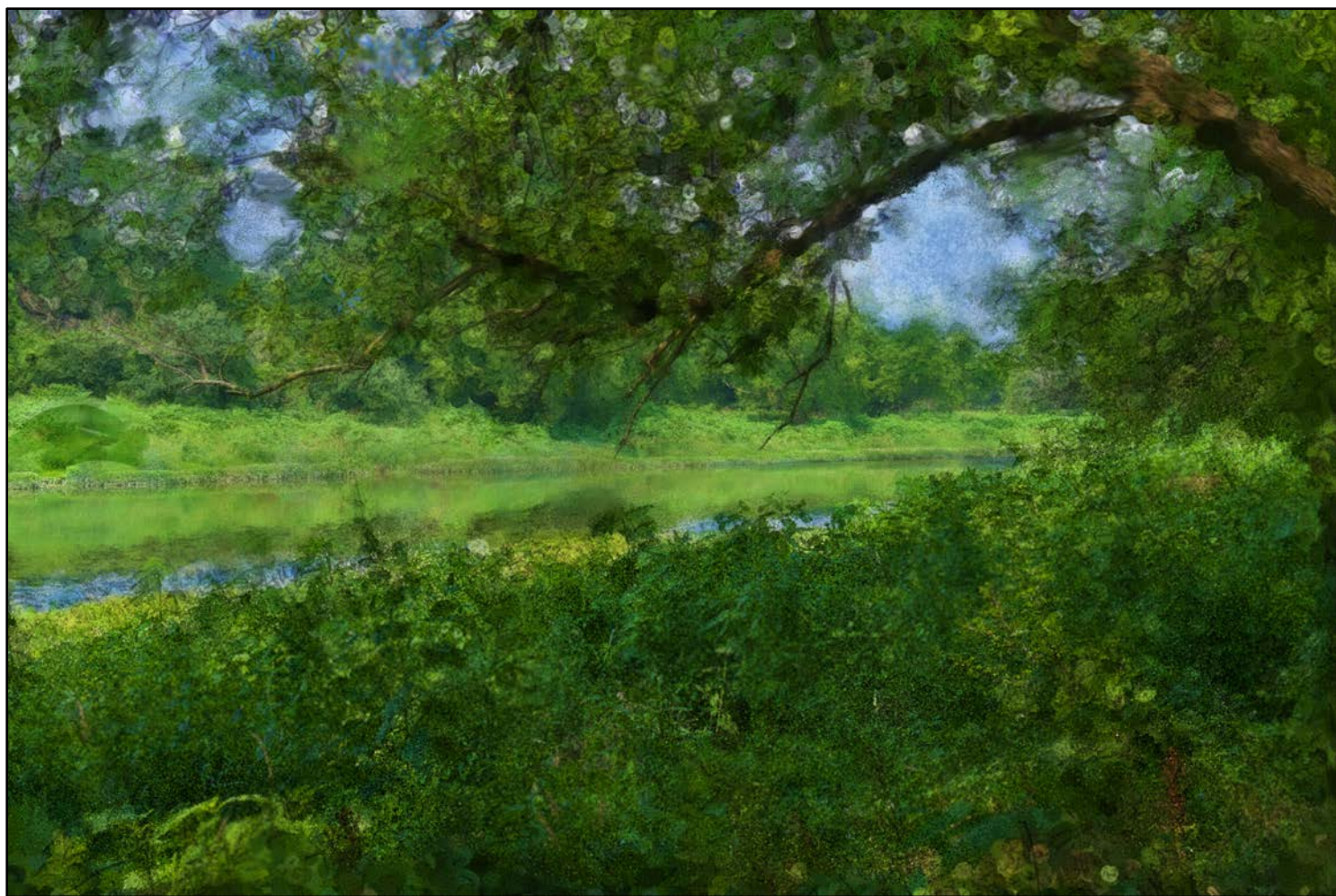




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The Field Botanists of Ontario Newsletter

Summer 2022 Volume 34 (2)



Pinhey Sand Dunes

Prairie remnants near Paris

Brant County forest tracts

Waterloo Region flora additions: from S to V

Botanical Latin please!

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President's Message

Greetings to our esteemed membership!

The 2022 field season is well underway, with several successful field trips already under our belts. Many more are scheduled as we head into the summer season – check our Eventbrite for availability.

We are also greatly looking forward to our hybrid model Annual General Meeting coming up the weekend of September 24th in beautiful Belleville. We are very excited to be able to host this event again in person, and have taken lessons learned from the last few years to be able to host an online broadcast for those unable to physically attend the meeting. Thank you for your interest in attending in whichever capacity best suits you. Your input is always important to keep our fingers on the pulse of how best to provide our members with interesting botanical events and resources.

To that end, please keep an eye out for an email to the membership list with instructions on how to access the Agenda for the Business part of the meeting, along with supplemental documents. This will be available by August 22nd.

Also, as a reminder – applications for the Student Award and the Crowley Memorial Award are still encouraged. Please direct applications and questions to our Awards Coordinator, Will Van Hemessen.

As we face down another hot & humid Ontario summer, I wish everyone a safe and well hydrated hiking season.

Happy Botanizing,

Gwyneth Govers

On the cover: The fullness of summer: Thames River in July; digital painting based on a 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

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

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From the Editor

This issue of the newsletter starts with a specific dry habitat restoration project near Ottawa, continues on this roughly defined tallgrass prairie theme about a remnant site near Paris, Ontario, then onto a general in nature outing around the same geographical area, and ends with a bang - namely the conclusion of floristic additions to the Waterloo Region. All aptly fitting for the summer time when the vegetation and plants are at their maximum display. With so much nomenclature bouncing around you may want to hone your skills on many aspects of botanical Latin and then impress your fellow FBO field trippers - there is a book how to do it, just for you!

Ottawa's Pinhey Sand Dunes: from indoors to outdoors

26 September 2021

Paul Catling, Brenda Kostiuk, Pete Dang, Henri Goulet, and Sheila McKay-Kuja

Overview

Although this Ottawa meeting, held indoors and outdoors, was restricted to 20 participants, the attendance was diverse. As well as FBO, it included members of the Biodiversity Conservancy International (BCI), Ottawa Field-Naturalists Club (OFNC), Prince Edward County Field Naturalists (PECFN), and National Capital Commission (NCC). FBO members came from as far away as Barrie, Markham and Belleville for the day's drive.

