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O'Neill Property

Doherty Tract

Bruce spring
flowers

Becoming a
young botanist

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FIELD BOTANISTS OF ONTARIO

www.fieldbotanistsofontario.com

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In this issue

The ever-popular "mystery" trips with Steve Varga are always replete with finding numerous plant species, both for the benefit of recording the flora of a particular area and for the FBO botanists attending the outings as a learning opportunity. The O'Neill Property was no exception, as documented by our correspondent Paul O'Hara.

At about the same time but at the other, west, side of southern Ontario Pat Deacon took the folks for a fun-filled trip to Doherty Tract. Reports for these two last year trips list numerous species that were observed by the respective groups. Not to be outdone on the species account front, Judith Pelley jumped on the opportunity to travel to the Bruce to join Walter Muma this last May, to now share with us not only several beautiful plant photos but also her usual exhaustive breakdown of the local spring flora.

A completely different, and unusual for the newsletter, is a submission from Bill McIlveen who reminisces on his upbringing as a budding botanist back in the days of his childhood. You, young biologists of the present, are also accumulating memories and experiences as you busily go through each day. Hopefully, some of you, will also compile, when your reach our age, a similar, your own, story which will be read by a generation that is perhaps not even yet born.

This introductory note is being written right before our Annual General Meeting, which is the time and place when both old and new members will meet and socialize, preferably in person. The trips that our Vice President has put together for the AGM will complement the many outings organized by our Field Trips team so far this year and which we hope you enjoyed. Big thanks to all those who worked on the front lines and behind the scenes to create another successful year in the life of the Field Botanists of Ontario!

On the cover: *Helianthus maximiliani*, profusely blooming each September along Guelph Line north of Lowville. Textured 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/vascan/search](http://data.canadensys.net/vascan/search)

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A group of people are hiking through a field of Common Juniper (Juniperus communis) in the O'Neill Tract. The image shows a line of people walking away from the camera on a path through dense, low-lying green vegetation. In the foreground, two people are standing and looking towards the path. The background is a dense forest of tall trees under a clear blue sky. The text 'Steve Varga leads into O'Neill Property' is overlaid in large yellow letters at the top left. Below it, in smaller yellow text, is '20 August 2022.' and 'Paul O'Hara'. At the bottom right, in black text, is 'Open meadows and Common Juniper (Juniperus communis) stands in the O'Neill Tract. Photo: P. O'Hara.'

Steve Varga leads into O'Neill Property

20 August 2022.

Paul O'Hara

Open meadows and Common Juniper (*Juniperus communis*) stands in the O'Neill Tract. Photo: P. O'Hara.

Paul O'Hara

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Steve Varga leads into O'Neill Property

20 August 2022.

Paul O'Hara

Open meadows and Common Juniper (*Juniperus communis*) stands in the O'Neill Tract. Photo: P. O'Hara.

Steve's pre-field trip notes about the O'Neill Property stated:

"The O'Neill Property is part of a large assemblage of NCC and other public properties on the famous Rice Lake Plains noted for its tallgrass prairies, sand barrens and black oak woodlands/savannas. The NCC has been actively managing for a decade the remnant prairies, sand barrens and forests on their properties with prescribed burns, Scots Pine and other invasive plant removals, native plantings, and opening up of the forest canopy. This property has been recently acquired so there has been little restoration work done on the property.

The property is a mix of Scots Pine Plantation (5 hectares have already been removed), smaller patches of dry native forest/woodland and large open areas that support a mix of upland meadow (former pasture), prairie and sand barren with scattered low shrubs of common juniper. The



Linum sulcatum. Photo. J. Mentlik.

terrain consists of rolling morainal hills up to 75 metres high. It would be great to re-visit this site and see the changes after, say, 5 or 10 years of restoration work by NCC staff. The O'Neill Property is a new addition to the older adjacent Hazel Bird property to the south that fronts onto Beaver Meadow Road. A great deal of restoration work has been done by NCC staff on [the] 116 hectare [Hazel Bird] property that supports a variety of dry deciduous and mixed woodlands, sand barrens and prairies."

Within minutes of entering the O'Neill tract we began to spot prairie and savanna indicator species in the upland meadows, including Cylindric Anemone (*Anemone cylindrica*), Sky Blue Aster (*Symphyotrichum oolentangiense*), Field Pussytoes (*Antennaria neglecta*), Butterfly Milkweed (*Asclepias tuberosa*), Tower Mustard (*Turritis glabra*), as well as the provincially rare Grooved Yellow Flax (*Linum sulcatum*).

Unfortunately, the meadows were dominated by weedy forage and turf grasses, such as Awnless Brome (*Bromus inermis*), Kentucky Bluegrass (*Poa pratensis*), Canada Bluegrass (*P. compressa*), Timothy (*Phleum pratense*) and Quack Grass (*Elymus repens*). Native grasses were sporadic and included Poverty Oat Grass (*Danthonia spicata*), Sand Dropseed (*Sporobolus cryptandrus*), as well as a few patches of Mat Panicgrass (*Dichanthelium implicatum*), Big Bluestem (*Andropogon gerardii*) and Indian Grass (*Sorghastrum nutans*). At this point in the trip, Steve said the site was more a sand barren than a prairie and that the native grasses will be greatly helped by the prescribed burns that NCC has planned for the tract.

