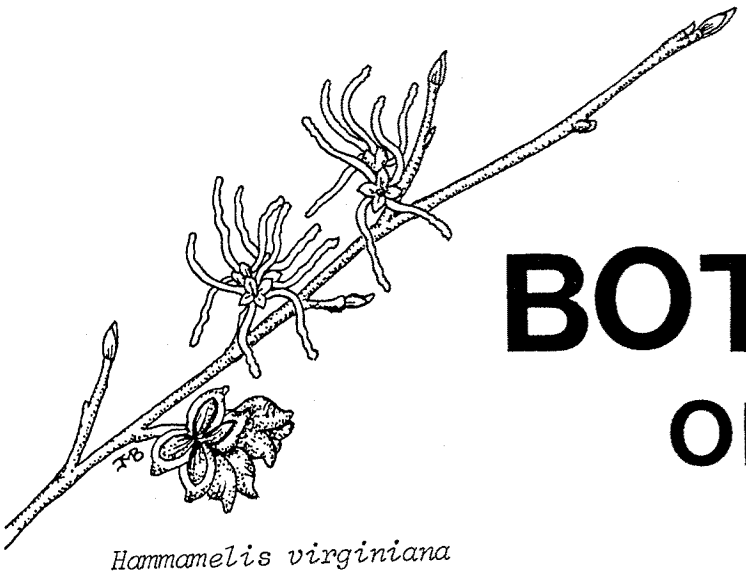


Hammamelis virginiana

FIELD BOTANISTS OF ONTARIO

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NEWSLETTER

Fall 1988

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NEWS AND VIEWS

We are always looking for material for the FBO Newsletter. This is your channel to botanical gossip in Ontario. If you have items of informtion, interest, critisism or concern which you wish to share with other FBO members through the Newsletter please send your material to:

FBO NEWSLETTER
c/o 45 Massey Drive
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McDONALD'S CORNERS

The recent purchase of a small wetland by the Mississippi Valley Conservation Authority has put the hamlet of McDonald's Corners on the map. Located about 80 Km. southwest of Ottawa, the property was purchased as a result of its unique botanical interest. In this case it was not because of the rarity of a plant species, but because of its abundance. Each June, 16,000 showy lady's slippers (*Cypripedium reginae*) can be found in full flower at this location, probably the largest aggregation of this species in Canada.

With the help of a grant from the Nature Conservancy of Canada the Mississippi Valley Conservation Authority purchased the land in 1984 and officially opened the Purdon Conservation Area in 1986. A wooden staircase and a 300 m board walk have now been constructed to allow ready access to the orchids and minimize damage from trampling.

There can be few other publicly owned tracts in Ontario which have as their main attraction a single species of herbaceous plant. The possibilities for other similar sites are exciting.

We would be delighted to see a directory started of peak flowering dates and places of other unusual plant aggregations in Ontario. This has potential as an interesting cooperative venture for a naturalist group like the FBO with a small, but committed membership.

If you know of a high concentration of a particular plant species and would like to share your knowledge with other FBO members, let us know.

ONTARIO'S OLDESTS TREES

The front page of Canada's national newspaper (The Globe and Mail) for Wednesday September 7, 1988 carried the exciting news of the discovery of eastern white cedars (*Thuja occidentalis*) up to 700 years old in Ontario. The trees, which are amongst the oldest in North America, grow in cracks in the limestone cliffs of the Niagara escarpment in the Kelso Conservation Area near Milton. They were discovered and aged by Douglas Larson, an assistant professor of Botany at the University of Guelph.

The Globe and Mail report descibes the trees as "up to seven metres tall, about half the normal height for that species, which under optimal conditions normally lives up to 80 years."

The escarpment habitat provides refuge for several unusual species of limestone requiring ferns and flowering plants. Perhaps it is not very surprising that cedars should attain a distinguished age in an environment protected from man by its inaccesibility, but the extreme age of 700 years, and the fact that the trees have grown so slowly, is incredible.

