TORONTO FIELD NATURALISTS' CLUB NEWSLETTER

F·O·N· ANNUAL MEETING APRIL 1969

WELCOME TO ONTARIO'S NATURALISTS!

This Edition of the Newsletter is devoted mainly to articles about the natural scene around Metropolitan Toronto. We hope that it will open the eyes of our own members to the many opportunities to observe nature which are close at hand, and that it will reveal to our Federation of Ontario Naturalists friends from across the province that Toronto is not completely a wasteland from the naturalist's point of view.

Our warmest thanks go to the contributors who have made this special issue possible. We hope it serves as a fitting reminder in the years to come of this F. O. N. Annual Meeting.

E. T.

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SOME NOTES ON THE NATURAL HISTORY

of

THE TORONTO REGION

By PAUL CATLING

In the ensuing paragraphs, I have attempted to describe three of the rather exotic ecosystems to be found in the vicinity of Toronto. By exotic, I mean strikingly different from the other wild parts of the region. The latter is defined as that area lying within a thirty mile radius of the Royal Ontario Museum. This was first conceived as an ornithological study area by L. L. Snyder and J. L. Baillie, and became the basis of the museum's bird checklist. It has since been used as a definition for the Toronto District in many natural history surveys.

The following, based on my own experience and what I have read, is not intended to be a complete appraisal, but rather a brief and simple explanation of what is, or was, somewhat unique. I have included a list of selected references for those who wish to pursue the subject further.

Scientific names of plants are taken from Gleason and Cronquist, Manual of Vascular Plants, 1963. I thank Mr. J. L. Baillie, assistant curator of ornithology at the Royal Ontario Museum, for the use of his personal records and library. My thanks also to Dr. J. E. Cruise, professor in the Department of Botany, University of Toronto, and curator of the herbarium (T.R.T.) from which much of the information on distribution of plants was obtained.

(A) THE NIAGARA ESCARPMENT

The escarpment may be represented by a discontinuous line through the western part of the region, **(see Map 2), The discontinuity is a result of the glacial till which overlies the cuesta in many places. The alkaline bedrock is prominently exposed, as precipitous cliffs at Mt. Nemo, Rattlesnake Point, Milton Heights, and Kelso Bluff, and as lesser cliffs and wooded talus near Terra Cotta, Limehouse, Cheltenham, and Inglewood. At Forks of Credit, the Credit River has eroded deep valleys, creating a relief unparalleled anywhere in the region. This locality, ($\frac{1}{2}$ mile outside the district), is mentioned here only because the writer has developed a special fondness for it through years of visitation.

The uniqueness of the escarpment is threefold. It has obviously hindered transportation routes, and accounts for a topography unsuitable for farming. As a result, there are large forested tracts, usually surrounded by the flat, sparsely wooded farmlands. This is particularly apparent on some topographic maps, e.g. 30 M/12 West, where, on a basically white sheet, a ribbon of green consorts with the contours that delineate the escarpment. Secondly, it is along this physical feature where the only significant rock cliffs in the region are are located. And finally, associated with this exposure of bedrock, the only calcareous soils.

A number of plants, especially calciphile ferns, are confined to this small area of the district. The Walking Fern, Camptosorus rhizophyllis, symbolic of the Bruce Trail, is quite frequent on mossy boulders of the wooded talus slope. Maidenhair,Spleenwort, Asplenium trichomanes, is found less frequently in moist seams of the bare rock where there is deep shade. As Metcalfe (4) remarks, "so far does it

** (Map 1 - Page 11, Map 2 - Page 12)

often recede into the limestone crevices where it loves to grow, that it could almost be called a cave dweller." The Green Spleenwort, Asplenium viride, a rarer boreal relative, is present at Credit Forks. Here I came upon it on 16 May 1966, while traversing that wooded gorge on the south side of the Credit between Belfountain and the Forks. The site was a north facing slope of very uneven terrain, with large protruding blocks, and deep crevices, which necessitated as much climbing as walking. Mature Cedars, the roots of which found ample foothold in the many cracks, provided a deep shade. This, and the porous nature of the limestone rock, constituted a rather moist condition. Here it was that viride grew, locally abundant, on the sides of deep vertical fissures, and in the seepage cracks of the protruding blocks. Another of this genus, the Ebony Spleenwort, Asplenium platyneuron, is known from Esquesing Twp. in Halton County. The Hart's Tongue, Phyllitis scolopendrium, is found in "crevasses of the limestone pavement, along the top of the escarpment at Mt. Nemo", and on the wooded talus slopes below the scarp near Cheltenham and Credit Forks. An excellent account of the distribution of this species in Ontario, is given by Soper (12). The Smooth Cliff Brake, Pellaea glabella, is partial to drier situations on the exposed cliff faces. Besides these localised species, the more common ferns are notably abundant, including Dryopteris sustriaca var., Dryopteris marginalis, Cystopteris bulbifera, and Cystopteris fragilis, which are commonly called Spinulose Woodfern, Marginal Shield Fern, Bladder Fern, and Fragile Fern, respectively.

The extensive forest tract associated with the escarpment in Halton County, contains one of the very few known colonies, in the province, of the West Virginia White Butterfly, Pieris virginiensis. According to Klots (A Field Guide To the Butterflies, 1958) "it is limited to woods (transition zone) and very local".

The scarp is most impressive at Mt. Nemo, Rattlesnake Point, and Milton Heights. Judging by the number of summer observations, these places have proved a suitable domain for Peregrine Falcons and Golden Eagles. A local farmer found Peregrines nesting on Rattlesnake Point in 1936. At Forks of Credit, "two were seen flying over the mountain" on July 12, 1931 by H. H. Brown et al., and a single bird was seen a week later by R. J. Rutter. Many other sightings during the breeding season are more recent. I have often seen Turkey Vultures soaring over the hills near Milton and Terra Cotta during the summer. A nesting site was found in a crevice cave on Rattlesnake Point, by Dr. G. K. Peck in 1963, and on 17 September 1966, J. G. Woods, H. Elliot, and the writer located a similar nesting site near Credit Forks (2 immature barely able to fly).

Of course, in mid September, one does not expect to find nests. The purpose of this visit was to view the migration of hawks, which, with the provision of suitable weather, may be a lasting impression. Eight species were encountered by J. Woods, B. Wilkes, and the writer, in mid September of the previous year. At one point, an Osprey, a Sharp-Shinned, several Broad-Winged, and a Red-Tailed Hawk, occupied the binocular field.

The mammalian fauna of the escarpment is also distinctive. Fracturing of the dolomite cap rock has created many crevice caves. Some of these are sufficiently extensive to have a microclimate (constant temperature approximately 40 degrees etc). Two species of bats, Myotis lucifugus, and Pipistrellus subflavus, have hibernated in a large cave on Mt. Nemo, described by Bateman (1). The many smaller crevices provide denning sites for Porcupines. This, and the extensive wooded tracts, probably explain their abundance along the escarpment, since they are uncommon in other parts of the region.

(B) THE CAROLINIAN AREA - Intrusions from the South

North America has been divided into a number of biotic provinces, or life zones, each of which has a characteristic association of plants and animals. Much of Southern Ontario is within the Alleghenian area of the Transition Zone. To the south of this lies the Carolinian area of the Upper Austral zone.

Although there is little argument concerning the existence of these zones, there has been much difference of opinion regarding their most precise limits. The initial work was based on isotherms (heat units). This has proven useful, but unsatisfactory. Limits of certain vegetation, seem to be the most accurate method of determining the extent of a zone. But even here, the existence of extensive blend regions, and the presence of disjunct areas outside an obvious zonal boundary, create some difficulty.

The Carolinian area of Ontario, is appropriately outlined by Fox and Soper (7). This boundary, reproduced in maps 1 & 2, is based on the natural distribution of 41 trees and shrubs in Southern Ontario. These 41 species are generally considered peculiar to the Austral zone, and from their restricted distribution patterns in the southern part of the province, an accurate boundary for the Carolinian area has been obtained. As is apparent from the map, the City of Toronto represents the northernmost extension of this area in Ontario.

Formerly, an extensive realm of Carolinian influence existed in the vicinity of High Park and the mouth of the Humber River. Only a few very small remnants of this unusual Prairie-Oak woodland condition now remain. One of these is to be found on the southwest facing slopes of a ravine at the north end of Grenadier Pond, in High Park. There are other areas of lesser Carolinian association in southeast Toronto.

One of the shrubs regarded as typically Carolinian by Merriam in 1898, and more recently, by Fox and Soper (7) in 1954, is the Sassafras, Sassafras albidum. What I suspect to be the northernmost indigenous stand in Ontario, is in Fallingbrook Woods, on the property of the Toronto Hunt Club, southwest Scarborough. Here it grows as a flat-crowned understory shrub in a mature Oak woodland. Some specimens reach tree proportions with a Diameter Breast Height (D.B.H.) of 12". Sassafras was probably a sub-dominant shrub in the Oak woods of the Beaches district of southeast Toronto. According to Fox (7), it occurred "west of Upper Balsam Avenue, near Kingston Road" and was "common in the Oak woods there in 1890".