Native shrubs in the upland meadows and woodlands included large stands of Common Juniper (*Juniperus communis*) as well as Gray Dogwood (*Cornus racemosa*), Carolina Rose (*Rosa carolina*), Round-leaved Serviceberry (*Amelanchier sanguinea*), Downy Arrowwood (*Viburnum rafinesqueanum*), Snowberry (*Symphoricarpos albus*) and one Upland Willow (*Salix humilis*). Native prairie and savanna indicator trees in the open woodlands included Black Oak (*Quercus velutina*), White Oak (*Q. alba*), Red Oak (*Q. rubra*) and White Pine (*Pinus strobus*).

Moving south through the tract, we spotted scattered patches of native prairie sedges and wildflowers, including Short-beaked Sedge (*Carex brevior*), Muhlenberg's Sedge (*C. muehlenbergii*), Deep-green Sedge (*C. tonsa*), Early Goldenrod (*Solidago juncea*), Hoary Vervain (*Verbena stricta*), Tower Mustard and Showy Tick-trefoil (*Desmodium canadense*). Plants recorded during the 2020 survey, for example Low False Bindweed (*Calystegia spithamea*) and Wood Lily (*Lilium philadelphicum*), were not re-found on this trip. Steve said those plants likely senesced due to the droughty conditions.

After lunch we entered a wooded valley, which gave us some temporary respite from the heat, and did some botanizing around a dug-out pond. Steve's post field trip notes described the site as consisting "largely of damp mud with an outer ring that supported some wetland plants including Red-stemmed Spikerush (*Eleocharis erythropoda*), Creeping Bentgrass (*Agrostis stolonifera*), Devil's Beggarticks (*Bidens frondosa*), Dudley's Rush (*Juncus dudleyi*) and a few shrubs of Pussy Willow (*Salix discolor*) and Bebb's Willow (*S. bebbiana*). Steve mentioned "this pond is likely significant amphibian breeding habitat in the spring for woodland frogs, such as Chorus Frog, Wood Frog and Spring Peeper" and "should be checked for their calls in early April."

Besides seeing the provincially rare Grooved Yellow Flax, highlights for me included spotting a large patch of Peck's Sedge (*Carex peckii*). I'm familiar with this sedge in the sandy woodlands of the Carolinian Zone but didn't know that it could spread by rhizomes to form large patches in sand barrens like this site. The other highlight occurred near the end of the trip as we spotted an unassuming hawthorn which Steve identified as Holmes' Hawthorn (*Crataegus holmesiana*), a haw of dry sandy woods. I was struck how cavalier he threw out this ID based on the leaves and one desiccated fruit. Not surprisingly, Steve knows the genus well and I told him I think it would be great if he could lead a *Crataegus* workshop for the FBO sometime.

The trip was a hot one but a fun one and we added 98 new species to the previous survey for a total of 205 species on the property. According to Steve, 21 species are considered locally rare on the Oak Ridges Moraine, 15 species that are considered locally uncommon, and one species (*Linum sulcatum*) that is provincially rare.

I will definitely be looking forward to returning to the O'Neill Property in the years to come to see the restoration work the NCC has planned for the site.