The trees are stunted and deformed and seem to be barely alive at first glance. Because they are so rare, Dr. Larson is concerned that they may entice hikers and rock climbers who could inadvertently or deliberately damage them. The Halton Region Conservation Authority is well aware of the sensitive nature of the cliff dwelling trees and hiking trails may be rerouted and rock climbing restricted if the trees are threatened.

ALGONQUIN WEEKEND

Whenever I read Walt Whitman I wonder if he had been born one century later he might have teamed up with Carlos Linnaeus the Swedish father of taxonomy to write more on the three kingdoms of nature - plants, animals and minerals! Walt Whitman, the 19th Century American poet probably best known for his "Leaves of Grass" also wrote the poem "There was a Child Went Forth". In part it says:

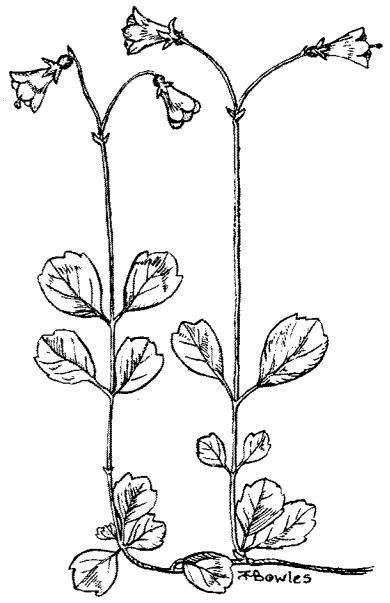
There was a child went forth
every day,
And the first object he look'd
upon, that object he became,
And that object became part of
him for the day or a certain
part of the day,
For many years or stretching
cycles of years.

The early lilacs became part of
this child,
And grass, and white and red
morning-glories, and white
and red clover, and the song
of the phoebe bird...
And the fish suspending them-
selves so curiously below
there, and the beautiful
curious liquid,
And the water plants with their
graceful flat heads, all
became part of him.

On our Algonquin weekend June 17, 18 and 19 there was plenty of opportunity to reflect on both of these famous fathers. The walk was short, but the vegetation was exciting because it was so varied. The beech ferns (*Thelypteris phegopteris*) and intermediate and evergreen ferns (*Dryopteris intermedia*, *D. carthusiana*) were lush and green and we also talked about the rare Algonquin fern. Twisted stalk (*Streptopus amplexifolius*) and wild sarsaparilla (*Aralia nudicaulis*) were scattered along the trail.

Michael Runce took us through this trail, at the back of the Algonquin Museum, on the Saturday - he found for us twinflower (*Linnaea borealis*) in full bloom. That was only part of the exciting afternoon. We tasted Indian cucumber root (*Medeola virginiana*) and under a group of black spruce we came across a colony of greenish flowered pyrola (*Pyrola virens*) just after seeing the biggest round leaved sundew (*Drosera rontundifolia*) that I had ever seen, which Michael took off a log in the wet area below.

We found one moccasin flower (*Cypripedium acaule*) still struggling to bloom, but very close by were two groups of large coral root (*Corallorhiza maculata*) growing out from under rotted logs. Further along we identified "moose nuggets" for the first time.



Linnaea borealis

Michael said they were good for making earrings - and it was surprising how many people did pick them up! Considering the lack of rain the Canada mayflower (*Maianthemum canadense*) was widespread throughout the area as was the wood sorrel (*Oxalis montana*). We were walking on a carpet of thick moss instead of wading through two feet of water and when we did come across a stream the wooly blue violets (*Viola sororia*) were in abundance on the banks. Michael pulled up goldthread (*Coptis groenlandica*) to show the gold colour of its underground stem. This plant has a legend of the Indians using the "gold thread" to embroider. And Solomon's seal (*Polygonatum*) rhizome, according to the 16th Century herbalist John Gerard, was a panacea for cuts, wounds and bruises. The plant roots do contain a substance called allantoin which, when derived from other plant sources, is used in modern medications for the external treatment of wounds and skin ulcers.

