



FIELD
BOTANISTS of
ONTARIO

Newsletter

Volume 23(2): Summer 2011

ISSN: 1180-1417



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President's Message

This newsletter is a little late because our editor, Julia, had to take some time off to have a baby. I can't think of a better reason for a late newsletter. We extend our best wishes to Julia, Chris, and baby Isla.

We had a very successful spring meeting at the Canadian Museum of Nature. I wish to express our sincere thanks to Jennifer Doubt, the staff at the museum, and others who contributed so much to make the weekend a great success. A complete report will be featured in a future newsletter.

As I write this message, our AGM is still a few weeks away. I am looking forward to a great AGM in Carolinian Canada.

As a young prairie boy growing up in Winnipeg, I thought a forest was the line of stately elms planted in a row on the manicured boulevards of our streets. Their trunks were about 10 or 12 inches in diameter and I thought they were magnificent. I also remember my father cursing the Manitoba Maples on our neighbour's property, which shaded his garden where he grew exhibition gladiolus.

Needless to say, my idea of a forest changed as I became a teenager. After I retired and moved to Port Hope, I made many trips to Peter's Woods, an old growth forest north of Cobourg, and took pictures for my slide show "Four Seasons in Peter's Woods". Peter's Woods was the first old growth forest that I had ever seen and I began to appreciate the beauty and significance of old growth forests. Beside the path in Peter's Woods there are many trees, but one in particular which, every time I pass, I put my hand on its rugged but beautiful bark, and feel its strength flood my body.

After joining the FBO, I discovered Carolinian Canada and rapidly began to appreciate its beauty and its magnificent trees. Now, when I see a giant Tulip Tree with a trunk over a metre in diameter, I can't help but compare it to the elms which I once admired so much in Winnipeg.

I believe that our Vice President, Chris Zoladeski, has a great program for Simcoe and I look forward to meeting many FBO members at the AGM.

Bill Crowley

Standard source for scientific names and authorities of vascular plants:

Newmaster, S.G., A. Lehela, P.W.C. Uhlig, S. McMurray and M.J. Oldham. 1998. *Ontario Plant List*. Ontario Ministry of Natural Resources, Ontario Forest Research Institute, Sault Ste. Marie, Ontario. Forest Research Information Paper No. 123, 550 pp. + appendices.

Membership forms can be found on the FBO website www.trentu.ca/fbo. Annual memberships are \$15.00 for individuals and \$18.00 for families.

Published quarterly by the FBO. ISSN: 1180-1417



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Field Trip Reports



FBO group at Fleetwood Creek Natural Area Lookout – Anne Barbour (AB)

Fleetwood Creek on the Oak Ridges Moraine June 18th, 2011

On Saturday, June 18th, 2011, with the weather cooperating to perfection, 18 people, unimintimidated by the rocky hill on Ballyduff Road in the City of Kawartha Lakes, drove down to meet Dale Leadbeater in the first parking lot of the Fleetwood Creek Natural Area (FCNA). FBO President and Marshall for the day, Bill Crowley introduced Dale by saying that not only would we get plant identification but a complete ecology lesson as well. Bill was correct, for to Dale, there is always a reason why plants grow where they do and, being not just a botanist but also an ecologist, Dale wants to know that reason.

Our objective would be two-fold: 1) to inventory and take soil samples for the CKL (City of Kawartha Lakes) FLORA PROJECT and 2) to add to the inventory of the FCNA for Kawartha Conservation (Joyce Gould carried out the first Biological Inventory and Evaluation of the Fleetwood Creek Valley in 1985).

Kawartha Conservation manage this 900 acre property, which is a Provincially Significant Area of Natural and Scientific Interest (ANSI) located on the Oak Ridges

Moraine. The land was acquired by the Ontario Heritage Trust in 1983-84 through the generosity of Hilda Pangman in memory of her mother Adelaide McLaughlin, and with the assistance of the Nature Conservancy of Canada, Kawartha Region Conservation and the Ministry of Natural Resources. Joining us was Kristina Rawlings from the Ontario Heritage Trust, who is working on a development plan for the FCNA.

Dale explained that historically, Gooderham & Worts was licensed to cut wood in the City of Kawartha Lakes for their distilling operations. They would send crews up by train and ship back the lumber, which included large amounts of oak and maple. This contributed to the denuding of the moraine after which farming was attempted. Unfortunately, the land was mostly rock and sand so, once tilled, the winds carried away what little soil there was. Red Pines (*Pinus resinosa*) were planted in the 1940s 'en masse' to retain the soils, and later Scots Pine (*Pinus sylvestris*). However, plantations are never the same as the integrated forest supporting wildlife that was lost.