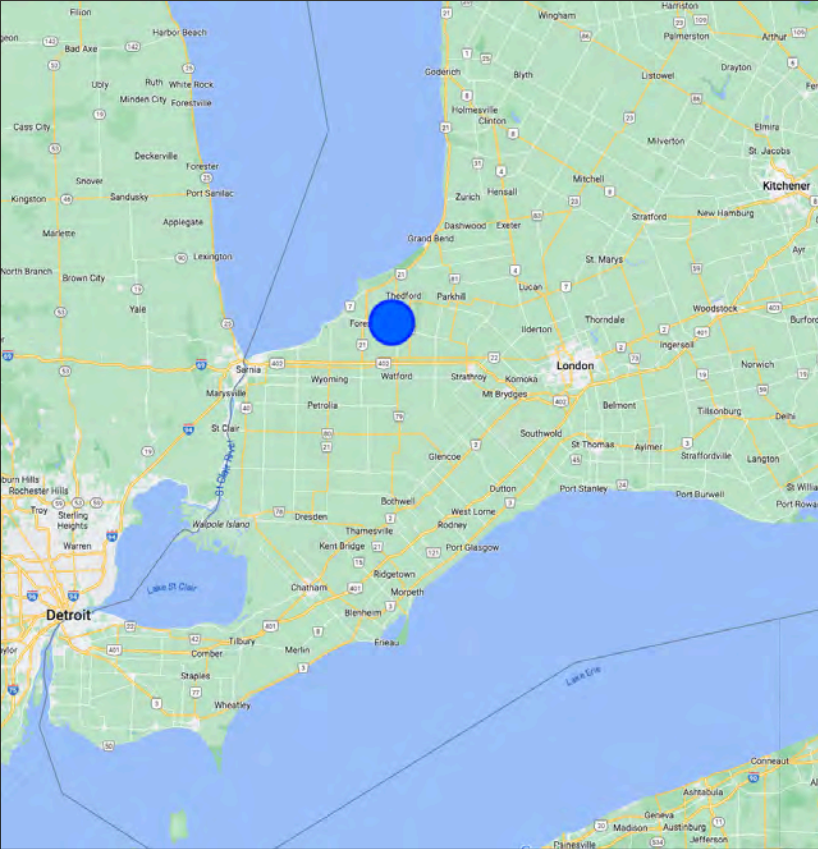
Mudding the boots on Doherty Tract

Kirsty McFadyen and Pat Deacon



On August 14th 2022, FBO members were lucky to join Pat Deacon at the Ausable River - Doherty Tract. Located southwest of Thedford, this site is within an Area of Natural and Scientific Interest (ANSI), and is managed by the Ausable Bayfield Conservation Authority.

Seeing only agricultural fields on either side of the access road, we weren't sure if we had really found the place. But soon the forest (and the FBO group) emerged, like much of southern Ontario's fragmented natural areas, jumping out in front of the agricultural backdrop. We set off,



eager to find species such as Green Dragon (*Arisaema dracontium*), Stiff Gentian (*Gentianella quinquefolia*) and Muskingum Sedge (*Carex muskingumensis*) which are known from the area.

In a damp sandy area bisected by ATV trails, our first plant of the day was Texas Flax (*Linum medium* var. *texanum*), ranked as critically imperiled (S1) in Ontario. Unfortunately, the pale-yellow flowers were not quite open yet. An area of conifer

plantation contained a small patch of Pinesap (*Hypopitys monotropa*), a species that lacks chlorophyll and obtains energy through parasitizing fungi. We then went deeper into the trees, eventually stopping to look at Downy Agrimony (*Agrimonia pubescens*), which lacks the intensely glandular inflorescence of the more familiar Hooked Agrimony (*A. gryposepala*). Descending the river slope on a network of footpaths, the group admired a large Tulip Tree (*Liriodendron tulipifera*) that measured 127cm diameter at breast height and shot up through the mature canopy of Sugar Maple (*Acer saccharum*). Later we had lunch on a pretty steep slope (providing a nice backrest) before we were off to the wetter areas of the tract.

My personal trip favourites were Lizard's-tail (*Saururus cernuus*) and Eastern Buttonbush (*Cephalanthus occidentalis*) – neither species I had seen in person before, and we found both in a gorgeous Maple-dominated floodplain swamp. As I've spent most of the past few years in the southern Albertan prairies, I find swamps (and the plants that live there) very striking. The mud was just solid enough to walk without sinking, though we left a funny meandering trail of footprints as we moved from plant to plant. There, we also saw Ontario Aster (*Symphotrichum*



Delicate laces of Ontario Aster. Photo: K. McFayden.

ontarionis), with its fine foliage. To distinguish an Ontario Aster from a Calico Aster (*S. lateriflorum*, with similarly delicate leaves), Pat told us to look for the pubescence across the entire underside of the leaf (as opposed to being restricted to the midvein) and its tendency to form dense colonies, especially in riverine sloughs.

A small patch of Java Water-dropwort (*Oenanthe javanica*) was spotted along the bank of the Ausable and is a new addition to the flora of Lambton County. This edible member of the Apiaceae family is native to East Asia and has a patchy distribution in Eastern North America (iNaturalist 2023). Java Water-dropwort is relatively new to Ontario, with records from Presqu'île Provincial



Botanists in action: consulting various keys to identify *Euphorbia glyptosperma*. Photo: K. McFayden.

Park and a channel in Oakville observed in 2018 (NHIC 2023).

We spent the later part of the afternoon in a sandy area where we spotted an Eastern Hognose Snake (yes, not a plant but still very cool) and a tricky little Spurge (*Euphorbia*) species that required a team effort to identify. Some of those hunched over keying out the Spurge were so invested in the task at hand that they were unaware of the commotion surrounding the snake observation! After going through the key, it was concluded that we were looking at a Ridge-fruited Spurge (*Euphorbia glyptosperma*), an introduced species that inhabits dry sandy sites.

Despite our best efforts, the Green Dragon, Stiff Gentian and Muskingum Sedge managed to evade us, but an entirely different suite of conservative species turned up over the course of the day, including Perfoliate Horse-gentian (*Triosteum perfoliatum*), Ovate Beakgrass (*Diarrhena obovata*) and Cream Violet (*Viola striata*). Finally, we wrapped up the day by admiring some early-flowering Sphinx Ladies'-tresses (*Spiranthes incurva*, photo left, by Carisa McGale, the owner of soiled footwear in the title photo).