Among the botanical highlights were Spotted Beebalm (*Monarda punctata* var. *villicaulis*), a variety of attractive flowering Asters and Goldenrods, fruiting Butterfly Milkweed (*Asclepias tuberosa*), and many other restricted, sand-loving plants (see below), as well as a very impressive number of plantings of declining species requiring open sand. A Compton Tortoiseshell Butterfly (*Nymphalis j-album*) posed for the group at eye level on a pine stump long enough for everyone to take a photo. A Ghost Tiger Beetle (*Ellipsotera lepida*) was captured by Henri Goulet and put (temporarily) in a bottle, allowing everyone a good look at one of the rarest of the tiger beetles in Canada that is unique to open sandy habitats.

Details

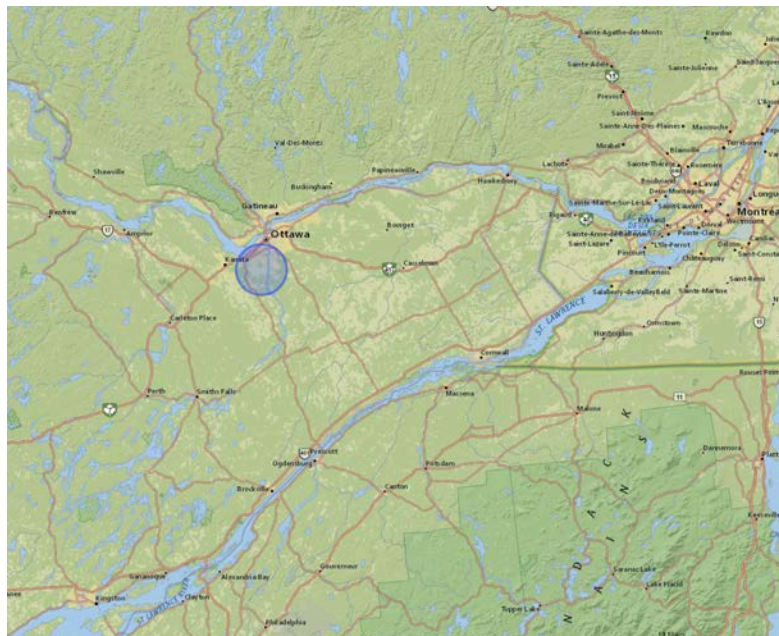
The meeting began at an indoor classroom with a brief welcome by Paul Catling with

agenda and objectives. The meeting involved Covid screening questions, social distancing, masks at all times, and proof of vaccination, fully meeting the requirements of the time.

Alex Stone, Program Officer for the National Capital Commission (NCC) discussed the NCC role in protecting natural environment in and around Ottawa. He applauded the dune restoration effort and noted that NCC was very pleased to have supported it with substantial benefits to the people of Ottawa.

The next speaker was Pete Dang of the Biodiversity Conservancy International (BCI), and leader of the National Capital Dune Restoration program. Pete outlined the multi-faceted approach of the restoration work. It required thousands of volunteers, mostly from the local community. Trees planted in the 1950s and weeds, mostly introduced, were removed. From April 2017 to October 2019, in Dune 2 approximately 3,000 tons of sand was moved during the process of sand sifting to separate clean sand from organic detritus. Species characteristic of open sandy ground were repopulated. One of the first achievements was the securement of a population of the declining Ghost Tiger Beetle. Later, sand-loving plants requiring dry, open ground were emphasized. The managed and protected area was expanded. Sixty young plants of New Jersey Tea (*Ceanothus americanus*) were established as part of a program to re-introduce the endangered Mottled Duskywing Butterfly (*Erynnis martialis*). Over a hundred plantings of Butterfly Milkweed (*Asclepias tuberosa*)

were brought in, leading to a strong population of a plant very attractive to pollinators. Over 500 additional plantings have resulted in the start of a very popular butterfly and flora reserve with particular attention to endangered and declining flora and fauna of sandy open habitats. Funding support was provided by the Ontario Trillium



Foundation, Friends of the Environment Foundation, and City of Ottawa's Environmental Projects and Grants Program. The National Capital Commission is the principal supporter of the project. It has carried out a series of tree clearing in three dunes sites, provided logistical and various in-kind supports.

In 2020, the Friends of the Pinhey Sand Dunes (FPSD), a community-based non-profit organization was formed to ensure perpetual restoration and maintenance of the Pinhey Sand Dune System ([Friends of Pinhey Sand Dunes – Biodiversity Conservancy International](#)). Education is a continuing focus with school groups,

significant animals and significant plants in dry, open sand. With spectacular photographs, Henri introduced some of the unusual and restricted insects. He commented on their ecology, in particular explaining their parasites such as a fly that lays its eggs only in Tiger Beetle burrows. Henri discussed the biology of many species in detail introducing different sexes with different appearances and flight capabilities. He noted that the open sandy habitat facilitated observation of resident insects. He illustrated 11 restricted species including (in alphabetical order of genus): a parasitic wasp (*Ammophila* sp.), a parasitic fly (*Anthrax georgicus*), a wolf spider (*Arctosa littoralis*), a sand wasp



scouts and girl guides all enjoying, learning and working on the site. The present restoration includes three sections of dunes and a hydro line. The latter site was being taken over by invasive alien plants. Fortunately the project was invited by Hydro Ottawa to restore natural habitat for native species ([Pinhey Sand Dunes – Biodiversity Conservancy International, Biodiversity](#)). The numbers of visitors to the restoration sites is increasing with thousands per year, many of them enjoying photography of wildflowers and learning about dune organisms. More information on the Pinhey Dunes restoration program is available in references below (Catling and Kostiuk 2013b, Dang and Aitken 2014).

After a short break, the next speaker was entomologist Henri Goulet (BCI) who made the connection between

(*Bicyrtes quadrifasciatus*), Big Sand Tiger Beetle (*Cicindela formosa generosa*), Ghost Tiger Beetle (*Ellipsoptera lepida*), a burrowing wolf spider (*Geolycosa* sp.), a parasitic wasp (*Methocha* sp.), Ant Lion (*Myrmeleon immaculatus*), a robber fly (*Proctacanthus milbertii*), and a velvet ant (*Timulla* sp.). Following Henri's excellent presentation, the group left for the Pinhey Dunes (site 2) on the south side of Slack Road and Vaan Drive intersection.

The open dune area was spectacular on this bright and sunny fall day. Most of the plants on the Dune 2 site were plantings since it was largely produced by eliminating planted Red Pines (*Pinus resinosa*) and non-native trees such as Scots Pines (*P. sylvestris*) which had gradually closed up the open sand habitat. The group saw

plantings and natural occurrences of 60 native species more or less restricted to open sand. All of these were plants known from remnants of open sand in the Ottawa valley.