On Sunday, when we went around Lake Nora with Jim Wilson, for a novice like me there were a lot of firsts - and not all flora either. Would you believe a wood frog? (He had a chocolate brown stripe around the side of his face.) He was found in a stand of cinnamon fern. The tree frog, (found in a stand of royal fern) according to Jim is an acrobat and is identified by the pale yellow patch under his eye. To top it off, a ruffed grouse family ran in front of us - the male fanned his tail and stomped up and down on the rock face, in any language the message was to get lost. We left quickly. The red eyed vireo seemed to be following us around the lake and when we stopped at the "Lauren Harris painting" of stilled waters with stark stumps, huge boulders and a backdrop of steep rock, a red shouldered hawk flew over.

We had come through a thick patch of mosquitoes and suddenly we were totally free of them as there were thousands of dragon flies skimming over the water. We had stopped earlier on to examine the lake bank where 700 varves had been counted, each varve representing one year, and so we were looking and touching an undisturbed section of nature 700 years old. It was a bit awsome.

Honeysuckle seemed to be everywhere: *Lonicera canadensis*, *L. oblongifolia* and *L. sempervirens*. We also saw bristly sarsaparilla (*Aralia hispida*) and more pyrolas (*Pyrola secunda*, *P. elliptica* and *P. rotundifolia*) - all within a 100 feet of each other. The striped maple (*Acer pensylvanicum*) was throughout and evidently a favourite food of the deer and moose, still lots left though. We had time to examine partridge berry (*Mitchella repens*) closely to see the two ovaries that fuse to become one fruit, and to listen about de Wit Clinton the Governor of New York who was a naturalist and how bluebead (*Clintonia borealis*) was named after him. A group member pointed out fringed bindweed (*Polgonum cilinode*) -only found in woods -another first for me. The sad part was to see how the lichen *Cetraria islandica* on the rock formation was so dried up, partly due to acid rain and partly due to lack of rain. The rock formation and the age of glacial rocks all around Lake Nora are separate stories unto themselves, and even more

so why the ferns, cedars, silver birch and lichen find it a home.

Throughout our field trips on Saturday and on Sunday it was evident the vegetation was suffering from the forest caterpillar, tent caterpillar, acid rain and drought. Considering the heat and these latter three negatives we were lucky to see what we did, have the opportunity to learn, swim in Lake Nora and be in good company, and as Walt Whitman ends his poem ...

These became part of that child
who went forth every day,
and who now goes, and will
always go forth every day.

Elizabeth Syrett
August 10, 1988

HERPETOFAUNAL SURVEY

The Ontario Herpetofaunal Summary (OHS) is a volunteer project to collect information on the distribution, abundance and ecology of reptiles and amphibians in Ontario.

Since it began in 1984 over 350 contributors have recorded thousands of sightings of 47 species in the province.

The OHS is partly modelled after the highly successful Ontario Breeding Bird Atlas project, using 10 Km. squares, based on the UTM grid, for gathering data. At the end of each year a report is prepared mapping and summarizing records received for that year. These reports are printed and sold to contributors and other interested individuals and agencies.

As a number of FBO members have contributed to this atlassing project, or do some frog watching on their botanical forays, we thought a brief update might be of interest.

FBO member Michael Oldham who is presently coordinating the project advises that over 7000 records were submitted in 1987 and more than that have already been received this year. This is the fifth year of the project, and the goal is to keep it going for a few more years before publishing one big summary if funding permits. The 1986 summary should be out shortly, with the 1987 summary following at the beginning of next year.

The results for 1988 have not been tabulated yet, but the good news is that there were more sightings (20) of the endangered blue racer (*Coluber constrictor*) than in previous years. The bad news is that Blanchard's cricket frog (*Acris crepitans* spp. *blanchardi*) was unrecorded this year in Ontario.