Witch Hazel, Hamamelis virginiana, and Black Walnut, Juglans nigra, are also found in Fallingbrook. The latter reaches it's northernmost indigenous occurrence in the Toronto Region of Southern Ontario (Fox & Soper (7)).

It is unfortunate that more of the Prairie-Oak woodland habitat could not have been preserved. Sassafras and Black Oak, Quercus velutina, are still to be found in the High Park remnant previously described. Further information on the Carolinian flora of this area, may be obtained from articles by Fox & Soper (7) and Soper (13) & (14).

At one time High Park was blue with Lupines, Lupinus perennis, and this is of great importance to the lepidopterist, since the occurrence of a rare butterfly, the Karner Blue, Lycaeides melissa, is associated with this foodplant. The subspecies of the northeast (Ontario, New York, etc.) has been given the name samuelis by Nabokov. It was collected regularly in High Park and Lambton between 1890 and 1910. The year of the last collection in Toronto is probably 1920. A search conducted by P. D. Syme for the Lambton and High Park colonies in 1960, failed to produce any,

although Lupine was still present in both locations. (Ontario Field Biologist 16, Page 34).

Another butterfly, the Spicebush Swallowtail, Papilio troilius, was also formerly taken with some regularity in High Park and the Humber Plains, but to the best of my knowledge, there are no recent collections. This species of the Austral zones, feeds upon Sassafras and other southern plants. It probably disappeared when the extensive areas where this plant grew were reduced.

The Carolinian flora is centered around the lower Humber region, but southern species are found elsewhere in the Toronto district. Cottonwood, Populus deltoides, occurs on Toronto Island. A stand of the Swamp White Oak, Quercus bicolor, in the Don Valley, represents the northernmost point in the natural distribution of this tree in Ontario. (7)

The presence of the Carolinian area in the Toronto region probably has something to do with the sandy soils near to the lake. As Howe (5) page 98 observes, "the city of Toronto for the most part stands on light sandy soils deposited by the Iroquois stage of Lake Ontario, and the vegetation is characteristic of such soils. The trees are mostly Oaks and Pines ... North of the old Iroquois beach, the soil gradually becomes heavier, with an increasing clay content, and the Oak-Pine forest is replaced by a Beech-Maple forest."

Many other plants, although not Carolinian, have been found restricted to the dry sandy soils of this part within the region. Among these, Cranberries, Vaccinium corymbosum, vacillans and lamarckii were common on the Humber Plains. Blueberry, Vaccinium angustifolium; Sweet Fern, Myrica asplenifolia; and Trailing Arbutus, Epiges repens, are still to be found in the High Park vestige. Other unusual plant species persisting in the small sections of High Park, that are in a state of nature, are listed in the Checklist of Plants in Four Toronto Parks (3).

(C) THE BOGS OF OAK RIDGES - Boreal Islands

The Oak Ridges morraine, 20 to 30 miles north of Lake Ontario, extends approximately 110 miles, from Albion Twp. in Peel County to Brighton Twp. in Northumberland County, taking the form of an irregular east-west band, 0 - 20 miles wide (see map 1). In the vicinity of Toronto, it is perhaps 20 miles north of the lake and 10 miles wide (see map 2). A more detailed account is given by Chapman & Putnam (2).

An interlobate morraine, Oak Ridges is characterized by a very undulating countryside. Drainage is more or less impeded, and in many vales, lined with relatively impervious silt and clay, tends to collect and retain water. Small lakes, ponds, and swampy woodlands occupy these vales, more than a hundred of which are apparent on the north half of top sheet 30 M/14 West, varying in size from mere pools, to Wilcocks Lake, 2/3 miles long and 1/3 miles wide. Bond Lake, which causes a sharp turn in Highway 11 south of the town of Oak Ridges, is typical. In some of these low lying wet areas, especially where there is no outlet stream and a constant water level, an acid soil condition has developed. The floral and faunal constitution may resemble that of a typical northern bog. These boreal bogs occur in varying degrees of purity. In other words, any of these wetlands may exhibit any of the ecological conditions from a marsh - deciduous swamp, to a Tamarack - Black Spruce - Sphagnum quaking bog. An intermediate condition seems to be most common. True boreal bogs with a rich distinctive flora and fauna are relatively few. Those known to the

writer are: Heart Lake Bog near Snelgrove, Cold Creek Bog 2 miles northwest of Bolton, Pottageville Bog north of Pottageville, and Vandorf Bog east of that hamlet. Others are, or were, at Bond Lake, Wilcocks Lake, Kelley Lake, near White Rose, and outside the morraine area near Brampton, and in Swansea, west Toronto. (Pitcher Plants, Calopogon, and Pogonia Orchids were found in the latter location in 1894).

In the Bogs which I will discuss, certain characteristic species of the flora are essentially recurrent:- Tamarack (Larch), Larix laricina; Black Spruce, Picea mariana; Leatherleaf, Chamaedaphne calyculata; Labrador Tea, Ledum groenlandicum; False Solomon's Seal, Smilacina trifolia; Sphagnum sp., and the insectivorous Pitcher Plant, Sarracenia purpurea. Many of the other acid-bog species found in the region, are restricted to just one or two of the bogs mentioned.

These places should be visited only with the permission of the local owners.

Heart Lake Bog near Snelgrove

Located on the west side of the 2nd line 1/4 mile south of the 17th side road, this bog contains the only station of the Virginian Chain Fern, Woodwardia virginica, in the region. Here it was collected in 1901 and 1907 by J. White, and subsequently by H. H. Brown in 1931, 34, and 36. When I located this station (after much searching) in 1968, I found a thriving colony in springy sphagnous ground, associating with Leatherleaf, encompassing an area of at least an acre, where it was a principal part of the total vegetation.

From my notes of 4 August 1968 -

> "The bog, near to the west side of the road, consists of a pool surrounded on the north and east by marsh and deciduous thickets, and on the west by a crescent of Black Spruce and Tamarack. Outside this is a crescent of heath dominated by Chain Fern and Leatherleaf, which blends into marshy ground with much water arum, Calla palustris, to the northeast. Common Bladderwort, Utricularia vulgaris, is found in the pool, over which extends a quaking mat of vegetation. Pitcher Plants; Small Bog Cranberry, Vaccinium oxycoccos; Partridge-berry, Mitchella repens; False Solomon's Seal, Smilacina trifolia; Labrador Tea; and infertile specimens of the Chain Fern, grow in the Sphagnum beneath the Tamarack and Spruce. The depression occupied by the bog is approximately two acres in extent." . "

In my hasty survey of this area, I probably overlooked many other species worthy of note. The Pogonia Orchid, Pogonia ophioglossoides, was collected from this location in 1907 by J. White, and in 1940 by D. W. A. Roberts. Dwarf Mistletoe, Arceuthobium pusillum, a parasite of Black Spruce, has been found here also, as well as at the Wilcocks Lake and White Rose Bogs.

Pottageville Bog - north of Pottageville and 3-1/2 miles east of Schomberg in King Twp., York County.

As Snyder (11) p. 183 remarks, "the outstanding feature of King Twp. from the ecological viewpoint, is the presence of an extensive swamp, which in some parts, approaches rather typical bog conditions. It is probably due to the somewhat cooler temperatures which prevail in the swamp and bog, as compared with the surrounding area,

that certain species of plants and animals, the numerical centre of which is farther north, find this area a more or less suitable habitat."

The Pottageville Bog - Swamp complex was, at one time, continuous with similar areas to the north along the Holland River. However, it is now disjoined by the Holland Marsh farming district. The digging of drainage canals in the southern section of this district, over the past ten years, seems to have had a drying effect on the bog.

A floral description of a 19 acre representative area, of the bog habitat, is given by Goodwin (Ontario Field Biologist no. 14, 1960 p. 26). To this I would only add the following from my notes. 'Again reflecting the distinct nature of the Oak Ridges Bogs, this is the only locality in the region, where the Swamp Birch, Betula pumila, occurs. It is well established, in some parts of the open bog, forming low, dense thickets.' On May 25, 1968, the Bog Bean, Menyanthes trifoliata, was found abundantly in bloom, in marshy clearings of the Tamarack swamp. On 6 July, the Queen Lady-slipper, Cypripedium reginae, and the Yellow Lady-slipper, Cypripedium calceolus, were in anthesis. (Ed.-flowering). I found these orchids scattered and infrequent, but they were formerly abundant. A similar reduction in other bog flora, and invasion of weed species, may be related to the drying trend mentioned above. Other orchids noticed were, the Northern Green Orchids, Habenaria hyperborea, and the White Adder's Mouth, Malaxis brachypoda, in anthesis on 21 July and 3 August respectively.