Up at the Lookout, Dale augured a soil sample where the depth of organics was 8 cm followed by silty fine sand interspersed with gravel bits, as expected. Using an eyedropper, Dale tested the soil for the presence of

calcium by dropping dilute hydrochloric acid on it. It fizzed like crazy, indicating that the soil was loaded with calcium from unweathered or parent material. It takes years of rainwater leaching through humus into the parent material to convert it to weathered soil. In the South American tropics, weathered soils can be 30 m deep, but here it was practically non-existent. When you plant directly into the parent soil, plants find it too stressful and do not do well as nutrients are lacking or difficult to acquire. Dog-strangling Vine (*Cynanchum rossicum*), however, likes calcium and silty conditions. Although Joyce Gould's 1985 inventory did not list Dog-strangling Vine or European Buckthorn (*Rhamnus cathartica*), these species have arrived and are now thriving in soils where native plants find it more difficult to grow.

Before leaving the Lookout, Dale found a shrub that is near and dear to her heart - *Crataegus*. Dale's academic research specialized in this genus, under the direction of Tim Dickinson, Curator at the ROM Herbarium, whose specialty is *Crataegus*. Also, Dale is known to root for the underdog or 'underplant', whichever the case may be. Dale encouraged us not to be afraid to identify *Crataegus*. There are characteristics that help in their identification. First, look at the stem: is it multi-stemmed or single? This one was single-stemmed. Check the inflorescence (when present) to see if it is hairy. Are the leaves dull or shiny? This one has dull leaves. What is the leaf shape? This one is truncate or wide at the base, and not lobed. Are the thorns small or long? These are small. Added together, these characteristics equalled Scarlet Hawthorn (*Crataegus pedicellata*). Black Hawthorn (*C. douglasii*) looks very much like this one, but it has black fruit, a dead give-away. Later on, in the Fleetwood Valley forest, we found Long-spined Hawthorn (*C. macracantha*). These have gigantic thorns that can be up to 10 cm long – a real weapon! Its lovely cuneate leaf slopes sharply down to the stem. Lastly, Dale showed us Dotted Hawthorn (*C. punctata*). This single-stemmed hawthorn is a tree, not a shrub, with branches that grow perpendicularly so its shape is pagoda-like. Dale says that this is the only hawthorn that you can recognize going down the 401 at 90 km/h, because of its shape. Its bark is also distinctively gray.

On the way down the hill, we discussed a few plants along the trail: 1) Showy Tick Trefoil (*Desmodium canadense*) and its ability to cling to clothing and itself. Richard told us that the Greek word for *Desmodium* means 'chain', referring to the seeds. 2) Brome Grass (*Bromus inermis*) with its signature - a faint 'W' on the leaf. This plant produces allelopaths, chemicals not necessary for its own survival, but that suppress other plants, or as Dale said, "It actively fights anything in its path!" 3) Mayapple (*Podophyllum peltatum*) or Umbrella Plant fruits can be

eaten when plump and yellow, but never when green. The Mayapple can reproduce sexually with fruit, or vegetatively as clones. 4) Scouring Rush (*Equisetum hyemale*), nature's scouring pad. On sandy slopes it is, "happy as a pig in a pig's natural habitat." Horsetails grew 40' tall 3 million years ago. 5) Carrionflower (*Smilax herbacea*) used to be part of the Lily family but now has a family of its own, Smilacaceae, thanks to the research currently being carried out on tropical plants. 6) Our two foresters, Steve Smith and Bohdan Kowalyk, found European Linden (*Tilia cordata*) that resembles Basswood (*T. americana*) but with much smaller leaves. Looking up through the canopy, not one leaf showed a single hole from an insect's munching. Basswood would be lacy, full of holes from insects that found it delicious, whereas nothing in North America eats Linden; it is not part of the food web. That said, it does perform ecosystem services by providing shade, air quality benefits at the cost of the tree, and limiting erosion by catching rain so it drops gently on the ground. 7) Manitoba Maple (*Acer negundo*), in contrast to the Linden, is a favourite food of insects: everything eats it. 8) Rosy Sedge (*Carex rosea*) was in full seed. Paula Davies rhymed off the memory aid: "Sedges have edges, rushes are round, grasses have lashes wherever they're found."



Bohdan Kowalyk and Steve Smith inspect a Butternut – AB

We carpooned in four vehicles in order to drive down to the second parking lot to explore the east trail of the deciduous forest of FCNA. Dale noticed Dwarf Scouring Rush (*Equisetum scirpoides*) along the road, indicating groundwater. A rather healthy Butternut (*Juglans cinerea*) was seen immediately on getting out of our cars. The forest housed quite a few of these trees, but most of them showed evidence of the Butternut canker. Our two foresters examined a dying Butternut. A little further along, we came to an actual Butternut grove, with at least one healthy looking Butternut. Steve told us that if logging had been done in FCNA, this open area would probably have been a skidding area for the logs. Butternuts need open areas, hence here they were.