One of the most interesting was the Spotted Beebalm (*Monarda punctata* var. *villicaulis*), officially threatened in Quebec (Barbeau and Brisson 2004) and apparently throughout eastern Ontario where at least some (or all) occurrences are temporary escapes from cultivation or roadside seeding mixtures. In Ontario, it has a rank of S1 denoting extreme rarity with five or fewer native populations and/or few hectares occupied. This plant is extremely valuable as a nectar source to pollinators. Thus protecting it not only relates to habitat restoration but also protects a threatened species and provides significant pollinator resources.

Additional, regionally rare species, were Butterfly Milkweed (*Asclepias tuberosa*), Whorled Milkweed (*Asclepias verticillata*), Swamp Milkweed (*Asclepias incarnata*), Short-beaked Sedge (*Carex brevior*), Houghton's Sedge (*Carex houghtoniana*), New Jersey Tea (*Ceanothus americanus*), Starved Panicgrass (*Dichanthelium depauperatum*), American Panicgrass (*Dichanthelium portoricense*), Rough Hawkweed (*Hieracium scabrum*), Wild Bergamot (*Monarda fistulosa* var. *fistulosa*), Racemed Milkwort (*Polygala polygama*), Prairie Willow (*Salix humilis*), Hairy Goldenrod (*Solidago hispida*), Sand Dropseed (*Sporobolus cryptandrus*), and Hooked Violet (*Viola adunca*). Houghton's Flatsedge (*Cyperus houghtonii*) and Northern Jointweed (*Polygonum articulatum*), with an Ontario ranks of S3 (= rare to uncommon) and S4 (apparently secure), respectively, are present on the Pinhey Dunes and perhaps more frequent in eastern Ontario than elsewhere in the province. Farther up the Ottawa valley, the rare species of open sand include Woolly Beach-heather (*Hudsonia tomentosa*) and Golden Puccoon (*Lithospermum*

caroliniense), while down the valley is the rare Forked Three-awn Grass (*Aristida basiramea*).



Houghton's Sedge (*Carex houghtoniana*) in dry, open sand showing rhizomatous growth from rhizomes, and toothed, beaked, hairy and inflated perigynia. Pinhey Dune, Ottawa, 25 Sept. 2021. Photo: B. Kostiuk.

Role of field botanists

In the early afternoon the group returned to the classroom for a presentation by Paul Catling on the role of field botanists in a theme approach to biodiversity protection and restoration. It was noted that recent themes successfully promoted in conservation have included alvars and prairies. It was also noted that to a large extent a theme is a habitat, an ecosystem, or a community and is mostly characterized by vegetation. Since vegetation is continuously present, plants (particularly vascular) are relatively well known, and have proven to be useful indicators in defining themes.

The story

A theme includes four main elements: (1) Story: brief proof of concept; (2) Plan: rules and expectations; (3) Engagement: implementation, funding, volunteers,

community; and (4) Evaluation. In this case, the story begins with the Champlain Sea which existed in the present Ottawa valley (and beyond) from 12,000-10,000 years ago. During this period of 2,000 years of gradual draining there was deposition of sand, eroded by the continental glacier, by wind and water along its shores.

Sand deposits were left throughout much of eastern Ontario. Although vegetation developed, that of the higher and drier places was prone to drought and fire. Low intensity fires may have occurred every 15 to 30 years and high intensity (stand replacement) fires every 100 to 150 years (Van Sleetuwen 2006). Open habitats may have been scattered over the landscape for over 10,000 years, nearly to the present. The early explorers and, later, the land surveyors who preceded the pioneers in the early 1700s, noted sandy, open, treeless habitats in various parts of southern Ontario. In some cases, open sand was reported by the early pioneers.

During the 1800s, extensive tree-cutting for lumber and both cutting and burning to increase agricultural land, for fuel, cooking, etc., may have vastly reduced forest cover and increased open sandy habitat. Subsequently, erosion was perceived as a problem and extensive tree planting was undertaken, notably up until the 1950s. Fires were suppressed. Open sandy habitats began to disappear. In addition to tree planting and cessation of fire, invasive alien species, urban and agricultural development, excessive ATV use, and removal of sand for building became additional impacts.

By the 1980s open sandy habitats, that were likely present throughout the Holocene, had declined to 1% over the last 80 years (Catling et al. 2008). A little work on the rapidly accumulating information on ecology and

distribution of plants resulted in a long list of declining species of dry open sand habitats. Natural, dry, open sand became recognized as one of the most rapidly declining natural habitats in southern Ontario.

To summarize, the story includes: geological history leading to sand deposition, maintenance of open sandy habitat by fire throughout the Holocene, decline of open sand in recent time to 1% of former extent due to a variety of factors, and significant (restricted and at-risk) species in relict and/or degraded sites.

Plans

A restoration objective can be developed that includes an

assessment of starting point and using coefficients of conservatism and the Floristic Quality Index (see Catling 2014 for an example using sand barrens). The final Floristic Quality Index and other features become a goal. Initial choices of species to introduce to a site can be based on rules regarding distance and likely previous occurrence in the area. If species are introduced from too great a distance, a botanical garden may be the result, instead of an opportunity for regional biodiversity. Deciding what to restore may require a regional survey, as was done for the specific Pinhey Dune area (Catling



Spotted Beebalm (*Monarda punctata* var. *villicaulis*), a very rare plant of dry, open sandy habitats in Ontario and Quebec. Pinhey Dune, Ottawa, 25 Sept. 2021. Photo: B. Kostiuk.

and Kostiuk 2013a). A thorough understanding of what is already on the site is necessary to avoid loss of significant values during the restoration process.

Implementation

The restoration objective can also consider management needs. Including mesic open sand species such as Purple Milkwort (*Polygala sanguinea*) will require more management to maintain and create habitat. This is a consequence of more rapid succession in some moist sites. Even in dry sites different species may require different management regimes. Critical habitat is more or less short-lived for Forked Three-awn Grass (*Aristida basiramea*), growing in open sand. Thus, for status report purposes, the critical habitat of this species includes wooded future critical habitat rather than simply the open critical habitat currently occupied (COSEWIC 2002, Environment Canada 2014). In the Ottawa Valley and the Pinhey Dune, the short-lived species include *Cyperus houghtonii*, *Carex houghtoniana*, and *Polygonum articulatum*. For other species such as Low Sweet Blueberry (*Vaccinium angustifolium*) and Sweet-fern (*Comptonia peregrina*) the habitat is longer-lived and succession to trees may be more important than low competition in ephemeral open sand.

