues we published reviews of books on a range of botanical interests, from herbaria as collections of not just plant specimens but also as stories associated with their collectors, to those encouraging the use of botanical Latin as principal language for plant identification, to—importantly— books on regional floras. Also, there is hardly an issue in which we would not have reports on new floristic discoveries in the province, both of native and introduced species.

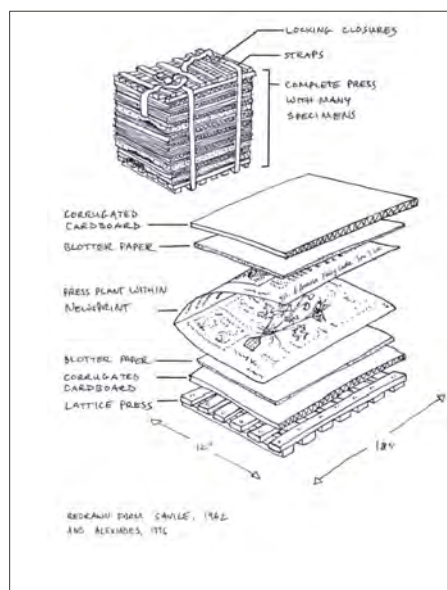
With the new growing season fast approaching and everybody eager to go out to explore various areas of botanical interest, be it on our FBO trips or solo, there is a new and timely publication focused specifically on the techniques (and art, perhaps) of plant collecting. Linda Lipsen, curator of collections at the University of British Columbia Herbarium, is the author of *Pressed Plants, Making a Herbarium* – a small compact paperback, which I am sure will be of great help to those just starting their plant collecting hobby and creating a private herbarium, but also to seasoned

collectors who may find some tips they may not have been aware of.

Written in a lively style, this little compendium provides a surprisingly extensive amount of advice for its small volume (92 pages). Richly illustrated with hand drawings, the book is divided into logical chapters that cover the whole process—from preparing for your botanical expedition, physical tools and techniques for the actual picking plants in the field, then the arduous procedures of drying your collections in a plant press (you will not use your paper copies of the Ontario Plant Press for that purpose, will you?), to finally mounting specimens on herbarium sheets, which is the last act of creating your own herbarium—the grand finale of your hard but pleasant work.



The book, just published, is available from your retailer quoting an ISBN code (ISBN-10: 0772680566; ISBN-13: 978-0772680563), or through online orders from Indigo Canada or Amazon.



Although we do not allow collecting plants on our FBO trips, you are encouraged to go out on your own and explore local areas, public or private (once, of course, you secure a permit). For example, conservation authorities, when contacted, may even be open to direct you to a specific site within their jurisdiction to document local plant diversity. Private landowners with a conservationist inclination may also be thrilled when you present them with the fruits of your labour, either as floristic lists or the actual collected specimens.

Finally, think long term. Most private collections usually end up being donated to a recognized institutional herbarium, in which your specimens will become part of a much larger collection and will be professionally taken care of for many decades to come, if not hundreds of years. They will, de facto, become *scientific* collections that will be used as research material for taxonomists, biogeographers and conservationists now and in the far future. And that is a great intellectual award!