A large patch of *Prenanthes* leaves was found. We won't know until the mature plant blooms whether it is White Rattlesnake Root (*Prenanthes alba*) with five to six flowers, or Tall Rattlesnake Root (*P. altissima*) with 5-12 flowers. Also *P. altissima* has fewer bracts, usually five, while the other *Prenanthes* usually have about eight principal bracts. Beside the *Prenanthes* was an area widespread with Sprengel's Sedge or Long-beaked Sedge (*Carex sprengelii*). The plant has a messy, curly look. Purple False Melic (*Schizachne purpurascens*) was discovered and so was Canada Avens (*Geum canadense*) with its white flower.

After lunch Dale took us to Fleetwood Creek, literally. Dale took a soil sample and found rotted organics with loose peat at the top and denser peat underneath. The lower peat material was in an anaerobic situation so decomposition takes place very slowly and the peat gets compressed even more. The B layer was very fine sand. The sample was a combination of plant and parent material. Dale explained that the standing water from the surrounding area percolates up and gathers into this streambed, part of the headwaters of Fleetwood Creek. That day it was running rapidly to the north where it would meet up with the Pigeon River. Dale explained that groundwater is not always constant; it can fluctuate, so plants still tell us the story even though the water might be gone at a different time of year. Plants found that are groundwater indicators were *Sphagnum squarrosum*, with leaves at right angles to the branches, *Marchantia polymorpha* (a liverwort), Cuckooflower (*Cardamine pratensis*) and Golden Saxifrage (*Chrysosplenium americanum*). The latter has roundish leaves, about 15 mm long with tiny yellowish flowers, which are finished now. It is a creeping plant that forms a mat in springy, mucky places. This was an exciting find for Dale and the rest of the group, being a lifer for many of us and a first location for the CKL Flora Project.

We expected to find willows, and found three: Bebb's Willow (*Salix bebbiana*), Meadow Willow (*S. petiolaris*) and Shining Willow (*S. lucida*), the latter a very nice find. Sedges that were growing along the creek were Interior Sedge (*Carex interior*) in which the male flower wraps around the female, Rough Sedge (*C. scabrata*), Porcupine Sedge (*C. hystericina*), Awl-fruited Sedge (*C. stipata*), and Schweinitz' Sedge (*C. schweinitzii*), a plant with provincial rank of S3. Paula found Smaller Forget-me-not (*Myosotis laxa*) while Charles Chaffey found two orchids in bud that he believed were Northern Green Orchid (*Platanthera aquilonis*) (this was verified by Mike Oldham after the author went back six days later to photograph the plants in flower). A single graceful Water Avens (*Geum rivale*) was in flower along the bank. What a gorgeous and productive little spot!



Schweinitz's Sedge (*C. schweinitzii*)– AB

Leaving the water to go back on the trail, Prachi Patel found True Wood Sorrel (*Oxalis acetosella*) in flower. The trail continued through a patch of veritable northern habitat with Hobblebush (*Viburnum lantanoides*), Starflower (*Trientalis borealis*), Blue-bead Lily (*Clintonia borealis*), Indian Cucumber-root (*Medeola virginiana*), Rose-twisted Stalk (*Streptopus lanceolatus*), Clubmoss (*Diphasiastrum* sp.), Mountain Maple (*Acer spicatum*), Goldthread (*Coptis trifolia*), and Foamflower (*Tiarella cordifolia*).

A Leatherwood (*Dirca palustris*) had been eaten by deer and demonstrated its capacity to grow horizontally by rooting at the nodes. The bark is very supple and was used by First Nations as a wonderful lashing material. More shrubs included Maple-leaved Viburnum (*Viburnum acerifolium*) in flower, Partridgeberry (*Mitchella repens*), and Pipsisewa (*Chimaphila umbellata*) with flower buds. Ferns that were found included Rattlesnake Fern (*Botrychium virginianum*) (about 10 lovely specimens), Cinnamon Fern (*Osmunda cinnamomea*) with hairy armpits, Lady Fern (*Athyrium filix-femina*), Bulblet Bladder Fern (*Cystopteris bulbifera*), Evergreen Wood Fern (*Dryopteris intermedia*), Marginal Wood Fern (*D. marginalis*), Oak Fern (*Gymnocarpium dryopteris*), Ostrich Fern (*Matteuccia struthiopteris*), Sensitive Fern (*Onoclea sensibilis*), Eastern Bracken Fern (*Pteridium aquilinum*), and the best of all because it was a new one, New York Fern (*Thelypteris novaeboracensis*).