List of species observed:

Common Name

Hooked Agrimony
Downy Agrimony
Big Bluestem
Broomsedge Bluestem
Long-headed Anemone
Tall Anemone
Ebony Spleenwort
Rattlesnake Fern
Broad-glumed Brome
Pubescent Sedge
Greenish Sedge
Eastern Buttonbush
Stout Woodreed
Panicked Tick-trefoil
Ovate Beakgrass
Eastern Riverbank Wildrye
Variegated Scouring-rush
Ridge Fruited Spurge
Flat-top Goldenrod
Licorice Bedstraw
Hairy Bedstraw
Giant Sunflower
False Sunflower
Virginia Cut Grass
Texas Flax
Loesel's Twayblade
Kalm's Lobelia
Great Blue Lobelia
Water Purslane
Fringed Yellow Loosestrife
Canada Mint
Nimblewill
Java Water-dropwort
Oakes' Evening-primrose
Balsam Groundsel
Swamp Lousewort
Ditch Stonecrop
Clammy Ground-cherry
Flat-stemmed Bluegrass
Virginia Mountain-mint
Cutleaf Coneflower
Lizard's-tail
Mad-dog Skullcap
Hidden Spikemoss
Giant Goldenrod
Early Goldenrod
Grey-stemmed Goldenrod
Sphinx Ladies'-tresses
Sand Dropseed
Ontario Aster
American Germander
Perfoliate Horse-gentian
Striped Cream Violet

Scientific Name

Agrimonia gryposepala
Agrimonia pubescens
Andropogon gerardi
Andropogon virginicus
Anemone cylindrica
Anemone virginiana
Asplenium platyneuron
Botrypus virginiana
Bromus latiglumis
Carex hirtifolia
Carex viridula
Cephalanthus occidentalis
Cinna arundinacea
Desmodium paniculatum
Diarrhena obovata
Elymus riparius
Equisetum variegatum
Euphorbia glyptosperma
Euthamia graminifolia
Galium circaeazans
Galium pilosum
Helianthus giganteus
Heliopsis helianthoides
Leersia virginica
Linum medium var. *texanum*
Liparis loeselii
Lobelia kalmii
Lobelia siphilitica
Ludwigia palustris
Lysimachia ciliata
Mentha canadensis
Muhlenbergia schreberi
Oenanthe javanica
Oenothera oakesiana
Packera paupercula var. *pseudotomentosa*
Pedicularis lanceolata
Penthorum sedoides
Physalis heterophylla
Poa compressa
Pycnanthemum virginianum
Rudbeckia laciniata
Saururus cernuus
Scutellaria lateriflora
Selaginella eclipses
Solidago gigantea
Solidago juncea
Solidago nemoralis
Spiranthes incurva
Sporobolus cryptandrus
Symphyotrichum ontarionis
Teucrium canadense
Triosteum perfoliatum
Viola striata

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Natural Heritage Information Centre (NHIC). 2023. Species Lists. Available from https://www.publicdocs.mnr.gov.on.ca/srb/Ontario_Species_list.xlsx



Spring Botany on the Bruce

27 May 2023
Judith Pelley

For me, this field trip was my Botany Hat Trick: it was my third year in a row participating in an FBO field trip with Walter Muma to the Saugeen Bruce Peninsula. As is with any trip with Walter, it was nothing short of Walterful! I love FBO field trips, as participants come from or have different levels of botany experience. The end result is you see and learn so much, and not necessarily all from experts as someone new to botany can easily stumble across the find of the day. I was also excited to see what type of snake we would find on this field trip as the previous two had given us the opportunity to see a Red-bellied Snake in 2022 and a Massasauga Rattlesnake in 2021.

Our first stop of the day was a rich forest, actually that feels like an understatement, to use the slang that the kids use today, the woodland was dope! How dope you ask? Well, it took us 1.5 hours to walk to the lookout, but only 15 minutes to walk back. If you have ever heard the phrase "herding cats", just take botany people to a woodland in springtime.

The woodland contained many characters we are familiar with in this environment, however there were a couple things that stood out for me. Firstly, the woodland contained a high concentration of Red Trillium (*Trillium erectum*). I am used to a high concentration of White Trillium (*T. grandiflorum*) with an occasional Red, this woodland however was the reverse. I am also used to seeing Wood Forget-Me-Not (*Myosotis sylvatica*) in the traditional blue flower with an occasional single pink or white flower on the same plant, but in this woodland, there were entire plants that were either blue, pink or white! - as in photos next page. Their appearance made the woodland that much more magical, if that is possible.

The woodland also provided a couple of items on my "wish list". I feel confident that other woodlands I have visited have provided me these plants, however as I am still learning, being with other botany people these plants were easily identified. Photos of plants generally do not give you a sense of size nor do images show the back of a flower, so I was over the moon to see my first



Canada Violet (*Viola canadensis*), easy to identify by looking at the back of the white flower and seeing purple. The plant itself is larger compared to other violets I have run into. Another find of the day for me was the Bishop's Cap (*Mitella diphylla*) – I had no appreciation of how small the flower was or in fact what the flower looked like on a stem. These wonderful little snowflakes as I call them are now easy for me to find.

We had lunch at a local Community Centre where I could not help but notice how the lawn was full of non-native English Daisy (*Bellis perennis*); the lawn was cut short regularly but the plant adapted and still managed to flower a beautiful carpet of white. Hmmm, the lawn at home.... Anyhow, back to our day.