Implementation includes many aspects considered previously by Pete Dang (see above) but also two important considerations: (1) that some management work requires substantial volunteer support and a well-organized support group. This enables effective control of invasive alien species. Botanists play a key role here in demonstrating identification skills, for example how the saplings of declining, native New Jersey Tea differ from those of invasive alien European Buckthorn (*Rhamnus cathartica*) [The answer is that Native New Jersey Tea has minutely hairy (puberulent) twigs and the undersurfaces of the leaves are also hairy compared to the smooth surfaces of Common Buckthorn.], and (2) Successful restoration requires a diversity of people with a diversity of skills. All these people want to learn more about plants and the enjoyment of botany keeps them together.

Evaluation

The number and amount of the preferred species should increase over time. Botanists need to be

available to determine if this is so. The Floristic Quality Index can be used to help with the final comparisons. Botanists also help to plan actions necessary to protect biodiversity going forward. Field botanists have an extraordinary role to play in protection and restoration. It is not just because plants are good indicators but also because field botanists provide so much of the necessary information and bring people together in enjoyment and appreciation of the flora.

Panel Discussion

Do current tree planting programs threaten natural sandbarrens as much as they did in the 1950s? No. Since these habitats are less than 1% of their former extent there is much less to destroy. Present programs are not as extensive as the government programs of the 1950s. Remnants and potential restorations are recognized in many regions and are being protected (e.g., Nature Conservancy Canada in the Rice Lake area, Trent Conservation Authority). Tree planting is to be applauded and supported, but should be done in the right places, i.e., be part of a landscape plan where other values are not seriously compromised. Currently open meadow habitats, which contain much native biodiversity and a number of species-at-risk, may be more threatened by tree-planting than sand barrens.

Interaction. The panel emphasized the importance of providing strong public support as part of conservation and protection programs, so as to produce widespread value and avoid confrontation. In-so-far as possible there should be something for everyone. In particular, education for children and community involvement have been essential for success of the Ottawa dune restoration program in leading to the support from managers, politicians, and conservation organizations. Supporters like to see community benefit.

Was LaRose Forest east of Ottawa and north of Casselman once an extensive sand barren? Yes, at least parts of it were. Plantings of conifers, establishment of beavers which created wetlands, fire suppression and natural vegetation succession, had eliminated most traces of dry open habitats by the 1980s. A few higher, open areas with blueberry and bracken existed until that time. Although the extensive barren condition of the 1920s has been attributed to pine logging, the original pine forest developed on open terrain and parts of the sandy plateau may have been open for thousands of years.

Why is fencing necessary? All restrictions and compromises should be explained. Fencing protects plant seedling and the animal community from trampling and excess sand compaction. Fencing is just a few strands of wire and or tape and is user friendly. It does not completely exclude people – it only reduces impact in key areas. Trails are designed to allow access to flora and fauna without crossing fences.

Full participants list: Paul Catling (FBO), Brenda Kostiuik (FBO), Pete Dang (BCI), Henri Goulet (BCI), Sheila McKay-Kuja (PECFN), Peter Beckett (FBO), Jonathan Bojilov (FBO), Jennifer Doubt (FBO), Berit Erickson (BCI), Michèle Goulet (BCI), Diane Lepage (OFNC), Andrew Mott (BCI), Eric Pohanka (FBO), Henry Steger (OFNC), Alexander Stone (NCC), Bill Thomson (FBO).

References

Barbeau, O., and J. Brisson. 2004. La situation de la monarde ponctuée (*Monarda punctata* L. var. *villicaulis* Pennell) au Québec. Institut de recherche en biologie végétale, rapport préparé pour le ministère de l'Environnement du Québec, Direction du patrimoine écologique et du développement durable, 21 pp. [brisson-monarda.pdf \(umontreal.ca\)](#), see also [monarqueTigeValue.pdf \(gouv.qc.ca\)](#), [Hairy-stemmed monarde - Threatened in Quebec \(gouv.qc.ca\)](#)

Catling, P.M. 2014. Vegetation restoration for open sandy habitats in the Ottawa Valley, Ontario, Canada, using richness, rarity, coefficients of conservatism, the floristic quality index and a case study from the Pinhey Dune. *Biodiversity* 15(2-3): 73-87.

Catling, P.M., H. Goulet, and B. Kostiuik. 2008. Decline of two open Champlain Sea dune systems in eastern Ontario and their characteristic and restricted plants and insects. *Canadian Field-Naturalist* 122(2): 99-117. <https://doi.org/10.22621/cfn.v122i2.568> [Decline of Two Open Champlain Sea Dune Systems in Eastern Ontario and Their Characteristic and Restricted Plants and Insects | The Canadian Field-Naturalist \(canadianfieldnaturalist.ca\)](#)

Catling, P.M., and B. Kostiuik. 2013a. Vascular Plants of the Pinhey Dune area. *Biodiversity Conservancy*, Ottawa. 18 pp.

Catling, P.M., and B. Kostiuik. 2013b. Community Conservation, SOS-Dunes – they have saved a

dune and have a plan! *Trail & Landscape* 47 (2): 72-78. [v.47:no.2 \(2013\) - Trail & Landscape - Biodiversity Heritage Library \(biodiversitylibrary.org\)](#)

Dang, P.T., and S. Aitken. 2014. Conservation of sand dune systems in Canada's capital: a restoration model and case study of the Pinhey Sand Dunes complex. *Biodiversity* 15 (2-3): 148-168.

Environment Canada. 2014. Action Plan for the Forked Three-awned Grass (*Aristida basiramea*) in Québec [Proposed]. Species at Risk Act Action Plan Series, Environment Canada, Ottawa, iv + 19 pp. [Forked three-awned grass \(Aristida basiramea\) in Quebec: proposed action plan 2014 - Canada.ca](#)

COSEWIC. 2002. COSEWIC assessment and status report on the forked three-awned grass *Aristida basiramea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 29 pp. [Forked three-awned grass \(Aristida basiramea\) COSEWIC assessment and status report - Canada.ca](#)

Van Sleenwen, M. 2006. Natural fire regimes in Ontario. Ontario Ministry of Natural Resources, Queen's Printer for Ontario, Toronto. 143 pp.