Along the final stretch of the forest trail, there was Ricegrass (*Oryzopsis racemosa*) with all leaves basal, Hairy Sweet Cicely (*Osmorhiza claytonii*), Woolly Blue Violet (*Viola sororia*), Clearweed (*Pilea* sp.), another dying Butternut, and a large Jack Pine (*Pinus banksiana*) noticed by Steve Smith while looking up. Just to be sure the little guys weren't missed, Mike McMurtry spotted a tiny Narrow-leaved Panicgrass (*Dichanthelium linearifolium*), how, I'll never know, growing in the sandy, abused, exposed habitat of the trail near one of the prairie patches: just what *Dichanthelium* likes. Great job guys!

After carpooling back to the first parking lot, we said goodbye to half of our explorers who had a long way to travel back home. The rest followed Dale to a private residence near Pontypool. Here we were treated to a brief tour of Russ Powell's farm and a very interesting history lesson on his property. The land was patented in 1817 to Mary McLean. In those days, it was very unusual for land to be patented to a female. The farmhouse was built in 1870 and is now connected to modern additions. The basement walls were built of stone and the floor joists of original timber, set 19 inches apart. Russ surmised that the lumber was cut from the property, then milled and dried. When the house was erected, there was insufficient lumber but acquiring more lumber was much more difficult than just going to the local lumberyard, so the builders had to stretch out the lumber.

The 'bank barn' was built in the 1890s. There are no nails in it, only oak pegs. The old but well-constructed building was still good and strong so Russ had the barn repaired and a new metal roof installed. Originally, the cattle were kept on the main level with the horses stabled in an L-shaped addition along with the wagons and cutters. This 'L' was

built to keep the horses out of the wind. We walked to the west side of the barn and up a slope of soil that had been banked against the side of the barn to allow for easy access to the second floor storage area of grain, hay and straw. Electricity only arrived at the farm in 1952. Before that, a windmill was used to draw water from a well for both cattle and humans.

The north end of the property, draining to Fleetwood Creek, is a Provincially Significant Wetland (PSW) and an ANSI. The south end, which is farmed, drains to Cavan Creek. Russ is currently Chief Administrative Officer for the Central Lake Ontario Conservation Authority, so he is aware of the value of PSWs and ANSIs, as well as the benefits of a managed forest.

Russ explained that Pontypool has sandy loam, which is highly susceptible to erosion. An old saying, "the land has changed hands" meant that your soil had been blown about and now belonged to your neighbour and vice versa. Because of this erosion problem, Russ uses no-till methods, rotating between corn, soybeans and winter wheat, under-seeded with white clover. For those crops, Russ uses herbicides; the corn and wheat are Roundup-ready. Last year his soybeans went to Japan because they were a species ideally suited to the production of tofu. Dog Strangling Vine is making headway into Russ' property, so he is trying industrial Turbo Prop, at 40:1 with reasonably good success. This product is a spin-off of 2, 4-D, which takes out only broadleaf plants as opposed to Roundup which kills everything. The product has been used in the Northumberland County Forest with better results than with Roundup. Russ is trying to keep the Dog-strangling Vine out of his fencerows and hardwoods. He knows that he is only delaying it, hoping that it will stabilize.

We walked leisurely down the laneway to the Managed Forest portion of his property where Russ explained that he had taken out over 300 cords of wood from these 35 acres over 20 years. Another 25 acres behind this had been planted in Scots Pine, probably in the early 1960s. When the Scots Pine began dying out, hardwoods came through: oak, maple, Black Cherry. Russ explained that conifers are good for establishing soil and providing a nurturing environment for hardwoods, as long as the rows of conifers are far enough apart and you have a seed source for the hardwoods. In another field where there had been hawthorns, White Pine (*Pinus strobus*) came up through the hawthorns. Back when cattle had to graze in these areas, they would say, "You can put cattle back here, but they'd have to pack a lunch." Walking alongside Russ' wonderful deciduous forest had a calming effect on all of us. Russ told us that, at this point in his life, instead of taking out wood from the forest, he prefers to come, sit,

and watch it grow. We thanked Russ for sharing his property, time and knowledge with us.

Although we were tired and no serious inventorying was done at this site, a few new plants for the CKL FLORA Project were noticed by eagle-eyed botanists Charles Chaffey and Steve Smith: American Lopseed (*Phryma leptostachya*), Maryland Figwort (*Scrophularia marilandica*), and Autumn Olive (*Elaeagnus umbellata*), an introduced species. Now this group of trained and watchful eyes was done for the day. It had been a productive, entertaining and instructive day. Thank you, Field Botanists, for giving the CKL FLORA Project a shot in the arm.