After lunch we explored a couple of alvars, and just like the woodland the cats were all over the place finding treasures. The Dwarf Lake Iris (*Iris lacustris*) were out along with many other springtime flowering plants like the Fringed Polygala (*Polygaloides paucifolia*), Lakeside Daisy (*Tetraneuris herbacea*) and Scarlet Paintbrush (*Castilleja coccinea*, title photo) in its glorious fluorescent orange. The highlight at our first alvar was a Paintbrush but entirely in yellow!

The ferns and sedges who played a supporting role in the woodland almost have a starring role in an alvar, along with the mosses and lichens. For me alvars are all about rich and interesting textures.

As we parked to see our last alvar of the day I could not help but notice that deciduous trees that greeted us at the start of the day were now replaced with conifers. The mature Eastern White Cedars (*Thuja occidentalis*) acted almost like a wall of soldiers protecting this alvar, they also provided the right conditions for the Yellow Lady's Slipper orchid (*Cypripedium parviflorum*), which would soon be flowering. We also found around the cedars two types of Blue-eyed Grass: Slender (*Sisyrinchium mucronatum*) and Common (*S. montanum*), which to the human eye look like the same flower, only the stem giving away the true identity.

Inside the alvar it was time for the Spleenworts (*Asplenium*) to shine: lots of Green (*A. viride*), together with and Maidenhair (*A. trichomanes*) hiding below the surface in the cracks of the rocks. We finished off with two highlights in the fern department thanks to Walter, as we had the pleasure of viewing a Robert's Oak Fern (*Gymnocarpium robertianum*) and a Purple-stemmed Cliffbrake (*Pellaea atropurpurea*).

As we were walking out of the last alvar I stopped and asked Walter what this little white flowering plant was, a Seneca Snakeroot (*Polygala senega*, photo above right) Walter responded. We both looked at each other and giggled, OMG, looks like we did find the 2023 snake after all, this year it was in the form of flower and not a reptile.

Photos by Judith Pelley.



Species observed on the trip:

Common Name

Scientific Name

WILDFLOWERS

Balsam Ragwort
Bastard Toadflax
Bishop's Cap
Giant Blue Cohosh
Canada Violet
Carolina Spring Beauty
Common Blue-eyed Grass
Common Toothwort
Red Baneberry
Downy Yellow Violet
Dwarf Lake Iris
Early Goldenrod
English Daisy
False Solomon's-seal
Foamflower
Fringed Polygala
Giant Solomon's-seal
Hairy Solomon's-seal
Herb Robert
Jack-in-the-Pulpit
Kidneyleaf Buttercup
Lakeside Daisy
Large-leaved Aster
Long-spurred Violet
Mouse-ear Hawkweed
Northern Starflower
Scarlet Paintbrush
Red Trillium
Seneca Snakeroot
Sharp-lobed Hepatica
Slender Blue-eyed Grass
Starry False Solomon's Seal
Sweet Cicely
Sweet Woodruff
Virginia Waterleaf
White Camas
White Trillium
Wild Columbine
Wild Leek
Wild Sarsaparilla
Wild Strawberry
Wood Betony
Wood Forget-me-not
Yarrow
Yellow Lady's Slipper
Yellow Trout Lily

Packera paupercula
Comandra umbellata
Mitella diphylla
Caulophyllum giganteum
Viola canadensis
Claytonia caroliniana
Sisyrinchium montanum
Cardamine diphylla
Actaea rubra
Viola pubescens
Iris lacustris
Solidago juncea
Bellis perennis
Maianthemum racemosum
Tiarella cordifolia
Polygaloides paucifolia
Polygonatum biflorum
Polygonatum pubescens
Geranium robertianum
Arisaema triphyllum
Ranunculus abortivus
Tetraneuris herbacea
Eurybia macrophylla
Viola rostrata
Pilosella sp.
Lysimachia borealis
Castilleja coccinea
Trillium erectum
Polygala senega
Anemone acutiloba
Sisyrinchium mucronatum
Maianthemum stellatum
Osmorhiza sp.
Galium odoratum
Hydrophyllum virginianum
Anticlea elegans
Trillium grandiflorum
Aquilegia canadensis
Allium tricoccum
Aralia nudicaulis
Fragaria vesca
Pedicularis canadensis
Myosotis sylvatica
Achillea millefolium
Cypripedium parviflorum
Erythronium americanum

FERNS

Bracken Fern
Fragile Fern
Green Spleenwort Fern
Lady Fern
Maidenhair Spleenwort

Pteridium aquilinum
Cystopteris fragilis
Asplenium viride
Athyrium filix-femina
Asplenium trichomanes

Male Fern
Northern Holly Fern
Purple-stemmed Cliffbrake Fern
Robert's Oak Fern
Sensitive Fern

SEDGES

Bristle-leaf Sedge
Crawe's Sedge
Plantain-leaf Sedge
White Bear Sedge

TREES/SHRUBS

Alder-leaved Buckhorn
Swamp Gooseberry
Basswood
Bearberry
Eastern White Cedar
Chokecherry
Creeping Juniper
Eastern Prickly Gooseberry
White Elm
Glaucous Honeysuckle
Grey Dogwood
Ironwood
Common Juniper
Red Oak
Red-osier Dogwood
Round-leaved Dogwood
Seviceberry
Trembling Aspen