Much of the fauna of this bog is decidedly northern. On 25 May 1968, I captured a rare and local butterfly, the Brown Elfin, Incisalia augustinus. This species is confined to bogs in Southern Ontario, but is more widely distributed in the north. It is also known from the Byron Bog near London.

A number of ornithological surveys have been conducted in Pottageville Swamp. The results of the first of these were published by L. L. Snyder (11) in 1930. Subsequently, the Toronto Field Biologist's Club made a breeding bird population study, from 1960 to 1964. (Ontario Field Biologist no. 14 - 18 inc.) Some of the birds indicated as 'known to nest in the Toronto area', on the R.O.M. checklist, have been found breeding only in this bog. Some of these typically northern breeding species are:- Lincoln's Sparrow, White-Throated Sparrow, Pine Siskin, Purple Finch, Northern Water-Thrush, Nashville Warbler, Golden-Crowned Kinglet, Winter Wren, and Red-Breasted Nuthatch. Summer observations of the Yellow-Bellied Flycatcher, Ruby-Crowned Kinglet, and Myrtle Warbler, suggest nesting, but as yet no definite evidence has been found (fide J. L. Baillie). The Lincoln's Sparrow, "established in and about clearings in the main swamp" (1930), seen feeding young, constitutes the most southerly breeding record for this species in Ontario. (Snyder 11).

Although not in Pottageville Bog, but in the vicinity, the Mink Frog, Rana septentrionalis, has been found. According to Logier (9) pp. 203 - 208, "this species seems to be not uncommon at Kelley Lake, where 31 specimens have been collected in the years 1927 to 1929." This northern frog has not been found much further to the south in the province.

Cold Creek Bog - within the Cold Creek Conservation Area 2 miles northwest of Bolton.

The Metro Toronto Region Conservation Authority, realizing the uniqueness and value of this bog, has undertaken a number of protective measures. It may be visited

only in the company of the Conservation Area Naturalist. Otherwise, special authorization is required from the Head Naturalist and the Area Superintendent.

A winding catwalk, approximately 1/4 mile long, makes it accessible for the scheduled week-end nature walks, and visiting school groups. This catwalk has been admirably placed without the removal of a single tree. And this is quite a feat, since the needle-shaped Spruces are often very close together. Much extra lumber has been used to circumvent towering Balsam Firs, and elsewhere the railings and boardwalk have been cut away to accommodate leaning trees. In these days when time and cost are of the essence, it is unusual to find a painstaking job done with such care and attention. Those concerned are to be complimented.

The writer has not yet explored this bog completely enough to present an accurate picture of its composition. It occupies a large area (many acres), most of which appears to be Balsam Fir - Black Spruce - Tamarack - Cedar Forest. The distribution of plants is made complex by the variable conditions of drainage. Streams - tributaries of Cold Creek - pass through the bog, usually 3' to 5' below its surface level. Adjacent to these is Cedar swamp. Large poorly drained areas support the sphagnous Spruce - Fir forest and scattered Tamarack. Some springs which originate in the bog reveal the underlying clay. Water from these springs moves slowly in reticulate patterns, before seeping into the main streams. The peat layer, on top of the solid bed of marl, is usually 2 to 4' deep.

In flower on 15 June 1968 were Early Coralroot, Corallorhiza trifida; Twinflower, Linnaea borealis; Dwarf Cornel, Cornus canadensis; False Solomon's Seal, Smilacina trifolia. One-Flowered Wintergreen, Moneses uniflora; Cranberries, Vaccinium sp., and Creeping Snowberry, Gaultheria hispida, were also noted. Other attractive plants occuring in this bog are: the Mocassin Flower Orchid, Cypripedium acaule; The Yellow Lady-Slipper Orchid, Cypripedium calceolus; Round Leaved Pyrola, Pyrola rotundifolia; and with tenacled, insect-trapping leaves, the Sundew, Drosera rotundifolia. Many of these plants are of the acid-bog type, e.g. Sundew, and typically boreal, e.g. One-Flowered Wintergreen.

Vandorf Bog - on the 6th concession approximately 2 miles east of Vandorf.

This location affords an excellent example of how a sphagnous mat of vegetation may extend out over open water. This quaking mat, on the southern and western sides of a small pond, is up to 30' wide and approximately 150' long. The open bog blends into a Tamarack-Cedar swamp.

This small area has a remarkably rich acid-bog flora. Both of the insectivorous species, Pitcher Plant, Sarracenia purpurea, and Round Leaved Sundew, Drosera rotundifolia, are abundant on the quaking bog mat, as well as the Calopogon Orchid, Calopogon pulchellus, noted in anthesis on 6 and 14 July. Other characteristic bog species are:- Bog Bean, Menyanthes trifoliata; False Solomon's Seal, Smilacina trifolia; Small Bog Cranberry, Vaccinium oxycoccos; Laurel, Kalmia sp.; and Leatherleaf, Chamaedaphne calyculata. In the mossy cedar woodland flanking the open bog, there is a stand of Long Beech Fern, Thelypteris phegopteris, which is unusual in the Toronto District.

The Small Bog Cranberry is the sole foodplant of the Bog Copper butterfly, Lycaena epixanthe. When I first visited Vandorf, and discovered the abundance of this plant on the quaking bog, I anticipated the occurrence of the insect. Later visits during the flight period on 6 and 14 July, gave confirmation. The Bog Copper is extremely local, never wandering far from the larval foodplant. This colony is probably many miles from any other.

It is unusual to find so many totally different environments within one small area. Indeed, travelling less than 30 miles, one can pass from the typical flora of the Carolinian zone to the stagnant, acidy smell of a northern bog, experiencing the rugged beauty of the escarpment along the way. It is important to both the naturalist and the biologist, that what remains of these unique areas be preserved, since their value is great, both aesthetic and scientific.

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ANYONE FOR JOGGING? - from The Raven, Vol. 9, no. 5, July 17, 1968.

(R. J. Rutter, Editor)

Keeping in good physical condition by exercising is nothing new for humans, or for other working animals, such as racehorses. But exercising fish to keep up their muscle-tone was something new to us, and it may be to some others.

Out in Idaho, where they plant something like three and one-half million trout yearly for the amusement of fishermen, they have found that there is a big loss of hatchery-reared trout when they are dumped into swift streams where they must work hard just to stay in the same place. Evidently the fish were just not up to this kind of effort, and they tended to drift away downstream. Hatchery managers took note of the 'jogging' fad that was sweeping the country, and decided that what was good for overfed and underworked humans might very well work with fish.

So last year they tried forcing the hatchery fish to swim against fast water 15 minutes a day for 10 days before they were dumped in the streams. Results were sufficiently impressive to encourage further experiments this year.