NEW PLANTS FOR THE FLEETWOOD NATURAL
AREA LIST FOUND BY FBO MEMBERS

Manitoba Maple *Acer negundo*
Rough Sedge *Carex scabrata*
Climbing Bittersweet *Celastrus scandens*
Golden Saxifrage *Chrysosplenium americanum*
Long-spined Hawthorn *Crataegus macracantha*
Scarlet Hawthorn *Crataegus pedicellata*
Dotted Hawthorn *Crataegus punctata*
Dog-strangling-vine *Cynanchum rossicum*
Narrow-leaved Panicgrass *Dichanthelium linearifolium*
Rattlesnakeroot *Nabalus sp.*
Common Wood Sorrel *Oxalis acetosella*
American Lopseed *Phryma leptostachya* (needs to be confirmed)
Jack Pine *Pinus banksiana*
European Buckthorn *Rhamnus cathartica*
Staghorn Sumac *Rhus typhina*
Smooth Rose *Rosa blanda*
Bebb's Willow *Salix bebbii*
Shining Willow *Salix lucida*
Meadow Willow *Salix petiolaris*
Early Goldenrod *Solidago juncea*
Arrow-leaved Aster *Symphyotrichum urophyllum*
New York Fern *Thelypteris noveboracensis*
Little-leaved Linden *Tilia cordata*
Tower Mustard *Arabis glabra*
Hobblebush *Viburnum lantanoides*
Four-seed Vetch *Vicia tetrasperma*
Marsh Blue Violet *Viola cucullata*

For more information on the City of Kawartha Lakes
FLORA Project visit:
<http://www.kawarthafieldnaturalists.org/CKLFlora.php>



Anne Barbour

**A Botanical Tour of Murphys Point
Provincial Park
June 26th, 2011**

Drive into Murphys Point Provincial Park and you quickly get a sense of the forested landscape that lies next to Big Rideau Lake, a large lake in eastern Ontario that forms part of the Rideau Canal system. Our leader on this FBO outing, Eleanor Thomson, provided us with an introduction to this beautiful park and its flora. Eleanor works as a botanical consultant, is an active member of the Ottawa Field Naturalists, and is very knowledgeable about the plants of eastern Ontario. Our walk was on the poetically named Sylvan Trail, which passes through deciduous and mixed forest, past a variety of wetlands, across streams, and through rock barrens.

Murphys Point (no apostrophe) Provincial Park is a Natural Environment class park situated on the Frontenac Arch. The Frontenac Arch is the area where the Precambrian bedrock of the Canadian Shield dips down through southern Ontario and connects with the Adirondack Dome. Because of the proximity of the bedrock to the surface and the thin layer of overburden, this area was less useful for agriculture than areas to the east or west and consequently has greater natural cover than the surrounding areas. The arch isn't all granite; it has in places overlying sedimentary rock and metamorphosed sedimentary rock such as marble, interspersed with granite and closely related species, including the metamorphic gneiss. This complexity of geology leads to a diversity of plants and animals occupying the different types of habitat available. A large portion of the Frontenac Arch has now been recognized as an International Biosphere Reserve due to its outstanding features and its role as a regional wildlife corridor. Murphys Point is known for providing habitat for a number of species at risk including the Gray Ratsnake and several turtle species, and it once supported the endangered and globally rare Ogden's Pondweed (*Potamogeton ogdenii*).

We started out in an intermediate-aged Sugar Maple (*Acer saccharum*) dominated woodland. Here, and elsewhere in the park, there is a diversity of deciduous trees; in addition to Sugar Maple, there is American Beech (*Fagus grandifolia*), American Basswood (*Tilia americana*), Ironwood (*Ostrya virginiana*), White Birch (*Betula papyrifera*), Black Cherry (*Prunus serotina*), Red Oak (*Quercus rubra*), and Bitternut Hickory (*Carya cordiformis*). Eleanor pointed out many of the herbaceous plants beneath the trees: Graceful Sedge (*Carex gracillima*), with its arching inflorescences, Rosy Sedge (*Carex rosea*) (part of the difficult *Carex rosea* group, identified by the star-shaped arrangement of its perygynia

and tightly curled stigma), Long-stalked Sedge (*Carex pedunculata*) (shiny red bases, narrow leaves, flowers already lost), Virginia Waterleaf (*Hydrophyllum virginianum*) and Broad-leaved Sedge (*Carex platyphylla*). The flowers of the latter were gone but it could still be distinguished by the whitish basal leaf sheaths and the wide, glaucous leaves. The area near the trail was not free of invasive species such as European Buckthorn (*Rhamnus cathartica*), Common St. Johnswort (*Hypericum perforatum*), Oxeye Daisy (*Leucanthemum vulgare*), and Eastern Helleborine (*Epipactis helleborine*).