Dryopteris filix-mas
Polystichum lonchitis
Pellaea atropurpurea
Gymnocarpium robertianum
Onoclea sensibilis

Carex eburnea
Carex crawei
Carex plantaginea
Carex albursina

Endotropis alnifolia
Ribes hirtellum
Tilia americana
Arctostaphylos uva-ursi
Thuja occidentalis
Prunus virginiana
Juniperus horizontalis
Ribes cynosbati
Ulmus americana
Lonicera dioica
Cornus racemosa
Ostrya virginiana
Juniperus communis
Quercus rubra
Cornus sericea
Cornus rugosa
Amelanchier sp.
Populus tremuloides

The innocent botanist: the formative years

An essay by W.D. McIlveen

It is rather expected that members of FBO and like-minded people have a very strong interest and appreciation of botany in whole or in part. Some people are highly dependent on the discipline for their livelihood while others simply appreciate the beauty of plants or the role that they play in the environment. The present discussion is not about the various roles that botany plays in the lives of people. Instead, it examines how or why that interest evolves – with much of that based on my personal experience.

It is possible that an interest in botany can develop at any point in a person's life. The interest could develop when a person is still a child and in other cases, this may not happen until the person is an adult. Sometimes the interest arises due to enlightenment or perhaps occurs out of necessity or simple opportunity. Perhaps it is a bit biased to state that the earlier that such an interest develops, the more one's life is enriched. It is probably true that the earlier one is exposed to new information, the easier it is to learn about a topic. While everyone learns in different ways, the longer one studies a topic, the more opportunity they have to become more-deeply involved and informed about it. People may be exposed to or informed by a whole range of sources. This could include parents, teachers, books, personal sources, and others means. In recent times, a whole range of new technology has become avail-

able to help people learn, though this is offset by the reduction of formal training options (e.g., the closure of botany departments at many universities).

Over my lifetime, I have learned a lot of facts about botany and other forms of nature. Many people will come to me to ask for some information related to nature. I am always happy to provide such information when I can and, as a consequence, people think that I know a lot. But I also have become aware that what I know is but a minuscule proportion of all that there is to know. I am learning all the time and acquiring additional knowledge but at the same time facts, and especially names, disappear from memory, perhaps due to lack of use. But since the present article is about where I acquired my earliest information about botanical subjects, I will concentrate on the first dozen years of exposure to that material. Readers may find that some of the points mentioned will resonate with their own experiences.

As I recall, my first introduction to nature happened when I was barely three years old and we were still living in Scotland. My Dad showed me a bird's nest. I don't remember what the species was or if the nest was in a tree or in the grass. The second nature lesson also involved a bird nest but this was when Dad showed us an American Robin nest on the farm where we had moved to the next year on Mississauga Road west of Brampton. (In those years, Mississauga Road was known only as the 4th Line West Chinguacousy.) Unfortunately, Dad had grown up in tough circumstances and was a young fellow during the Great Depression. He could not stay in school and his botanical education was what information he could glean as a farm labourer. As a consequence, he was not well informed about the fine points of plant taxonomy or that of any other group of organisms.

Like nearly everyone, I saw vegetation from the earliest age but did not necessarily know much about plants. Very young people can point to a plant and know that it is a plant, that a large plant is a tree or recognize a lawn. Many homes have house plants and many of those could have flowers. Somewhere, most children acquire this rudimentary information without any sort of specific instruction. But I had an advantage that many youngsters (i.e., city dwellers) do not: I was raised on a farm. I very quickly learned that plants were the basis of crops that were used to feed livestock. I saw the mixed plants that went to form hay. I saw wheat and oats and forage corn. I saw crops of mangels (a form of sugar beet though that was never grown anywhere else that I have been). There was always a large garden that provided all of the cabbages, tomatoes, carrots, and potatoes for the year. These were species that could be preserved in different ways. There were a few beans, peas, cucumbers, and squash. I assisted in the planting or harvesting at a very young age and quickly learned to associate the characteristics of the plants with their edible portions. In those years, it was a standard practice to purchase the seed from the Dominion Seed House in Georgetown using a paper catalogue from which to select the promised produce. The Tudor-style architecture of the now-gone Seed House office featured prominently in the company's literature and will live on the memory of the older generation of gardeners all across Canada (Dominion Seed Postcard from 1951, right).



The fruit grown in the garden included strawberries and raspberries and there might have been a couple of currant bushes. The gardens also contained some rhubarb. The fruit, rhubarb, and occasionally wild Chokecherries were converted into jams and jellies. The Wild Raspberries, Black Raspberries, and Wild Strawberries were eaten as a treat for desert if we managed to find enough to make the picking worthwhile (if we didn't eat them all during the picking process). It was not until some years later that we were told there were some "Thimbleberries" growing in one of the woodlots at the back of the farm around the collection of beehives positioned there. We found those to our liking. In hindsight, those berries were actually Allegheny Blackberry (*Rubus allegheniensis*). But aside from reaching up to pick the berries (I was maybe about 5 at the time), I learned to appreciate the taste of wild fruit and that the *Rubus* species were well-defended by sharp spines.