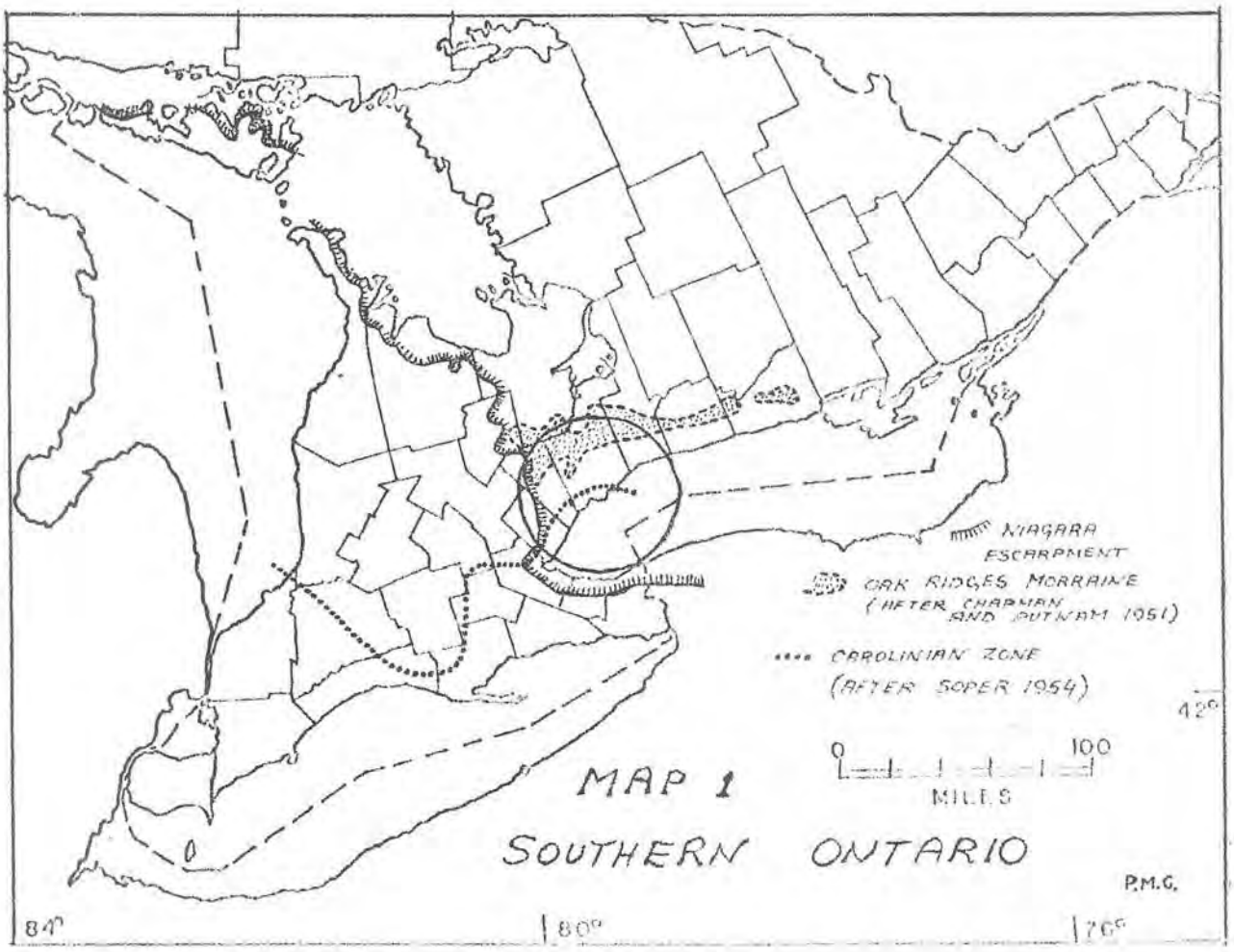
* *

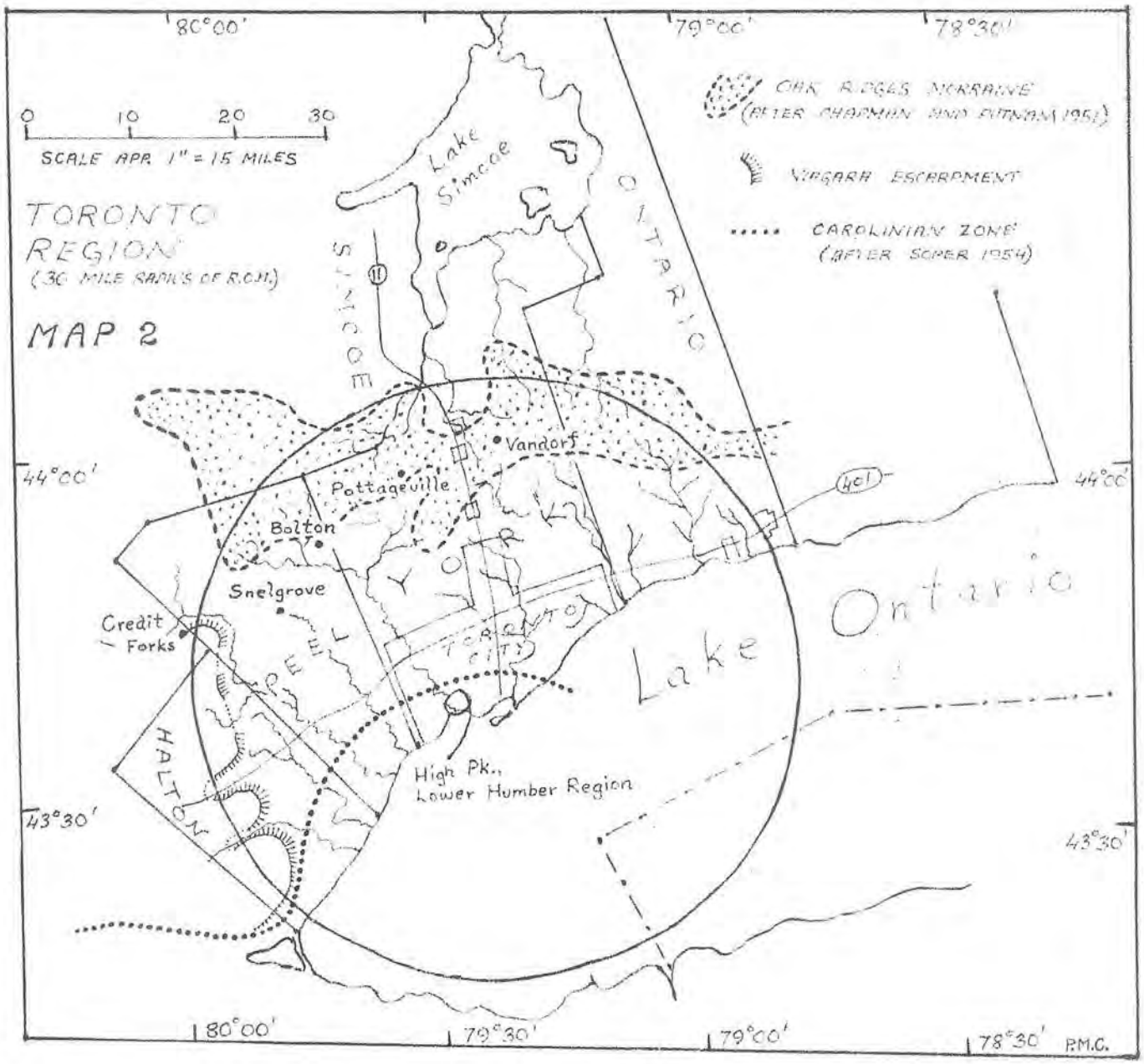
FAR AWAY PLACES - By R. K. KNIGHTS

Far away places so intrigue
How we yearn to go forth to see
Things we crave with outstretched hands;
Romance, adventure and far away lands.

We never ponder, that at our feet
Are all the lovely things we seek;
The earth's abundant gifts are there:
Why aren't we blessed enough to care.

* *


NIAGARA ESCARPMENT
OAK RIDGES MORRAINE (AFTER CHAPMAN AND PUTNAM 1951)
CAROLINIAN ZONE (AFTER SOPER 1954)
42°
0
100
MILES
MAP 1
SOUTHERN ONTARIO
P.M.G.
84°
80°
76°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78°30'
0 10 20 30
SCALE APR. 1" = 15 MILES
TORONTO REGION
(30 MILE RADIUS OF R.O.M.)
MAP 2
OAK RIDGES MORAINE
(AFTER CHAPMAN AND PUTNAM 1951)
NIAGARA ESCARPMENT
CAROLINIAN ZONE
(AFTER SOPER 1954)
Lake Simcoe
SIMCOE
ONTARIO
11
Vandorf
Pottageville
Bolton
Snelgrove
Credit Forks
YORK
PEEL
TORONTO CITY
HALTON
High Pk.,
Lower Humber Region
Lake Ontario
401
44°00'
43°30'
80°00'
79°30'
79°00'
78°30'
P.M.C.

F I F T E E N M I N U T E S A D A Y I N H I G H P A R K

By CLIVE GOODWIN

Stories about the birds someone saw whilst shaving each morning, or while eating lunch, are legion nowadays. My only excuse for adding to them is the area concerned is within a few minutes walk of the Seaway Towers Hotel, and it is certainly the most productive birding spot in the neighbourhood.

High Park has always been well covered by Toronto's birdwatchers, and in spite of the efforts of the City Parks Department its western boundary bordering Grenadier Pond remains a firm favourite. Over the years the area has produced things as exotic as Ontario's only Vermilion Flycatcher, and a year rarely passes without some intriguing species being reported. There is also a fascinating association of plants on the sandy hillsides east of the Pond, but that is another story.

I drive past High Park on the way to the office, and when I have time, and the weather is not too bad, I walk along part of the west bank of the Grenadier Pond to see what birds have appeared overnight. It is only a small area and I rarely have more than 15 minutes; but, it's surprising to see the variety of things that appear on those short walks.

Obviously migration periods are most productive, and it is possible to compile an impressive list on a good day. The best I recall was 79, but that was on a Sunday morning and took in part of Sunnyside as well, so it really does not count. Yet things crop up at the most unlikely times, and it is hard to be categorical about migration. If there is a good patch of mud at the north end peep sandpipers and Yellowlegs appear before the middle of July, little more than a month after the last Blackpoll Warbler of the spring. In fall, duck stay around until freeze up, and the first crows meander through in mid-February, with an assortment of winter finches and an odd shrike or so in between. But there is always some open water at the north end of the pond, crows never really leave in this latitude, and one of the features of the area is the number of birds that hang around long after they should have departed. This past winter was fairly quiet with only a towhee, but a year ago a phoebe remained until the ice storm in February, and a Red-Bellied Woodpecker spent the previous winter in the Park.

Just why such a disturbed area should continue to appeal to such a wide variety of duck is puzzling, but it does. I have never seen a scoter or an eider there, but almost all the other species appear from time to time. A fall morning commonly yields small groups of American Widgeon and both species of teal, with odd Shovelers, Gadwall and Pintail, all tangled in with the usual mass of blacks and Mallards. Unfortunately over the past year the Parks Department elected to put an asphalt walkway along the east bank of the pond, and spent much time and money filling in the small patches of marsh there. They had filled in large sections of the main marsh in previous years for no apparent reason, and there is no doubt the attractiveness of the area is diminishing; last fall the numbers of migrant duck were much reduced.