Northern Maidenhair Fern (*Adiantum pedatum*) – Mike McMurtry (MM)

We found the first, and perhaps the least common, of the many ferns that we were to encounter over the day: Ebony Spleenwort (*Asplenium platyneuron*). It was followed closely by Marginal Wood Fern (*Dryopteris marginalis*), Spinulose Shield Fern (*Dryopteris carthusiana*), Christmas Fern (*Polystichum acrostichoides*), Northern Maidenhair-fern (*Adiantum pedatum*), Lady Fern (*Athyrium filix-femina*), Sensitive Fern (*Onoclea sensibilis*) and Rattlesnake Fern (*Botrychium virginianum*). The flora of the forest was quite diverse, especially considering that most of the underlying bedrock was granitic, offering acidic and nutrient-poor conditions for plants. There were

pockets of sedimentary rock however, and so nutrients were more available than would otherwise be the case.

We noticed several woodland grasses: White-grained Mountain Ricegrass (*Oryzopsis asperifolia*), with the leaves being basal rather than on the stem, and Black-fruit Mountain Ricegrass (*Piptatherum racemosum*), with leaves along the stem. As we walked on, the forest transitioned to larger, older trees with more space between them, and large deadfall trees, including those blown over in a windstorm earlier this year. A small ravine was lined with Bulblet Fern (*Cystopteris bulbifera*), and both Wood Nettle (*Laportea canadensis*) and False Nettle (*Boehmeria cylindrica*) grew in close proximity, allowing a chance to compare these sometimes confusing species. A stand of Eastern Hay-scented Fern (*Dennstaedtia punctilobula*) was discovered. Unlike the stalks of other ferns, like Lady Fern and Ostrich Fern, the stalks of this fern do not grow in clumps, and the fronds feel soft to the touch. The shrub Eastern Leatherwood (*Dirca palustris*) was very common. In one place, Beaked Hazel (*Corylus cornuta*) grew beside the path, with the fleshy involucre fully formed. Another fern, Common Polypody (*Polypodium virginianum*), was identified by our leader, and one participant misheard the name as “Port-o-potty Fern”. For the rest of the day it was referred to as the Port-o-potty Fern.

We were visiting the park in the breeding bird season, and over the course of our walk, we heard the calls and songs of Pileated Woodpecker, Chestnut-sided Warbler, Black-and-white Warbler, Black-throated Green Warbler, Nashville Warbler, Ovenbird and Hermit Thrush.

A different array of plants was observed at a small lakeside wetland near the trail. Partridgeberry (*Mitchella repens*) (not usually a wetland plant but it seemed to be growing well on mossy hummocks) and Small Enchanter’s Nightshade (*Circaea alpina*) were in flower. (Southern Broadleaf Enchanter’s Nightshade (*Circaea lutetiana*) was also present elsewhere in the forest.) Bebb’s Sedge (*Carex bebbii*), Oak Fern (*Gymnocarpium dryopteris*), the non-native Yellow Iris (*Iris pseudacorus*), and the native Blueflag (*Iris versicolor*) were also present. Eleanor pointed out the floating Common Water-flaxseed (*Spirodela polyrrhiza*) and the extremely poisonous Bulb-bearing Water-hemlock (*Cicuta bulbifera*). The invasive non-native European Frogbit (*Hydrocharis morsus-ranae*), a species that is spreading rapidly in Ontario, was found here and in other wetland pools.

We stopped for lunch at a pleasant rocky opening providing a lookout over an inlet of Big Rideau Lake. A bullfrog provided bass accompaniment and a Black-and-white Warbler the treble while we ate. After enjoying

lunch and conversation, our attention turned to plants of rock barrens. Examples at hand were the grasses Poverty Oatgrass (*Danthonia spicata*), the elegant Crinkled Hairgrass (*Deschampsia flexuosa*), as well as Low Sweet Blueberry (*Vaccinium angustifolium*), and Pale Corydalis (*Corydalis sempervirens*). Other species we saw in semi-open rocky habitat were Bearded Shorthusk (*Brachyelytrum erectum*), Barren Strawberry (*Waldsteinia fragaroides*), Woodland Strawberry (*Fragaria vesca*), Pennsylvania Sedge (*Carex pennsylvanica*), Slender Wheatgrass (*Elymus trachycaulus*), and White Oak (*Quercus alba*). This locality is near the northern limit of White Oak in this part of Ontario, however the species does extend further north along the Ottawa River.



Holly Bickerton, Larry Lebert and Eleanor Thomson at Murphys Point – MM

In places, the striations from the grinding action of a glacier were apparent on the rock surfaces. There were some large, weathered White Pines (*Pinus strobus*) at the margins of the rock barrens with Pine Warblers singing at the top of the canopy. Several of these large trees had been snapped off above head height by the wind earlier in the spring. Dragonflies and butterflies were abundant in this area and Eleanor was graced when a large dragonfly alighted on her nose (see photo). It was later identified as a female Slaty Skimmer.