Mystery prairie remnant near Paris

26 September 2021

Carlene Perkin

The group of ten keen botanists met early on a sunny Sunday morning on September 26th. With the proficient botanist, Will Van Hemessen, leading the group, they embarked on an exploration of a pleasant prairie remnant positioned between a rural road and railway tracks near the village of Canning in Oxford County. While the group was congregating in the parking lot, Will gave some fun facts about the area, such as it being one of the largest onion producing areas in Ontario and the birthplace of Canada's greatest hockey Dad, Walter Gretzky - father of the famed NHL star Wayne Gretzky.

The real focus of this trip lay within a narrow strip of remnant prairie habitat, which followed along active railway tracks. The railway was constructed in the 1880s and Will speculated that the prairie habitat may have been maintained as a result of sparks issuing from the passing trains, which may have introduced fire disturbance in a similar manner to controlled burns.

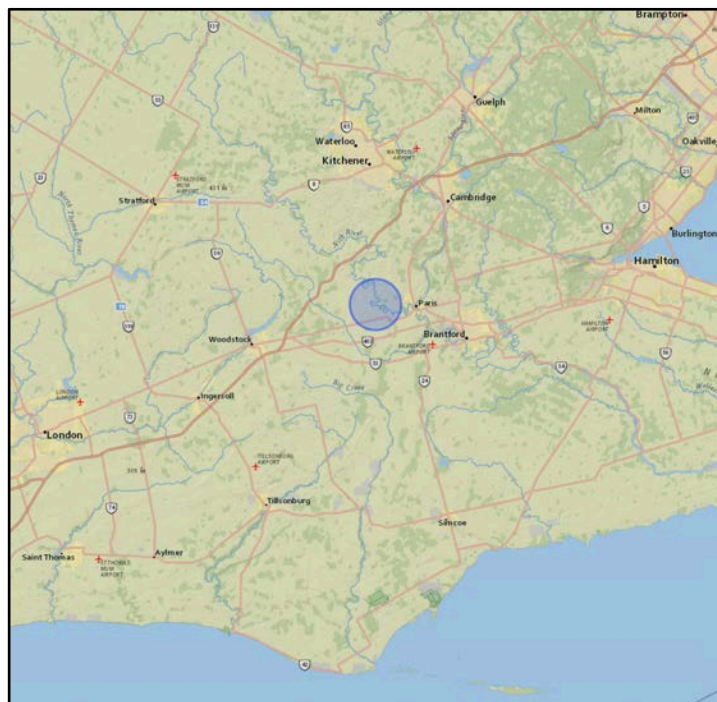
The first specimens that were encountered included Frost Aster (*Symphyotrichum pilosum*) and White Heath Aster (*S. ericoides*), which were conveniently growing alongside each other. These two asters prefer similar habitat and can sometimes be confused; however, some differences that can be noted include Frost Aster having a densely hairy stem and White Heath Aster with smaller flowerheads and phyllaries that taper in a stiff bristle.

Continuing parallel to the train tracks, the group encountered additional species characteristic of dry, upland prairies including the tall, nodding three-pronged spikelets of Big Bluestem (*Andropogon gerardii*); the concealed inflorescences of Sheathed Dropseed (*Sporobolus vaginiflorus*); the inconspicuous tufts of curly basal leaves of Poverty Oat Grass (*Danthonia spicata*); the light blue inflorescences of Sky Blue Aster, or Azure Aster (*Symphyotrichum oolentangiense*); and the distinctive flowerheads of Dense Blazingstar (*Liatriis spicata*), which is adventive at this site.

Participants soon got their feet wet as they trekked downslope, where water had accumulated following a recent heavy rainfall.

The treasures that awaited were well worth the soggy boots. The attractive spikelets of Shining Flatsedge (*Cyperus bipartitus*) were spotted, along with splashes of deep purple from the delicate flowers of Greater Fringed Gentian (*Gentianopsis crinita*); their striking purple-blue colour still persisting through the warm fall season.

A patch of Stiff Sunflower (*Helianthus pauciflorus*)



was encountered and was determined to be subspecies *subrhomboideus*, which prefers disturbed habitats and mesic prairies and is considered adventive in southern Ontario.

The highlight for many on the trip was when Will showed the group a patch of Oval Ladies'-tresses (*Spiranthes ovalis* var. *erostellata*); their tiny inflorescences were barely showing amid the surrounding vegetation. Will engaged the members in a discussion on the distribution of Oval Ladies'-tresses. This species is very rare in

Ontario and is ranked S1; it has been previously only known from a few southern Ontario locations including Walpole Island and Essex County. Will explained that this is the farthest northeastern known population of this species in Canada and suggested that its range appears to be expanding.

There are two varieties of Oval Ladies'-tresses, but



The group listening attentively. Photo: C. Perkin.

var. *erostellata* extends farther northward. This orchid can be distinguished from other Ladies'-tresses by its small flowers, spoon-shaped basal leaves and prominent bracts on the stem. Flexible trip attendees crouched down low to get a few close-up shots of the miniature flowers, and even to see whether the flowers have an odour; however, the consensus was that this specimen did not.



Gentianopsis crinita. Photo: C. Perkin.

As the group continued along the depression of moist prairie habitat, Gwyneth Govers pointed out the red-based petioles of the native Rugel's Plantain (*Plantago rugelii*), which at first glance closely resembles the non-native Common Plantain (*Plantago major*). Rugel's Plantain has deep red petioles whereas the petioles of Common Plantain are green. Additionally, Rugel's Plantain has narrower seed capsules while the capsules

of the non-native plantain are more rounded. According to Illinois Wildflowers, the plant has ecological importance to mammals and moths that feed on various parts of the plant.

American Bittersweet (*Celastrus scandens*) was impossible to overlook with its strikingly bright orange fruits and tendrils climbing amongst the adjacent vegetation. The most notable difference between the native American Bittersweet and the non-native Oriental Bittersweet (*C. orbiculatus*) is that the inflorescences are terminal in the American Bittersweet, whereas in the Oriental Bittersweet the flowers develop in leaf axils.

Continuing upslope onto a gravel laneway, some members stopped to investigate a False Sunflower (*Heliopsis helianthoides*). This plant has fertile ray florets, or as Will put it, "false sunflowers have style". As the group took a detailed look at the disc and ray florets, the conspicuous crew was spotted by two passing hikers who asked if they could join in on the fun!

The trip culminated in a stunning view of a bridge crossing the swelling Nith River on one side of the laneway, and an impressively sized mature Red Oak (*Quercus rubra*) on the other side.