Requests for blank record cards, previous reports and additional information should be addressed to M. Oldham at:
Ontario Herpetofaunal Summary,
c/o O.M.N.R.
P.O. Box 5463, LONDON,
Ontario N6A 4L6

RED RIVER GORGE, KENTUCKY

About a seven-hour drive from the Ontario border is an area in which many of our rarest plants grow in unabashed proliferation.

On this past Victoria Day weekend Bob Curry, Sid Daniels, George Meyers and George Bryant set out on what was originally planned to be a "herp" (reptiles and amphibians) photography expedition.

Acting on suggestions obtained from local naturalists, we drove to Red River Gorge State Park, part of the Daniel Boone National Forest, near Louisville, Kentucky.

As is often the case, when we emerged from our vehicles at 5 am in a distant location we immediately encountered a variety of new and exciting plant and animal species. The chant of a whip-poor-will reverberated from a concealed cave entrance. Seal salamanders leapt under rocks in wet seeps and an adult box turtle took refuge at the base of the gorge wall.

What we were most conscious of as the morning wore on was the variety and advanced growth of the plant species.

Despite our sincere efforts to concentrate on herps we were several times distracted by botanical discoveries. Flame azalea (*Rhododendron calendulaceum*), great rhododendron (*R. maximum*) and mountain laurel (*Kalmia latifolia*) were in full flower. In the oak woods we found great patches of spotted wintergreen (*Chimaphila maculata*) as well as the burgundy basal leaves of cranefly orchid (*Tipularia discolor*). A deep hollow yielded white (not yellow) Clintonia (*Clintonia umbellulata*), perfoliate bellwort (*Uvularia perfoliata*), crested dwarf iris (*Iris cristata*) and two-flowered Cynthia (*Krigia biflora*), this last identified, as the name suggests, by its two flowers. Found growing on a rocky slope was the brilliant fire pink (*Silene virginica*). Other plants of interest were wild stonecrop (*Sedum ternatum*), Culver's root (*Veronicastrum virginicum*), rattlesnake weed (*Hieracium venosum*) and cross vine (*Bignonia capreolata*).

With George Meyers able direction a tree list of 89 species was compiled. Highlights included twelve oaks -white, burr, post, chestnut, swamp white, chinquapin, northern red, black scarlet, pin, shumard and shingle (*Quercus alba, Q. macrocarpa, Q. stellata, Q. prinus, Q. bicolor, Q. muhlenbergii, Q. rubra, Q. velutina, Q. coccinea, Q. palustris, Q. shumardii, Q. imbricaria*), five hickories - shagbark, shellbark, mockernut, pignut and sweet pignut (*Carya ovata, C. lacinosa, C. tomentosa, C. glabra, C. glabra* var *megacarpa*) and four pines - white, shortleaf, virginia and pitch (*Pinus strobus, P. echinata, P. virginiana, P. rigida*). As well, many Carolinian species which only just make it into Ontario were observed in abundance, for example cucumber tree (*Magnolia acuminata*), tulip tree (*Liriodendron tulipifera*), pawpaw (*Asimina triloba*), sassafras (*Sassafras albidum*), sweetgum (*Liquidambar styraciflua*), redbud (*Ceris canadensis*), Kentucky coffee tree (*Gymnocladus dioicus*) honey locust (*Gleditsia triacanthos*), black locust (*Robinia pseudoacacia*), Ohio buckeye (*Aesculus glabra*) and black tulepo (*Nyssa sylvatica*). Perhaps most impressive were the bigleaf magnolias (*Magnolia macrophylla*) with individual leaves almost one metre long.

The herpetofauna was also quite rewarding with a species total of 39 including a copperhead, the trip highlight, which was captured, photographed and released.

We were all very impressed with the Red River Gorge area and would highly recommend it as a place to visit. As an added bonus the area contains over 40 natural arches including the huge Natural Bridge of Kentucky. What impressed us about this particular attraction was the surrounding forest in which tulip trees with their unbranched trunks seemed to thrust through the canopy and carry on to the heavens.