We encountered several interesting wetlands on the return loop of the trail, one with Fowl Manna-grass (*Glyceria striata*), Marsh Fern (*Thelypteris palustris*) and Spotted Jewel-weed (*Impatiens capensis*). American Cow-wheat (*Melampyrum lineare*) grew at its margins and, unfortunately, European Frogbit on the water surface. Black Holly (*Ilex verticillata*) in flower dominated one portion of the wetland.

Portions of the latter part of the trail had a high proportion of Eastern Hemlock (*Tsuga canadensis*), a species that provides hikers and wildlife with shelter during a rain or snowstorm. Swampier areas had Yellow Birch (*Betula allegheniensis*) and Black Ash (*Fraxinus nigra*). We passed a young American Basswood filling an opening in the woodland with dinner plate-sized leaves responding to the available sunlight.

Nearing the end of the trail, we found a swamp dominated by Buttonbush (*Cephalanthus occidentalis*). This plant community type is tracked by the Natural Heritage Information Centre. The edges of the wetland contained Three-fruited Sedge (*Carex trisperma*), separated from *C. disperma* by the longer bract subtending the inflorescence, American Elm (*Ulmus americana*) and Black Ash. We debated whether some of the larger trees could be Red Ash (*Fraxinus pennsylvanica*), but the evidence of 7-11 stalkless leaflets, hairs at the junction of leaflet and leaf stalk, and scaly bark all pointed to Black Ash. Younger Black Ash have thick bark with a corky texture.



A dragonfly alights on Eleanor's nose – Rod Lee

We thanked Eleanor for sharing her expertise with us and introducing us to a wonderful Provincial Park. Some members then proceeded to the Purdon Conservation Area, northwest of Perth, for a show of Showy Lady's Slipper (*Cypripedium reginae*), and some headed home. 🍄

Mike McMurtry

the duff layer

Koffler Scientific Reserve Nature Walks and Workshops

Koffler Scientific Reserve at Joker's Hill (King Township) organizes and offers events targeted toward natural and botanical interests throughout the year. The Nature Walks are free, and led by University of Toronto researchers in ecology and biology. The one-day workshops are taught by local experts, cost \$60, and include lunch. For registration and more information, visit <http://ksr.utoronto.ca> or email ksr.info@utoronto.ca

Mushrooms on the Moraine, Late Summer Workshop

Richard Aaron: September 10, 9:30 am – 5 pm

Learn to identify many of the fascinating mushrooms and other fungi found at this time of year on the Oak Ridges Moraine. The first part of the day will consist of a guided walk and gathering specimens, after which we will return to the classroom to identify our fungal finds. Discussions throughout the day will range from fungal natural history and ecology, to various uses and deciphering of the scientific names. Each participant will receive a species checklist plus an extensive list of resources. Bring any field guides you have. Suitable for all levels of experience. For more information on Richard Aaron, visit <http://natureknowledge.weebly.com>.

Maximum: 16. Registration opens August 15, 2011.

Autumnal Birds Nature Walk

Jason Weir: September 17, walks at 11 am and 1:30 pm.

Fall is an important season for birds as they ready for winter's long journeys or harsh weather. Find out how different species spend the final days of summer with Dr. Jason Weir, bird expert and evolutionary biologist from UTSC.

Free. Registration opens August 15, 2011.

Mushrooms on the Moraine, Late Season Workshop

Richard Aaron: October 8, 9:30 am – 5 pm

Learn to identify many of the fascinating fungi found at this time of year on the Oak Ridges Moraine. Join a guided walk to gather specimens, and then identify your fungal finds. Discussions will range from fungal natural history and ecology, to various uses and deciphering of the scientific names. Suitable for all levels of experience. The Sept 10 and Oct 8 workshops may be taken separately, or combined as a way to build on your knowledge. For more information on Richard Aaron, visit <http://natureknowledge.weebly.com>.

Maximum: 16. Registration opens September 15, 2011.

Dr. Jim Pringle - 2011 Goldie Award Recipient

The Field Botanists of Ontario are pleased to announce that the winner of the 2011 John Goldie Award is Dr. Jim Pringle from Royal Botanical Gardens. The award will be presented at the organization's AGM on September 10 in Simcoe. A more complete recognition will appear in the next newsletter.



Fabulous Fall Fungi



Discover the wonderful world of mushrooms and other fungi in this three-day workshop. Hands-on identification, plus discussions on ecology, uses and etymology. Small class size (max 12 students). Dates: Sept 28-30, 2011. Cost: \$250; includes tuition, meals, accommodation, use of lab space & microscopes. Location: Queen's University Biological Station. Details: www.queensu.ca/qubs. Instructor: Richard Aaron (natureteacher1@gmail.com).