Interesting events are not limited to unusual birds. Last summer there was a great to-do in the marsh and a Green Heron appeared hotly pursued by three crows. The heron flopped desperately into an alder thicket, and the crows arranged themselves on the shrubs above with expressions of ghoulish anticipation on their faces. I did not help matters for the little heron because I was forced to flush it, and it took off over the pond again with its retinue in eager pursuit. They all disappeared up towards the north end, and there were loud screechings and cawings for a few

minutes. What happened I will never know, but the poor heron was badly outnumbered. The books are very silent on the enemies of the Green Heron, and this probably rates as a Significant Observation which should be written up, suitably embellished with scientific names, for the Auk. But I don't suppose I will ever get around to it.

So what can you expect to see if you get up early tomorrow morning and go for a walk up there? In the way of these things, probably not very much - noisy redwings, a few sparrows, and kinglets, maybe an early swallow or two hawking over the water, a couple of grebes or diving duck.

If you really want a big list you probably should go somewhere else. I am not likely to set ornithology on its heels with profound contributions to science from my daily visits either. But you never really know what you are going to find, and even if you don't see a thing it is a quiet oasis of spring woodland, tranquil between the bustle of Bloor Street and the everlasting turmoil of the Gardiner Expressway.

It's worth a visit.

* *

I LIVE WITH BIRDS

(Extracts from an article by LINDA BEAMER in the MISSISSAUGA NEWS, July 17, 1968)

'Forty years he's lived with birds' and yet I wonder how many people know of Roy Ivor? He is a gentle man, slight of build ... a proud, solitary figure who has given his life to the care and study of birds.

It was in 1928 that Mr. Ivor left his family's stone and marble business and concentrated on his bird sanctuary, "Winding Lane" near Erindale, just west of Toronto. Through special permission from the federal and provincial wildlife departments, he has been able to hand raise birds, gaining their confidence, and has befriended thousands of disabled birds over the years. People bring him birds from all over Canada and the United States simply because they've heard of his work. His familiarity with birds has given Mr. Ivor remarkable insights. He credits his feathered friends with characteristics previously considered uniquely human. Psychological research is also concluding birds have powers of reasoning, ability for joke-playing, and a need to give and receive affection.

Proof of Mr. Ivor's acceptance by the wild birds is his friendship with Teo, a big, red-tailed hawk. Her name is derived from the type of hawk she is .. Beauteo. She is ferocious, posing in typical predatory manner for visitors, yet allowing Mr. Ivor to enter her cage to stroke her and to be fed from his hand ... she is docile with him alone, always anxious for his affection.

From a manuscript written over the years ... and his diary which is a daily record of his work ... has come a most remarkable book with the appropriate title - 'I Live With Birds' (Ryerson Press), a book to be enjoyed by all who truly enjoy the great outdoors. Mr. Ivor .. a truly remarkable man .. a great ornithologist .. and a first-rate candidate for a Canada Medal.

* *

SPRING HARBINGERS IN FACT AND FANCY

By ERICH HABER

Soon the last snow of winter will have disappeared under the spell of the April sun. The longer days, the warmth of the sun, and the tenderness of the air all herald the awakening of another spring. But even before the last patch of snow has melted, before the bud scales unfold releasing their precious parcel of tender leaves and fragrant flowers, a leathery, shell-shaped spathe pushes its way slowly through the dark, mucky bottom of the swamp floor. Mottled and striped in purplish-brown and greenish-yellow, it edges its way through the dwindling blanket of snow until finally the globular flowering spike contained within is exposed to the cool spring breezes.

The Skunk Cabbage, Symplocarpus foetidus, or Swamp Cabbage as it is also called, is one of the earliest of our spring harbingers. The generic name, Symplocarpus, is derived from the two Greek words 'symploke' amd 'karpos' which literally mean 'connected fruit'; this refers to the fact that the fruits form an enlarged, fleshy mass at maturity. The specific name which means fetid or foul-smelling is quite appropriate since all parts of the plant, especially when bruised, have a skunk-like odour. The heat generated within the tissue of the flowering stalk may raise the temperature of the air within the spathe as much as 20°C above that of the surrounding air. The carrion-like aroma, which is somewhat reminiscent of garlic, is wafted upwards by the warm, rising air and attracts several kinds of insect pollinators; the most important of these are the carrion flies.

One of the names by which it was known to the eastern Indians was 'skota'. The underground stem which is often as large as the human fore-arm was used by them as a source of flour for making bread. The powdered stems, which have a peppery quality, were also used as a styptic (Ed. - a drug that checks bleeding) and as a means of covering up the unpleasant taste of other medicines. (Ed. - Bears eat them also to tone up their sluggish systems in the spring).

As the days grow longer still, other spring harbingers such as the Coltsfoot make their appearance. Another common name for it is 'son before father' which refers to the bright yellow dandelion-like flowers which appear in the spring before the leaves unfold. Somewhat later, the large leaves appear, shaped like the hoofs of domestic animals. Tussilago farfara is not a native plant, but is a naturalized immigrant from Europe and Asia. It is a very persistent perennial growing on damp clay and gravelly soils beside streams and roadsides. Its generic name, Tussilago, means 'cures a cough'; the specific name, which also refers to the leaves, gives the plant its common name of 'coltsfoot'. The leaves when gathered in June and July and when carefully dried contain a large percentage of mucilage, tannin, and various acids, all of which are soothing. A cough medicine can be made by boiling down a quart of water containing one ounce of leaves to one pint and then sweetening this with honey. In the Old Country, asthma and bronchitis sufferers found relief by smoking an herbal tobacco of which the principal component was Coltsfoot. Further evidence for its reputed medicinal qualities is shown by the fact that in France, the sign of the druggist used to be a picture of a Coltsfoot leaf painted on the door.

Yet another precocious springflower, the Hepatica or Liver-leaf, Hepatica americana, raises its delicate white, pink, or blue blossoms on its fuzzy stalks, and flowers before the canopy of leaves shields out the sun. The evergreen leaves

which resemble a liver were thought to be useful in curing diseases of the liver at the time when the Doctrine of Signatures was prevalent. This belief held that each plant structure which was shaped like that of a human organ was useful in curing the diseases of that organ. Solomon's Seal, a member of the lily family, is also a woodland, spring flowering plant, and like the Hepatica, it belongs in this group of plants which were considered to be useful in healing. If the rootstock of these plants is examined, one finds the scars left by the aerial shoots when they died back to the underground rootstock. Each scar resembles the stamp of a seal. It was thought that the prime purpose of the rootstock was in sealing and healing up fresh wounds and broken bones when it was stamped out and applied to the wound.

What would be spring without a glimpse of the delicately flowered Spring Beauty or Claytonia as it is also called. Named after John Clayton, it pays tribute to one of the great, early American botanists. Its five, whitish petals, streaked with delicate pink lines, in some regions form lovely floral carpets over large areas of wooded slopes and meadows. Deeply buried in the ground, the tubers may reach a diameter of up to two inches; when boiled in salted water, they are nutritious, and have the flavour of chestnuts. For this reason, it also has the name Wild Potato or Fairy Spuds. This last name was given the plants by the English country folk because of their belief that the tubers were eaten by the fairies. The beauty of the flowers, however, should rightly induce us to leave the plants to the fancies of the little people, for the scant food that they supply is far overshadowed by the joy they bring us year after year.

One of the oldest magical plants is the May-apple or Mandrake, Podophyllum peltatum. It is a familiar wildflower of May in southern Ontario forming dense colonies over wooded slopes and roadsides. Its two, five-to seven-parted leaves form an umbrella over the solitary flower which is borne at the junction of the two leaves with the stem. Reference to the Mandrake goes back as far as the Book of Genesis where we learn of its use as an aphrodisiac. From other early writings, we learn of the dread with which the Mandrake was regarded. It was thought by some that the screams of agony given off by the plants if they were uprooted would cause death or insanity to any creature attempting such a deed. If a person wished to obtain the coveted roots, he had to fasten the plant to a dog's tail; after closing up his ears, he would then call the dog which, on obeying, would uproot the plant, but would fall dead. This same superstition is alluded to in the quotation from Romeo and Juliet:

> And shrieks like Mandrakes torn out of the earth,
> That living mortals hearing them run mad.

Because its forked roots have a vague resemblance to human legs, the Mandrake was often represented as a tiny human figure. In Germany, at the height of superstitious beliefs during the Middle Ages, the roots were carved into small idols which were sold in vast quantities because of their use as oracles. Some of these images were brought to England during the reign of Henry VIII where they were sold under the guise of being able to increase whatever money was placed near them.

Although there is a vast storehouse of folklore surrounding the plant, it does in fact have considerable medicinal properties. From 1840 until 1930, Podophyllum had been listed as an official drug in the Pharmacopoeia. Synthetic products have since supplanted the naturally occurring one. The single, yellowish, lemon-like berry is somewhat sweet and edible at maturity, and has given rise to common names such as Indian apple, hog apple, and ground lemon.