On the way back to the cars some members of the group spotted Flower-of-an-hour (*Hibiscus trionum*) in bloom. This plant is a non-native species commonly found along field edges, roadsides, and other disturbed habitats. This species is in the Mallow family and as its common name suggests, each flower only blooms for a few hours. Interestingly, if pollination does not occur within the wee hours that the stigma is receptive, the style bends and self-pollination occurs with the anthers from the same flower.

Many thanks to Will for sharing this unique location and the treasures that lie within!

References:

Go Botany: Native Plant Trust: <https://gobotany.nativeplanttrust.org/>
 Illinois Wildflowers Website: <https://www.illinoiswildflowers.info/>
 Minnesota Wildflowers Website: <https://www.minnesotawildflowers.info/>
 Ontario Wildflowers Website: <https://www.ontariowildflowers.com/>

Exploring Brant County's forests

8 August 2021

Pascale Bider and Mara McHaffie

On Sunday, August 8th, 2021, a keen group of field botanists gathered for a hike through two Brant County forest tracts, led by Gwyneth Govers. We started off the hike at the Foulds Tract trailhead, where we discussed the history of the site in the shade of Hop Hornbeams (*Ostrya virginiana*) and Blue Beeches (*Carpinus caroliniana*). Both trees were fruiting, which provided a helpful comparison of these two sometimes confusing species. The group learned that the tracts are located on the traditional territories of the Mississaugas of the New Credit, the Haudenosaunee, and the Anishinabewaki peoples. Originally open oak forest, Foulds Tract has been used as both a Red Pine (*Pinus resinosa*) plantation and an orchard. Its current plant assemblage reflects the variety of ecosystems that flourished here in the past. We did not have to walk far to find the first curiosity the tract has to offer. A few dozen meters out of the parking lot, Gwyneth led the group to a mature American Chestnut (*Castanea dentata*), a rare survivor of the chestnut blight. The female tree was flowering beautifully, though in vain, as there are no male trees left in the area to pollinate her. At the feet of the chestnut, a few survivors of a different kind were spreading their leaves: a scattering of young White Ash (*Fraxinus americana*).

We continued farther down the path, dodging Poison Ivy (*Toxicodendron* spp.) to admire Wood Anemone (*Anemone quinquefolia*), Sassafras (*Sassafras albidum*), Poke Milkweed (*Asclepias exaltata*), Ontario Aster (*Symphyotrichum ontarionis*), and Pignut Hickory (*Carya glabra*), among many others. The group paused to inspect the spots on Dotted St John's Wort (*Hypericum punctatum*) and to feel the distinctive texture of Black Maple (*Acer nigrum*) leaves. We also passed large chunks of moss-covered limestone.

We then descended into a wetter portion of the path. Stepping gingerly to avoid disturbing the many Wood Frogs (*Lithobates sylvaticus*), the group explored the



edge of a provincially rare ecosite type: the Poison Sumac swamp. In and around the water, we saw Wood Nettle (*Laportea canadensis*), Water Parsnip (*Sium suave*), Cinnamon Fern (*Osmundastrum cinnamomeum*), Canada Horsebalm (*Collinsonia canadensis*), Partridge Berry (*Mitchella repens*), Sensitive Fern (*Onoclea sensibilis*), Royal Fern (*Osmunda regalis*), Ostrich Fern (*Matteuccia struthiopteris*), and Poison Sumac (*Toxicodendron vernix*).

As the path curved around scattered ephemeral pools, we spotted an impressive patch of Ghost Pipe (*Monotropa uniflora*) as well as Spreading Dogbane (*Apocynum androsaemifolium*), Smooth Carrion Flower (*Smilax herbacea*), Bear Corn (*Conopholis americana*), Wild Sarsaparilla (*Aralia nudicaulis*), Summer Grape (*Vitis aestivalis*), Common Hackberry (*Celtis occidentalis*), and Nannyberry (*Viburnum lentago*). Around a bend in the trail, we were confronted by a gigantic Eastern Hemlock (*Tsuga canadensis*). The group placed bets on its size before measuring its diameter at breast height: an astonishing 78 cm!

As we walked through the portion of the tract that had once been used as an orchard, we passed many fruit trees as well as other non-native species: Buckthorns (*Rhamnus cathartica* and *Frangula alnus*), Multiflora Rose (*Rosa multiflora*), and Norway Spruce (*Picea abies*). We were delighted to find among them White Vervain (*Verbena urticifolia*), Clearweed (*Pilea pumila*), and American Jumpseed (*Persicaria virginiana*).

The last leg of our hike took us onto an open road bordered by tall stands of Big Bluestem (*Andropogon gerardii*) and Indian Grass (*Sorghastrum nutans*), both possible remnants of prairies of the past. Momentarily blinded by the bright light after being so long in the dim forest interior, we were amazed to realize how much time it had taken us to cover a relatively short trail. Time flies when you're looking at plants! Thank you to Gwyneth and all the other botanists who made this hike a captivating and informative adventure.



Clockwise from left: exploring a moss-covered rock outcrop; *Monotropa uniflora*; *Hypericum punctatum*.
Photos: P. Bider.

Recent Additions to the Vascular Flora of Waterloo Region

Part 3 of 3

Pat Deacon

Part 1, containing introduction and explanatory notes, was published in the Winter 2021 [Vol. 33(4)] issue of the Ontario Plant Press. Part 2 was published in the Spring 2022 [Vol. 34(1)] issue.