Botanical Roots

Some Historical Considerations for the Lake Superior Region

Anyone that has had the opportunity to travel along the east shore of Lake Superior, specifically between Sault Ste. Marie and Wawa, is travelling not only through some of the most magnificent scenery that the Province of Ontario has to offer but also through a very dramatic history as well. The area has some of the oldest exposed

rock on the planet at 2,340,000,000 years old at the Agawa Bay Scenic Lookout, as well as an extremely complex geological history involving Achaean volcanic and granitic rock formations. Such geology will have a significant role in determining the flora that can develop on any given site; however, more recent geological events will have an even greater role. Although it has been nearly 10,000 years since the last ice disappeared, by comparison the latest period of glaciation is a mere youngster. That glaciation removed any traces of previously existing soil, reshaped the surface rock topography, and left deposits of sand and boulders that, in combination with climate, has profoundly affected the flora of the region.

The process by which the ice from the last glaciation was lost was anything but a simple melting process. Huge pools of water formed at the receding edges of the retreating glaciers. Probably the largest freshwater lake that has ever existed was Lake Agassiz. At five hundred thousand square kilometres in area, it covered most of Manitoba, a large part of Northwestern Ontario and sizable parts of adjoining political jurisdictions. The lake never was in one fixed location or size for long but kept moving along with the edge of the retreating ice. As the ice retreated, it slowly uncovered a succession of lower and lower elevations where the water from the lake found new outlets to the rivers flowing into the oceans surrounding North America. Sometimes, the sudden uncovering of new outlets led to catastrophic outflow events from the lake. An allied lake in the glacial history of Lake Agassiz was Lake Minong that covered a large portion of the eastern part of the current Lake Superior. At times, the two were connected.

Although it was much smaller than Lake Agassiz, Lake Minong was still large enough to exhibit a similar shifting pattern in locations of its outflow channels. To date, studies of the history of these lakes and some others such as Lake Barlow-Ojibway have provided a number of paleogeologists with research projects and employment. Many more similar careers will yet be spent before all of the positions shifts and outflows from all of the lakes have been fully determined. One additional complication for those studying the history of the glacial lakes is the fact that the level of the ground surface (as well as former outlet channels) keeps changing owing to isostatic rebound as the ice retreated. Readers need not worry about having a complete and detailed history of the area as long as they can understand that many complex changes in drainage water flows have taken place since the ice last covered the land.

Returning to the topic of Lake Minong, the water level of that lake was substantially higher than the present level of Lake Superior. This is evident as beaches raised well

above the present Lake. Of note is a series of abandoned raised cobble beaches near Montreal River Harbour (Figure 1). These are visible directly opposite the Northgate Service Centre on the west side of Highway 17 that cuts through the edge of the deposit. They were created on the shore of Glacial Lake Minong approximately 9,500 years before present. The raised beach site is located about 60 meters above the present Lake Superior indicating how far the water level had receded since the time of Lake Minong. The beaches appear as long wavy ridges of small boulders that lack vascular vegetation because there is almost no fine soil materials in which such plants can develop roots. On the other hand, the rocks offer an excellent substrate for many lichens and mosses. This raised beach site has been protected as the Montreal River Nature Reserve under the Provincial Parks Act. The site is easily accessible to the public but no one is there to patrol and protect the site. Although the number of visitors to the site is likely to be minimal, they should be discouraged from walking on the site that could damage the lichen growth or from removing any of the boulders.



**Relict cobble beach at Montreal River on Highway 17
August 18, 2010 – W. D. McIlveen (WDM)**

If one knows where to look, similar beach ridges and flats can be discovered at other inland locations along the coast. One such place is at Wawa (Figure 2). These are often obscured by the forest cover that often includes pine (Red, White, or Jack), White Spruce, Paper Birch, or Aspen. At

sites further south, Sugar Maple or Yellow Birch might be present.

It must be noted that the proximity of Lake Superior has a profound influence on the flora present along the shore. With such a huge mass of water, the water temperature does not fluctuate greatly across the seasons except in some shallow bays. Cold or cool conditions prevail, as any dip in the lake water will tell. This keeps the surrounding air temperature relatively cool in summer. Heavy snows are still common due to lake effects. Due to the great, unbroken reaches, winds can affect the manner of plant growth near the shore. These cool conditions in proximity to the lake have made it possible for disjunct arctic-alpine plant species to grow. As global warming advances though, the continued existence of some of these plants is placed at risk. Already, it has been noted that fogs associated with the lake (Figure 3) used to be a rather common occurrence but, in recent years, this has ceased to be the case. In contrast to the long period that was consumed in creating the wonderful place that is the Lake Superior Region, the activities of the young upstart humans spreading into the area are poised to quickly undo what it took Nature millennia to produce. ❄️

W. D. McIlveen



Fog from Lake Superior along Highway 17 north of Sault Ste. Marie, May 15, 1989 - WDM



View of Magpie River area. Relict beach level is at horizontal line at bottom of cloud shadow August 19, 2010 - WDM

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