(Concluded on Page 22)

THE FISHES OF GRENADIER POND

By WILLIAM A. TOUGH

The very name of the pond, despite many colourful and varied legends to the contrary, is generally now accepted by historical authority to have derived from the abundance of fish life inhabiting its waters as far back as the period prior to the War of 1812 when reputedly it was a favourite fishing spot for the Grenadiers of the garrison of Fort York. The fort at that time, was located far to the west of its present location at the foot of Spadina Avenue and much closer to the pond.

It is interesting to note that the pond has been effectively cut off from open contact with Lake Ontario since sometime prior to World War I, the Steel Company of Canada having exercised riparian ownership since that time thus diverting all waters flowing out of the lower end of Grenadier Pond to it's Swansea works.

As recently as 1968 in a laudable example of co-operation between industry and the municipality in the interests of conservation, an amicable arrangement was worked out between the City of Toronto and Stelco whereby a weir (dam) was constructed at the point of egress in order to stabilize and maintain the water level of the pond. As long as excess water continues to flow over the top of this weir the Company continues to be supplied with water. In the event that the water level should drop sufficiently that there is no overflow, the Company then is entitled to open a valve in the dam to secure a flow to their plant provided that the level of the pond does not become lowered beyond a specific point agreed upon by both parties as being the minimum level to which the pond may fall.

THE FISHES

(1) NORTHERN PIKE - Esox lucius Linnaeus

These are very few in number and are introduced from time to time principally from the display tanks at the Ontario Government Building during or at the close of the annual Canadian National Exhibition.

(2) LARGEMOUTH BASS - Micropterus salmoides (Lacepede)

These are regularly stocked by the Province of Ontario and are apparently reproducing as I have taken young of approximately 3" in the area of the Boathouse on the east bank, directly opposite on the west bank, and at the south-west corner near the marsh area.

(3) ROCK BASS - Ambloplites rupestris (Rafinesque)

These are mainly found at the southern end of the pond particularly in the vicinity of the large submerged rock pile near the south-east shore.

(4) BLACK CRAPPIE - Pomoxis nigromaculatus (LeSueur)

These abound in considerable numbers and although not usually obviously visible, they become so during the spawning period when they visit the

shoreline in vast numbers. I have observed them in numbers which must have run to the thousands at such a time over a horseshoe shaped area running from the Boathouse on the east bank, down around the south shore and up the west bank to a point opposite the said Boathouse. At that time, I netted several and placed them in my own outdoor pool.

(5) BLUEGILL SUNFISH - Lepomis macrochirus (Rafinesque)

These are present in large numbers and openly visible over the gravel beds during the spawning period.

(6) PUMPKINSEED SUNFISH - Lepomis gibbosus (Linnaeus)

These are also present in very large numbers and also quite visible to observation.

(7) BROWN BULLHEAD CATFISH - Ictalurus nebulosus (LeSueur)

It is difficult to determine how large a population exists in the pond but they seem to favour the south-west corner near the marsh area where I have personally observed several spawnings.

(8) YELLOW PERCH - Perca flavescens (Mitchill)

These seem to be most plentiful in the vicinity of the Boathouse on the eastern shore and seem to prefer that shoreline with its quantities of aquatic plant life to the plain gravel beds to the south around the horseshoe area.

(9) BANDED KILLIFISH - Fundulus diaphanus (LeSueur)

This is a very interesting if diminutive fish and is the only member of the Genus Rivulus found in Canada. It would appear to be, in effect, the forage fish of Grenadier Pond and is seen around the same southerly horseshoe area as the Crappie. Other than the Brook Stickleback there are no other small species in the pond.

(10) BROOK STICKLEBACK - Culaea inconstans (Kirtland)

These occur in small numbers mostly in the large inlet at the south-east corner where there still exists some quantities of aquatic plant life.

(11) CARP - Cyprinus carpio Linnaeus

I have taken several young specimens of between 1½" to 3" at the very edge of the marsh area, south-west corner of the pond and also in the small channels running through that area between the Giant Sagittarias and Bulrushes. Although I have not personally observed any adults, I am informed by several of the Park officials of High Park that they have witnessed the spawning of adult specimens in the Spring on the eastern shore towards the south end in the large inlet.

Before closing this listing of fishes, I feel that mention should be made of Carassius auratus (Linnaeus), the Nisei Goldfish. In eight years of unbroken observation of Grenadier Pond, I have never seen any indication or sign of the existence in the pond of this particular species. However, a very large population of these fishes has existed for many years in the lower and largest of the duck ponds at the south-

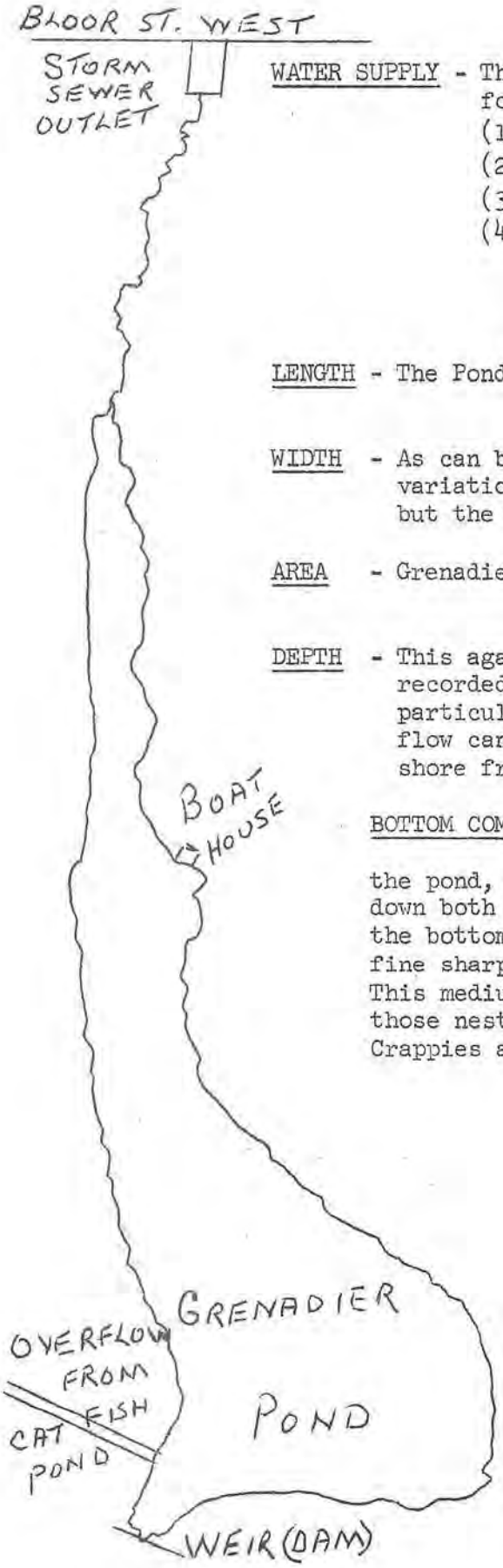
eastern extremity of High Park and it is from that colony that the specimens to be displayed in the Canadian Government Pavilion at Expo '70, Osaka, Japan will be caught and selected. There is also a very considerable number of these fishes to be found just to the west of Grenadier Pond on the other side of Ellis Avenue in the Catfish Pond which drains into Grenadier. The drainage arrangement is so constructed however, as to preclude the possibility of any migration or even a stray immigrant reaching Grenadier Pond. It is interesting to note however, that these fishes are found in large numbers in ponds both to the east and to the west of Grenadier and raises the question as to whether there might possibly be a few inhabitants, courtesy of small boys, etc. and too few in numbers to be readily observable.

SUMMATION: - It will be seen from the above-listed species that the Ecology of Grenadier Pond is overwhelmingly of a carnivorous structure. I therefore doubt the advisibility of attempting to implement the population with the introduction of members of the family Salmonidae, such as Salvelinus. Some thought has been recently given by certain officials of the Fisheries Section of the Ontario Department of Lands and Forests to the possibilities of making introductions of Trout to the pond with a view in mind to creating an opportunity for our local citizenry to enjoy the sporting benefits of fly-fishing without the necessity of travelling as far, for example, as the Caledon Hills to do so. Referring to my earlier comments on the presence in large numbers of the Black Crappie, otherwise known as the Calico Bass, I would point out that no additions are necessary for the fly fisherman, as the Crappie itself is a very acceptable adversary on the opposite end of a fly rod. As these fishes are actually overstocked in Grenadier Pond, the only problem would appear to be one of communication, that of informing the fishing segment of the public that the Crappie is on hand. The only other possible suggestion as an addition to the game fish population would be that of the Smallmouth Bass - Micropterus dolmieui (Lacepede).