- *Setaria faberi* – Giant Foxtail
New Hamburg and Baden, along railway tracks in 1993 (Mike Oldham & Jane Bowles 15679 - DAO, WAT). Recently observed at other locations in Wilmot Township. Dore & McNeill (1980) noted this species to be present along railways in Toronto and Niagara and in agricultural fields near Lake St. Clair.
- *Silene noctiflora* – Night-flowering Catchfly
Kossuth, fence line at edge of hayfield near Beaver Creek Golf Course in 2019 ("[suenestnature](#)").
- *Solidago patula* – Spreading Goldenrod
Not included in the 1989 Riley list but widespread and locally common in swamps throughout Waterloo Region.
- *Spergularia marina* – Saltmarsh Sand-spurrey
Hespeler, Blackbridge Road at the Speed River, gravel roadside pull-off at canoe launch in 2019 (PD). This halophyte is adventive along southern Ontario roadsides and considered native and rare (S1) along the James Bay coast (MNR 2021).
- *Spiraea tomentosa* – Steeplebush
Kossuth Bog in 2003 (Larry Lamb).
- *Symphyotrichum x amethystinum* – Hybrid Aster (Amethyst Aster)
Woolwich Reservoir, clearing on east side of reservoir (AM). Brant-Waterloo Road, beside trail at top of tallgrass prairie remnant on slope (PD). Breslau, east side of Fountain Street just south of rail line (PD). Rare CRR, meadow to northeast of slit barn (PD) (WDV). Hybrid of *S. ericoides* and *S. novae-angliae*.
- *Taraxacum palustre* – Marsh Dandelion
First documented in 1997 from east side of Grand River in City of Cambridge, rare, moist, calcareous rocky ground at edge of river (Mike Oldham 19640 - TRTE). Waterloo, residence on Iroquois Place, growing in lawn (Corey Burt).
- *Trifolium incarnatum* – Crimson Clover
This species was reported from Waterloo Region by Scoggan (1978-1979), but was not included in Riley (1989). North Dumfries, edge of cultivated field ("[bri315](#)").
- *Solanum carolinense* – Carolina Nightshade
St. Jacobs, field edge near Health Valley Trail in 2019 ("[katerpie](#)"). Blomingtondale, field (Eric Heisey).
- *Solanum nitidibaccatum* – Hairy Nightshade
Cambridge, Hilborn Knoll Regional Forest, edge of marsh in 2019 (AM).

- ***Spiranthes magnicamporum* – Great Plains Ladies'-tresses**
Woolwich Township, damp site with *Thuja occidentalis* and *Equisetum variegatum* in 2020 (AM). Ranked S3? in Ontario (MNRF 2021).
- *Typha* x *glauca* – Hybrid Cattail
Occasional throughout the county including Huron Natural Area, Waterloo Park, Speed River. Found in both natural settings and storm water ponds/ditches. The hybrid of *T. angustifolia* and *T. latifolia*.
- *Ulmus glabra* – Scotch Elm
Bridgeport, saplings naturalized in woods on bank of Grand River, across from Bingemans (PD). Rare CRR, saplings along Maple Lane trail (Richard Baxter). This species has likely been naturalized in Waterloo Region for a number of years.
- *Ulmus pumila* – Siberian Elm
Numerous locations (Kitchener, Waterloo, Cambridge, Wellesley), frequently along rail corridors, urban property boundaries, fence lines. Although relatively short-lived, this species is locally abundant and has likely been naturalized in parts of Kitchener for at least 50 years.
- *Verbena* x *engelmannii* – Hybrid Vervain
Haysville, riparian area south of Holiday Beach RV Park (GB). The hybrid of *V. hastata* and *V. urticifolia*.
- *Vincetoxicum rossicum* – European Swallowwort
Occasional throughout the county including St. Agatha Forest, Breithaupt Park, Huron Natural Area, Shade's Mills, Drynan Tract, Sudden Bog. The first iNaturalist observation was in 2018 (Fraser Gibson) with an additional 24 observations added since. Most stands are still sparse but the species is clearly spreading. An unfortunate species to round out the list (someone needs to locate *Viola pedata* or this genus needs to revert to *Cynanchum*)!

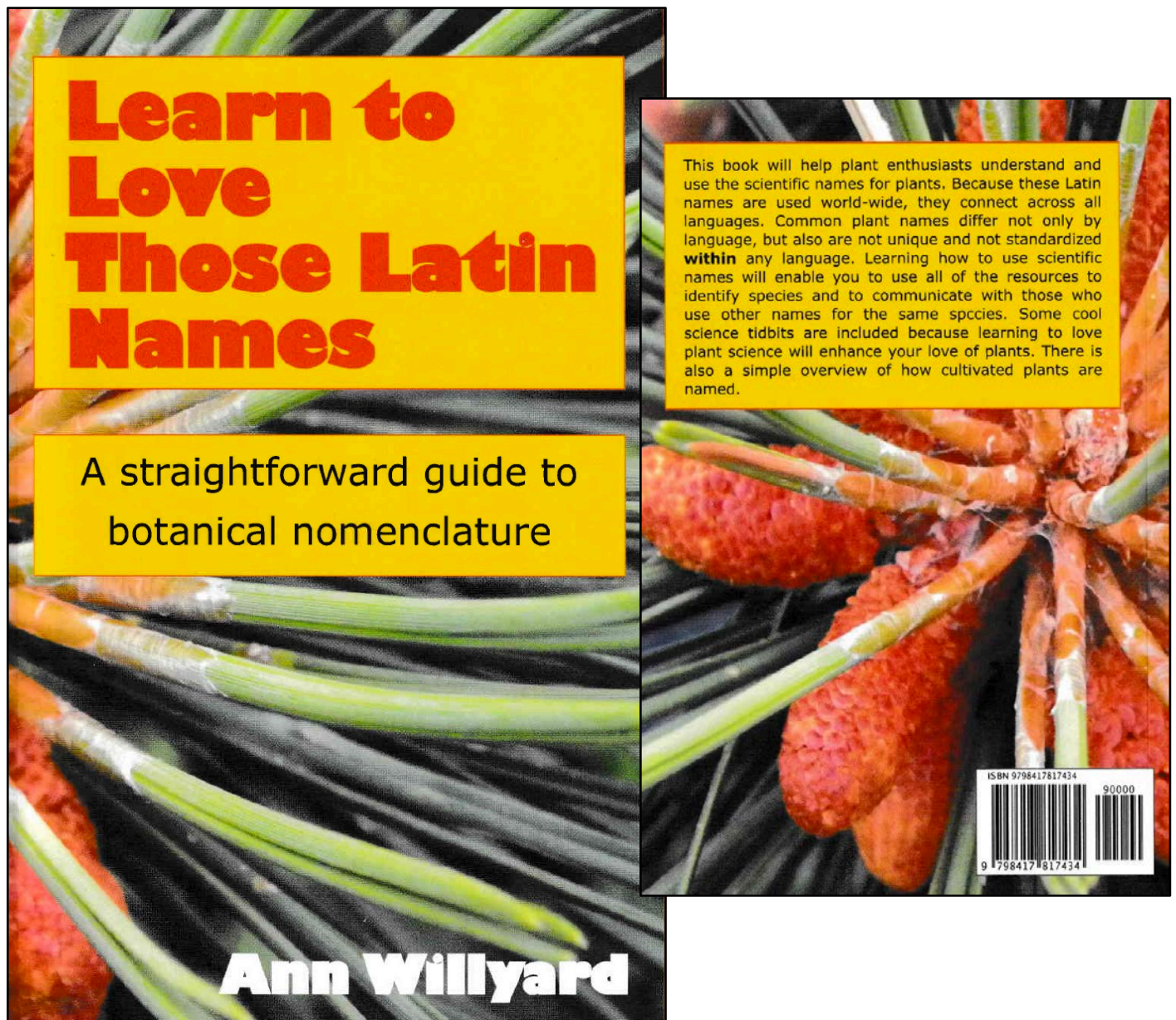
Table 1. Additional Species
(Naturalized Garden Escapes
and Lawn Weeds)