There were other types of plants around the farm and some of their images will always stay in my memory. The old farm house had a strip of flower garden that had been in that location for many years before we moved in. The perennials included Iris, Peony, and Garden Phlox which were rather standard species in border plantings. There were no annual plants because money was limited. There were a couple of Lilacs and a Rose bush near the house and so I became familiar with those.

I saw many other plant species when I was young. Most of these potential memories were lost a long time ago, but some are forever etched in my brain and the following are some examples.

A single Horseradish (*Armoracia rusticana*) plant persisted at one location between the house and barn at location in what might pass for a lawn. I don't think that anyone ever paid heed to it or had any notion what it was. Perhaps it was a remnant from a former vegetable patch. It would have been ploughed down long ago when the property use was changed but I remember what it looked like and was able to put an identification to it many years afterwards. The second species on this list was Tansy. There were one or more patches growing on the roadside not far from the barn. I remember the smell of the crushed foliage. I am sure no one ever identified it for me and yet somehow I knew exactly what this species was named. I must be forgetting some small fact from this connection but I feel certain that if someone had said out of the blue "Show me the Tansy", I would have pointed straight to the patches of plant on the roadside. A number of weeds grew in the field where the turkeys spent the bulk of their lives. One species in particular was Common Lamb's-quarters (*Chenopodium album*). The turkeys did

not trample it or eat it and so some plants were allowed to grow to maturity. The plants would grow to 5 feet or more if left alone, perhaps aided by the organic fertilizer deposited by the birds. One of the more notable features of these big, old plants was how very tough and hard the stems would become.

There was a shallow ditch or drain close to the turkey brooder house. While the area may not have had flowing water, the ditch was at least quite wet for much of the time. This seemed perfect for the growth of Beggarticks (*Bidens* sp.) and Spotted Lady's-thumb (*Persicaria maculosa*). The memory of these species may not be so much due to the plants themselves but to the numerous hoverflies (AKA syrphid flies) that used that limited habitat.

The farm across the road was owned and run by a pair of old bachelor farmers. They were advanced in age and clearly were suffering from dementia as we would recog-

nize it today. I am sure they were harmless enough but, because they were frequently heard talking gibberish to themselves, Mum would warn us to "Stay Back" from Old Jack or Old Joe. One of them did warn us kids not to eat the berries on the Bittersweet (AKA Deadly) Nightshade (*Solanum dulcamara*, photo above, by W.D. McIlveen). The name 'Deadly' for the species may have been an overstatement of the toxicity of berries. Green fruit contains higher concentrations of steroidal glycoalkaloid solanine than do the attractive ripe berries. Regardless of the cautionary advice, I already had an inherent sense that we should not eat those berries.

Weed species have been problems for agricultural production ever since humans attempted to grow crops. The species that pose the greatest problems in recent years are often deemed 'invasive'. While some of these invasive species were likely present in Ontario during my botanically formative years, they were generally not viewed as the major problem they are today. Weeds were problems almost exclusively in agriculture or horticultural practice. Little concern was expressed for any species that might be spreading in natural areas. The plant species that was viewed with the greatest concern among the farmers was 'Twitch'. Back then it was looked upon with almost the same level of disdain as *Phragmites* is at present. Twitch, when I learned it and will always remember that way, was *Agropyron repens* though there have been other names. After a period of being 'Couch Grass', it is now recognized as Quackgrass (*Elymus repens*). Before suitable chemical herbicides were available, the species posed a considerable problem for farmers who wanted to be rid of the scourge. On one occasion, I observed a farmer mechanically removing the stolons from a cultivated field with the aid of an old-time kick rake.



This created notable rows of plant material much like rows of hay ready for baling. I can only imagine that the material was loaded onto wagons with the aid of another bit of old farm equipment in the form of a hay loader then carted away.

The farm had a typical lane to the back fields. That laneway space was largely turned into cropped land over time by the recent owners. Back when I was young, the laneway and at least one of the fence lines consisted of large ash trees. For some reason, the recent owners left those in place and I was able to see and remember them whenever I drove past the old farm. That was the case until recent times when the Emerald Ash Borer made its appearance. After that, the dead trees were removed and all traces of the field arrangement and fencerow were obliterated to become cultivated crops.

I was one of those youngsters who had a long walk (later by bicycle) to public school – 2.5 km each way. Those were the days before school buses. But during those walks, I was able to witness many kinds of vegetation and the changes that occurred over the season. I was allowed to wander anywhere on the farm by myself, as young as five. In current times, parents simply do not allow such free-ranging wandering of their charges. If parents feel the need to closely manage the lives of children, then consideration ought to be given to provide the children with some time for experience and discovery of nature.

In the years when I could have used the references for any kind of nature, there was none. The first book that had any such information was a book about the Birds of Canada that was in the schoolroom bookshelf but that was not until I was in Grade 6. The resources available to youth at that time were just not comparable with the many field guides, libraries, electronic and on-line resources that are easy to access today.