FOOD SUPPLIES: - As stated, it would appear that Fundulus diaphanus or Killifish seems to occupy the position of forage fish of the pond. However, it is my personal observation that these appear to have been steadily declining in numbers for approximately four years now. Prior to four years ago, this small fish could be observed in large numbers swimming in large schools around the whole south end or horseshoe area. It was not uncommon to see individuals of the full maximum size of $3\frac{1}{2}$". At that time the existing line of boulders and stones now lining the eastern shore had not been introduced. The eastern shoreline, due in part to the winds and tides and the lack of shading, has been the area where aquatic plant life (Anacharis, Hornwort, etc.) has been most abundant. The plant situation however, seems to have declined in recent years, and with it has naturally declined the availability of crustaceous food such as the fresh-water shrimp (Gammarus). I have lately observed only small schools of Fundulus diaphanus and these mostly of smaller than average size swimming in the area peripheral to the marsh area of the south-west corner. The large population of pumpkinseed fish is still producing correspondingly large numbers of young which now might well be considered the successors to the role of forage fishes.

When considering the introduction of more species of carnivorous fishes it might also be advisable, to consider the ways and means of augmenting the food supply lest the former result in a state of imbalance. I am of the opinion that the introduction of the Emerald Shiner - Notropis atherinoides (Rafinesque), could be made to good advantage since this species is a very prolific forage fish. It is interesting to note that a private attempt was made in 1965 to introduce

(Concluded on Page 22)



WATER SUPPLY - The Pond is replenished and maintained from four sources:

(1) Natural underground springs.
(2) Watershed from surrounding hills.
(3) Storm sewer emptying from Bloor Street
(4) Overflow from 'Catfish Pond' on the west side of Ellis Avenue through a duct under the street into an open log-lined canal emptying into Grenadier Pond near the southwest corner.

LENGTH - The Pond measures, from extreme points at each end, 3,975 feet.

WIDTH - As can be seen from the sketch there is considerable variation in width between the upper and lower ends but the width at the widest point is 1,290 feet.

AREA - Grenadier Pond covers a total area of 35.8 acres.

DEPTH - This again varies considerably but at the deepest recorded point the measurement is 20.1 feet. This particular spot is a point 200 feet north of the overflow canal from Catfish Pond and again 200 feet offshore from that point.

BOTTOM COMPOSITION - There is, in the deeper areas, and generally over the northern part of the pond, a considerable layer of bottom mud. However, down both the east and west sides from the half-way point, the bottom for some distance out from shore is made up of fine sharp gravel-like sand much like aquarium gravel. This medium provides an excellent spawning ground for those nest building species such as the Sunfishes, Crappies and Basses.

pH RATING - 7.4 (when rating the acidity or alkalinity according to the pH scale, 7.0 is neutral. As the acidity increases the rating decreases below this figure and correspondingly as the alkalinity increases the rating becomes higher.)

The figure of 7.4 therefore indicates a condition of alkalinity four points above neutral.

MAMMALS OF THE TORONTO REGION

By A. A. OUTRAM

This paper deals with non-domestic mammals only. It does not include the rat (Rattus norvegicus) and the house mouse (Mus musculus). The Toronto Region is considered herein to cover the area within 30 miles of the Royal Ontario Museum. It extends from about as far east as Oshawa, to Holland Landing on the north, and west to Burlington. It contains about 1500 square miles.

This is small compared with the vast Province of Ontario, which is bounded by Quebec and Manitoba on the east and west. It goes from Pelee Island, north for over 1000 miles to Hudson Bay. Ontario has about 600 miles of salt water shoreline. Its area is over 400,000 square miles, being about 270 times as large as the Toronto Region. There are about 80 distinct species of mammal to be found in Ontario. In the little Toronto Region, with its millions of people, its industry and commerce, its transportation complex and its polluted soil, air and water, about 45, or over half of these species are present.

It is not intended to give a complete and detailed mammalian list of the Toronto Region. However, it may be of interest to note that there are about 17 species of the Order Rodentia with us. This includes eastern chipmunk (Tamias striatus), woodchuck (Marmota monax), beaver (Castor canadensis), muskrat (Ondatra zibethicus), and many mice, of several families. We have about nine members of the Order Carnivora, eight species of bat (Order Chiroptera), and seven shrews and moles (Order Insectivora). The remainder is made up of varying hare (Lepus americanus), jack rabbit (Lepus europaeus), cottontail (Sylvilagus floridanus) and white-tailed deer (Odocoileus virginianus).

Why are there so many species present, some in very great numbers, and so few seen? An observant naturalist may see, on a winter's day, a dozen kinds of bird, and if he cares to traverse varied habitat, may find many more. Yet while so doing he may note no evidence of mammals other than tracks of a few species, in the snow. In summer he may readily note fifty, or even a hundred or more kinds of bird, and only a few squirrels, chipmunks and woodchucks. There are several reasons. Many mammals are nocturnal or crepuscular, whereas most birds are diurnal. Others are furtive and timid in the presence of man. Many are very small and while it is easy to see a tiny hummingbird or kinglet, it is difficult to observe mice and shrews in thick grass or other ground cover. As for winter, some of our species hibernate. Some bats migrate south.

Man, a mammal (Homo sapiens), is notoriously destructive of flora and fauna, either directly or through his changing of natural environment. There are some exceptions, close at hand. The raccoon (Pryocyon lotor) does very well indeed in much of our built-up area, sheltering in our chimneys and eating the contents of our garbage cans. Our species of skunk (Mephitis mephitis) thrives in our midst. So does the eastern gray squirrel (Sciurus carolonensis) -- the black is merely a colour phase of this species -- and is an expensive nuisance. These last three mentioned species have greatly increased in number in recent years. Two other species, long absent from this area and now returned, may be mentioned. These are beaver (Castor canadensis) and white-tailed deer (Odocoileus virginianus). The Canadian Institute, now the Royal Canadian Institute, published an excellent book in 1913, The Natural History of The Toronto Region. In the chapter on mammals, the late J. H. Fleming wrote of our deer, 'Formerly common, exterminated, records up to 1837'. Of the beaver he noted that it was reported to be 'very rare in 1830.

A pair appeared in the grounds of Colonel Denison about 1884'. It quite disappeared, but is now back, in small numbers. One of the first signs of its return was noted by us in 1920, in the Don Valley, south of Eglinton Avenue.

SUMMARY: - We do not need to travel to the far reaches of our vast province to find over half of Ontario's mammalian species.

REFERENCES: - The following publications were used in the preparation of this paper:

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SPRING HARBINGERS IN FACT AND FANCY -- (Continued from Page 16)

Just as numerous as the flowers of spring are the tales of flower lore which enshroud the names of many a plant. The awe and admiration which our forefathers felt for the denizens of the swamps and glades, of the roadsides and wooded hills, is reflected in the heritage of folklore which they have left behind.

As yet another dawn of plant life begins, what inspiration can we draw from the budding blooms?

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THE FISHES OF GRENADIER POND -- (Continued from Page 19)

three other species of forage fishes - the Creek Chub - Semotilus atromaculatus (Mitchill), the Black-Nosed Dace - Rhinichthys atratulus (Hermann) and the Common Shiner - Notropis cornutus (Mitchill) with the result that during the actual physical introduction of approximately one hundred of these assorted fishes, over one-half of them were devoured within five feet of the shore by crappies and bluegills.

During the ensuing four years I have found no trace or clue to indicate that any of these introduced fishes managed to survive.

* *

F L U R R I E S -- by PAT WEESE

Carried on a winter breeze - Like snowflakes flitting through the trees - Come the perky chick-a-dees. Powder puffs - Balls of fluff - Whitish breasts - With sides of buff. Downside-up - Then upside-down. I'm glad they've come - To feed and clown.

WHAT HAPPENED TO THE OWLS THIS YEAR?

By J. J. "RED" MASON

Last year I could, with ease, show you 100 owls in a day -- on a good day, 200. This year, in January, I had trouble finding any to show Jim Baillie's Toronto University Extension Class. In fact, one Saturday morning I was blanked. We were able to turn up only three longeared on the next Saturday outing. I did, however, have somewhat better luck with Mabel MacIntosh's group from Montreal. I was unable to produce the Boreal Owls, but did show them four other species on a Sunday morning.

The migration of saw-whet (Aegelius acadicus), our smallest owl in Eastern Canada, the longeared (Asio otus) and shorteared (Asio flammeus) moved into our area last Fall in what appeared to be regular numbers. First came the saw-whet movement in October. As always the Toronto Island bird sanctuary had a fair proportion. As many as thirty-five have been seen in a single day during migration. The longeared started arriving in early November, flocks of twenty-five to thirty building up in some of our denser woods. Then came the shorteared in late November, sticking to the more open country, as they like to hunt the open fields in the early evening. I watched all their favourite roosts, and saw their numbers growing. We know that a number of these are on migration and pass right through to the south and west of us. They arrive from the north and hit Lake Ontario, then turn westward along its shores. There are generally quite a few that will winter here and supplement the small number of permanent residents of their species in this area.