Scientific Name	Common Name
<i>Ajuga reptans</i>	Creeping Bugleweed
<i>Cardamine hirsuta</i>	Hairy Bittercress
<i>Eranthis hyemalis</i>	Winter Aconite
<i>Euonymus alatus</i>	Winged Euonymus
<i>Euonymus fortunei</i>	Climbing Euonymus
<i>Euphorbia peplus</i>	Petty Spurge
<i>Galinsoga quadriradiata</i>	Hairy Galinsoga
<i>Galium odoratum</i>	Sweet-scented Bedstraw
<i>Hedera helix</i>	English Ivy
<i>Lamiumastrum galeobdolon</i>	Yellow Archangel
<i>Ligustrum ovalifolium</i>	Oval-leaved Privet
<i>Ligustrum vulgare</i>	European Privet
<i>Myosotis arvensis</i>	Field Forget-me-not
<i>Myosotis sylvatica</i>	Woodland Forget-me-not
<i>Potentilla indica</i> var. <i>indica</i>	Mock Strawberry
<i>Scilla siberica</i>	Siberian Squill
<i>Veronica filiformis</i>	Slender Speedwell
<i>Veronica polita</i>	Wayside Speedwell
<i>Viola odorata</i>	English Violet

References

- Argus, G.W., K.M. Pryer, D.J. White, and C.J. Keddy (editors). 1982-1987. Atlas of the Rare Vascular Plants of Ontario. 4 parts. National Museum of Natural Sciences, Ottawa, Ontario.
- Campbell, C.A. and D. M. Britton. 1977. Pteridophytes of the Regional Municipality of Waterloo, Ontario. Canadian Field-Naturalist 91(3): 262-268.
- Campbell, C.A. and L. E. Lamb. 1984. A Preliminary Annotated list of the Plants of the Regional Municipality of Waterloo, Ontario. Unpublished.
- Catling, P.M., A.A. Reznicek and J.L. Riley. 1977. Some new and interesting grass records from southern Ontario. Canadian Field-Naturalist 91: 350-359.
- Catling, P.M., M.J. Oldham, D.A. Sutherland, V.A. Brownell and B.M. H. Larson. 1997. The recent spread of Autumn-olive, *Elaeagnus umbellata*, into southern Ontario and its current status. Canadian Field-Naturalist 111: 376-380.
- Dore, W.G. and J. McNeill. 1980. Grasses of Ontario. Research Branch, Agriculture Canada Monograph No. 26. Canadian Government Publishing Centre, Hull, Quebec, Canada. 566 pp.
- iNaturalist. 2020. Available from <https://www.inaturalist.org>. Accessed December 31, 2020.
- Michigan Flora Online. 2011. A. A. Reznicek, E. G. Voss, and B. S. Walters. February 2011. University of Michigan. Available from <https://michiganflora.net/>.
- Ministry of Natural Resources and Forestry (MNRF). 2021. Natural Heritage Information Centre Vascular Plant List. Accessed March 18, 2021. Available from <https://www.ontario.ca/page/get-natural-heritage-information>
- Montgomery, F.H. 1944. A Botanical Survey of Waterloo County Ontario. MA Thesis. McMaster University, Hamilton, Ontario.
- Montgomery, F.H. 1945. A Botanical Survey of Waterloo County Ontario. Transactions of the Royal Canadian Institute. No. 54 Vol. XXV, Part 2, October 1945.
- Montgomery, F.H. 1948. Introduced Plants of Waterloo and Adjacent Counties, Ontario. Canadian Field-Naturalist. 62(2): 79-94.
- Oldham, M.J. 1999. Draft checklist of the Vascular Plants of the Regional Municipality of Waterloo (March 1999). Unpublished.
- Oldham, M.J. 2017. List of the Vascular Plants of Ontario's Carolinian Zone (Ecoregion 7E). Carolinian Canada and Ontario Ministry of Natural Resources and Forestry. Peterborough, Ontario. 132pp.
- Oldham, M.J., S.J. Darbyshire, D. McLeod, D.A. Sutherland, and D. Tiedje. 1995. New and Noteworthy Ontario Grass (Poaceae) Records. Michigan Botanist 34: 105-132.
- Richardson, W. and V. Martin. 1999. Regional Municipality of Waterloo. Revisions to Waterloo Region's Significant Species List: Native Vascular Plant Component.
- Riley, J.L. 1989. Distribution and Status of the Vascular Plants of Central Region. Ontario Ministry of Natural Resources. 110pp.
- Saarela, J.M., P.M. Peterson and R. Soreng. 2003. A Taxonomic Revision of the Eastern North American and Eastern Asian Disjunct Genus *Brachyelytrum* (Poaceae): Evidence from Morphology, Phytogeography and AFLPs. Systematic Botany 28(4): 674-692.
- Scoggan, H. 1978-1979. Flora of Canada. National Museum of Natural Sciences Publications in Botany. National Museums of Canada, Ottawa, Ontario, Canada.
- Soper, J.H. and M.L. Heimbürger. 1982. Shrubs of Ontario. Royal Ontario Museum. Toronto, Ontario.
- Varga, S. (ed.). 2000. Distribution and status of the vascular plants of the Greater Toronto Area. Ontario Ministry of Natural Resources, Aurora District.

There is a little new book on the market, written specifically for you, young botanists of all ages: you who lament unreliability of common names, preferring the (apparently!) immutable universality of scientific ones. If you want to increase your linguistic skills, Ann Willyard offers an introductory course of botanical Latin for plant aficionados. In this compact approachable book, you will find a wealth of information on many aspects of our lingua franca: the background on Linnaeus' codification of nomenclature, notes on origins of species' epithets, guidelines on pronunciation, to evolution, systematics and phylogenetics. A thoroughly engaging and fast read. The book is available on Amazon, in paperback and kindle formats.



A note from the editor: those very keen of you may want to continue your education by jumping to, well, an academic treatise on the subject, by William T. Stearn: *Botanical Latin*, Fourth Edition - all 546 pages of it!