Amidst all the plant information, I was exposed to a few diseases of plants which represented the discipline behind my professional career. In the early years, I was mostly oblivious to plant disease problems and no one thought to mention this to me. Of course, I could see that some fruits of tomatoes and some other kinds of plants held to extend the field season would rot. One conspicuous infection was that of Corn Smut (*Ustilago maydis*). That disease is no longer as prevalent as it used to be. I remember that I was on a bus trip with the 4-H club when I was about 12 and we were taken to see a farm. During that visit, the farmer was addressing the group. He had a cross section of a large tree trunk and there were small hooks attached to it. The little hooks held small sections of twigs of different woody species. One of those that the farmer pointed out was a cross-section of a Sweet Chestnut (*Castanea dentata*) and he made a point that that species had been essentially wiped out by the Chestnut Blight (*Cryphonectria parasitica*). That was my first exposure to that very significant problem though its real significance did not register with me at that time because I did not have a good context for that epidemic. It was not long after that event that I heard that the Dutch Elm Disease was on its way to attack all of our native elm trees. The disease was mainly attributed to the fungus *Ophiostoma ulmi* but it was later learned that a related species, *Ophiostoma novo-ulmi*, was also partly responsible. The word was that when the disease arrived, it would kill all the elms. The Dutch Elm Disease did not, in fact, originate in the Netherlands. The name was applied based on the fact that the causal agent was first identified in 1921 by Dutch phytopathologists. Elm trees were once very common sights around the Ontario landscape along fencerows and in pastures where they provided shade for cattle. That these magnificent trees could be lost seemed nearly impossible. The predicted blight swept through Southern Ontario in 1967 decimating the species, right at the time when I was working on my undergrad degree majoring in Plant Protection. For the next few years, as I was driving to classes at Guelph, I could look across the fields and see crews hired under winter-works programs cutting and burning the dead hazard trees (photo above, by Everett Jacquith, shows diseased elms being prepared for cutting, Terra Cotta, April 1971).



Most people will have access to family photo albums. Not all will have suitable photos but if the pictures were taken outdoors, they could potentially reveal portions of the vegetation that existed at that time. This could be flowers in a flowerbed, some background shrubbery, or more-distant trees such as those in the 1954 photo below, of a turkey farm, which shows Norway Spruce on the right on the opposite side of Mississauga Road. On the left on the horizon are White Elm, Common Apple, and some hawthorn. More careful scrutiny shows an Eastern White Pine and probably some maples. Barely visible are the crowns of two Lombardy (Black) Poplar. The grass in the foreground is too badly beaten to identify to species but odds are that it was Common Timothy. Although this particular photo evidence does match my memory of the area, all of the vegetation has been removed for different reasons (i.e., all vegetation beyond the rail fence was removed to create a small horse farm, the field behind the turkeys was used to build two homes and farm storage shed, and the spruce trees were simply cut down to extend the area in cultivation). But those old family photos hold evidence to corroborate our memories of things we might have seen in our youth and can act as reference point for assessing changing land use and flora loss or gain.



No doubt, a large proportion of the same plant species that I saw as a child still exist in the area today although some of the recent invasives may not have been present at that time. The majority of species did not stick in my memory, likely because so many were never mentioned by name but it is highly probable that, had names been mentioned, a lot more plants seen would have been remembered. This observation is support for the idea that wherever possible, names of plants or any other species should be supplied to our children.

At times, I have felt discouraged by the things that I have seen happening to the natural environment in general. At other times, I am greatly encouraged by the actions of a few people. Even more encouraging are those times when I encounter young persons who are highly enthusiastic about some aspect of nature be it birds or insects or trees or whatever. They might easily have a greater knowledge of such things than I did at their age. Clearly, they have had information available to them through a variety of means – books, supportive parents, electronic references, etc. When I encounter such youngsters, I encourage them when I can. I hope that all of us who have been able to become botanists or other comparable professionals will be able encourage these youth as well as others yet to be enlightened. Those could be our own children, our grandchildren, our nieces and nephews, or young neighbours. By supplying appropriate information, they can learn about nature and therefore become overall better, more-satisfied people. Some could even become botanists.

The reader will know at this point that this article is mainly about experiences gained while young and how learning about plants can happen. Sometimes the early learning about plants is rather minimal and in other cases, individuals may, by good fortune, acquire an extensive knowledge of the subject. To make the account more balanced, it needs to be recognized that knowledge gained can also be lost when not kept in active practice. The botanist may easily go several years or even from one season to the next without seeing an uncommon species. He/she may instantly recognize it but could also easily be asking: "What the heck is the name of that plant?" Similarly, they might see a list of plants and recognize the names but trying to put a mental image with that name might prove a challenge. Of course, changes in nomenclature does make for an extra challenge. The only way to combat the forgetting problem is to keep reviewing the names. Staying familiar with plants and other forms of life will keep us in awe of the marvellous part of our living world, even if we sometimes collectively fail to treat it with due respect.