George Bryant

EDIBLE PLANTS

DID YOU KNOW that there are more than five hundred thousand species of plants in the world and that, according to Noel Vietmeyer writing in "Horticulture" (1983, Vol. VXI(4)), about 80,000 of these are thought to be edible or have edible products? Yet only a fraction of these, about 100, yield significant harvests. Most of the world's staple food comes from a much smaller number of species in even fewer families. The cereals (such as wheat, rice, corn, millet and sorghum) are all grasses (POACEAE) while legumes (such as beans and peanuts) are in the FABACEAE. In addition there are several important root crops such as potatoes, yams, sweet potatoes and cassava in different families. A few other crops such an sugar beet, sugar cane, coconuts and bananas are of major economic importance.

Most food crops were domesticated long before recorded history. In spite of great sophistication in plant breeding and advances in genetics over the last few hundred years, a mere handful of plants are new to world as crops. Of these, most are fruits and nuts such as boysenberries, cranberries, kiwi fruit, macademia nuts and pecans, but they also include the rutabaga, which is probably a hybrid between a cabbage and a turnip and seems to have originated in Europe during the middle ages.

FOREST DECLINE CONFERENCE

Although the causes and effects of forest decline are not definitive, it is clear that the health of some forests has deteriorated substantially in recent years. Field botanists have been aware of this serious problem for some time, but to the general public it has only become common knowledge in the past few months.

With this in mind, the following conclusions, albeit tentative, of the Forest Decline Conference held in Toronto on August 8-11, 1988 will be of interest to members.

(1) Forest decline is a multnational problem. It is well documented in many European countries and in North America.

(2) Forest decline affects multiple tree species within any given forest suffering decline. That is, it is not nearly as species specific as certain elements of forest decline, such as insect depredation.

(3) At present, forest decline is affecting:

i. Hardwood tree species, for example sugar maples in Quebec and Ontario; and

ii. conifer tree species at high altitudes, for example in the Black Forest of West Germany and on mountain slopes and tops in the eastern United States.

(4) Forest decline is believed to be caused by a multitude of factors. It is agreed that air pollution, especially by acidic compounds, is believed to be the driving force.

(5) Forest decline has been accelerating over the past decade and is rapidly expanding geographically.

(6) There is an urgent need for action to prevent further forest decline:

i. Diagnostic fertilization of certain forest plots is often a useful interim solution for forests of value, but should be viewed only as a short-term solution since it treats the symptoms of forest decline rather than the causes;

ii. Further reduction "at source" of air pollution using the best available control technology (BACT) should be implemented as soon as possible in all jurisdictions.

ISLANDS OF GREEN

Hilts, S., M. Kirk and R. Reid (Eds.) 1986. Islands of Green. Natural Heritage Protection in Ontario. Compiled for the Natural Heritage League, Ontario Heritage Foundation, Toronto. pp. 200.

This packed guide covers a variety of topics related to natural heritage protection, from the philosophy of conservation to practical instruction on the approaches to obtaining protection for natural areas.

A generous number of examples, case histories, maps, air photos and colour plates illustrate chapters on gathering information, strategies for protection, and obtaining support from public agencies. A succinctly annotated list of over three dozen protection agencies is given. Another chapter deals with understanding municipal land use planning, including Official Plans, Zoning Bylaws, presenting cases to local government and the role of the Ontario Municipal Board.

Two additional sections explain land use planning on Crown Land and stewardship planning which covers both private stewardship and public nature reserves.

A further 25 brief case histories are presented in the final chapter in which designated natural areas are grouped under the procedures applied to secure them. Tragically, this list includes areas for which the cause was lost.

Among the appendices is a long and very useful list of addresses of Conservation Organizations.

It is not often that one finds such a mine of information packed into such a small space and so easy to read and access. This guide is an invaluable reference for any individual concerned in conservation issues and essential to anyone setting out to save or protect their particular "island of green".

Enquiries about this book should be addressed to:

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77 Bloor Street West
TORONTO, Ontario
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(416)-965-5727