We have several screech owls (Otus asio) and great horned owls (Bubo virginianus), which are also permanent residents. I also believe that we do have a migratory movement through our area of these species. Some of them remain to winter with us. In contrast, some of our birds move south for the Winter and return to nest in early Spring.

The snowy owls (Nyctea scandiaca), started arriving in early November. Some of these were nearly pure white, but many showed the dark brown spotting and barring of the female and the immature. Their migration appeared to drop off early in the season. This, however, could have been caused by the cyclic migration which is greater some years than others. In its Arctic home, this owl's main source of food is the lemming, supplemented by small birds. The lemmings are rodents which exist in tens of thousands, and when their territory becomes overpopulated every four or five years the majority die, reducing their number to a minimum. The last time this appeared to have happened was in the Winter of 1966-67. The small birds had migrated to the South, so food for the owls was scarce. In the Toronto area we had an abundance of mice and an open winter. The owls came and stayed until Spring.

This owl is one of the more aggressive territorial inhabitants. When it takes up residence in an area, it will drive any intruders out of its territory. For this reason alone, I cannot see why the continuous killing of the snowy owl to get rid of owls from an area (such as an airport) is the answer. To keep the birds from feeding in the vicinity, I believe a better attack is to get rid of the food which is attracting the birds. Remove the habitat of the mice and birds, and you remove the predators. Toronto International Airport has done this to a degree. This could be one reason why there were not as many snowys around the Airport this Winter. However, they were also scarce in other feeding grounds.

We had four sightings of hawk owls (Surnia ulula) in our area, but apparently they did not stay around. I believe they were on the move looking for a place where

food was plentiful, so they kept on going. These owls, with their long tails, from which they derive their name, use the same roost continuously, once they have taken up residence in an area. Once found, therefore, they can be easily located again. They are also daylight hunters. The last ones seen late in February could well have been working their way back home north of the tree line.

Eleven Boreal owls (Aegolius funereus), sometimes referred to as Richardson's owls, were located this winter. One was sighted by Vlad Trojak on Boxing Day. There were five seen in late February, and the others in early March. Paul Catling banded most of these. These owls are rare visitors in our area, because they seldom leave their breeding range in the Boreal forest of Northern Canada. Not since the Winter of 1922-23 have so many been seen in our area at one time. The north country had heavy snow, and maybe they were driven out of their own area in search of food. Examination of the pellets found at their roosts here by Paul Catling and myself showed that their main diet had been meadow mice. At the same time there was a large increase in the number of saw-whets, probably stopping on a northen migration.

Four barred owls (Strix varia) showed up during the winter. Two wintered here from early November. Two others arrived later, but I was unable to follow their movements.

We had a heavy snow cover beginning the 23rd of December. Rain and snow on top formed a heavy crust. This allowed the mice to tunnel under the snow in the fields and live out of reach of the hungry owls. The longeared, shorteared and saw-whet owls could not find food for nearly six weeks as the mouse is their chief winter diet. When the snow melted, the owls had gone. About 75 longeared owls tried a diet of starlings for some time at the Burlington Skyway, but apparently they found this too rough and moved out. The saw-whet with their small size, have considerable trouble when deep snow hides the mice, because they are unable to handle larger rodents. Our temperatures during January were below normal, but I do not believe this affected the owls. Deep snow covered all regions north of us until March.

The screech owl (Otus asio) probably found it hard going, as wood mice and birds are their chief food; but the woods normally hold more snow for longer periods and this has taught them to cope with the snow covering and to find food. They were found in about the same numbers as in other winters. Most of our area screech owls are grey. However, we do have some red phase showing up.

The great horned owls, of course, also seemed unaffected. They diet on larger rodents, rabbits, birds, etc., so that most of them are not seriously affected by large snowfalls. The barred owls, in their feeding habits, also fall into this category. The great horned, with two eggs, were nesting on February 12th this year, which is an early date. The male was very adept at luring the crows away from the nest to another tree, leaving the female to incubate her eggs. On checking the nest after 28 days I found the eggs infertile. Why? Many reasons could account for this. We are endeavouring to find out. Were they frozen because so many photographers and birders had driven her from the nest too often? Had mice, which the owls consumed, been eating pesticide-laden food? This sometimes causes the owls to become infertile. Or were the eggs infertile for some other reasons?

Along with the owl shortage in our area, the red-tailed, rough-legged and sparrow hawk had a noticeably low count in January. They, too, survive the Winter on the mouse population. Last year, a nine-mile drive around Toronto International Airport would have produced 50 birds. This year, in late January, the same run could produce only ten. By mid-March they were nearly all gone, except for the permanent residents.

(Continued on page 30.)

W H Y A W I L D E R N E S S ?

By HOWARD HUGGETT

At the November meeting of the T.F.N.C. the speaker of the evening told us something about our system of national parks. In his closing remarks he posed a challenging question: "In this age of great cities and togetherness, do we need a wilderness?"

There's nothing like asking a few questions to get the debate going, as Socrates used to say. Before we try to find an answer to that one, here's another that follows naturally from the first query: "What is a Wilderness"?

The Oxford Dictionary has this to offer - "A desert, an uncultivated and uninhabited region". In the sandy sense there are no deserts in Canada worthy of the name, but the dictionary defines it as 'an uncultivated and uninhabited tract'. If you wend your way through 'tract', 'cultivated' and 'inhabited' you come out with a general idea of an area, usually large, that is not developed or cultivated, and is uninhabited by men or animals - no mention of the birds and bees, let alone women!

Well, an area, large or small, that has no animals, no insects and no birds, would in one sense be a desert to a naturalist. Come to think of it, an area with no women in it would have a deserted look about it. But a wilderness with no wild creatures in it?

Now that the good old dictionary has got us all confused, we can go ahead and discuss whether we need whatever it is we are discussing. At first glance it seems obvious that we require wildernesses just because so many of us live in crowded cities, in too much 'togetherness', that we have a hunger for the open spaces. On week-ends and during holiday periods, tens of thousands of city dwellers take to the highways - also crowded - to escape from each other. So where do most of them come to a stop? In cottage areas that are roomier than city streets, but not that much roomier. Far too many cottages are build on fifty foot lots. As for camping grounds, well! Not many end up in a spot where the four-legged animals outnumber the two-legged ones. The meadows are pretty well left to the mice and the bush to the birds.

On second thought it might seem that wildernesses are not needed. Let's try a third thought: 'we need them and don't know it'. Can it be that those of us who most require the quiet relaxation of the countryside are those frantic fellows who have to go-go-go on the H2O? Maybe we are suffering from a sickness of the cities that will not let us enjoy the open spaces as they could and should be. Experiments with various animals are reported to have shown that overcrowding has serious affects on their mental state. It may very well be that the same is true with us.

Certainly most wild creatures take good care to avoid overcrowding and have ways to make sure that individuals of their own species enjoy enough space to support life and allow freedom from interference from their fellows. The ones that live in crowded communities, such as bees, ants, termites, etc., tend to have highly authoritarian societies that we would find repressive.

As a matter of fact, mankind has lived for the greater part of his history in family groups and small communities. In the past few thousand years cities have arisen here and there, but they have displayed a marked tendency to pass away again. The great majority of men and women continued to spend their lives close to nature

as farmers, herdsmen, fisherfolk or hunters. Their way of existence was in many respects like that of wild creatures because they lived in close dependence upon nature and were therefore compelled to learn her ways and obey her commandments. Failure to do so could lead to disaster, because reserves were scanty and only primitive techniques were available to help them wrest a living from the soil. Students of tribal societies attest to the skill and patience shown by its members in making full use of the meager resources available to them.

Only with the Industrial Revolution has it been possible, and even necessary, for ever increasing percentages of mankind to live in cities. Here in Canada we are already moving into the age of the city. That is where the money is and the problems are. Almost any edition of a newspaper will remind you of these problems, and the reason for them are many. The only ones that this article is concerned with are those that result from man's divorce from nature.

With the rapid escalation of human technical skills, nature's problem child has been able to greatly improve his material living standard and now he has the power to free himself in part from the strict discipline of his mother. Unfortunately he lacks the wisdom to properly use and enjoy the new-found freedom. The evidence of this is the prodigal manner in which man wastes the wealth that nature has given him. The sudden wealth made possible by new techniques have made him irresponsible and arrogant, as sudden wealth often does.

That is the one reason above all, I think, why the wild places are so precious. There is something to be found there, more important even than fresh air or pure water or quiet and relaxation. There is a kind of contentment that comes from an understanding of the reality of the natural world and man's true place in it.

There are those who wish to see certain areas of the wilderness open to commercial exploitation. Their argument is that we need to do this in order to keep ourselves employed and prosperous. This sounds like a practical, hard-headed attitude until you recall that it is precisely this approach that has already depleted so much of our resources. Then you begin to wonder how long the prosperity will last at that rate.

Material wealth we already have in abundance; mediaeval monarchs would envy us for some of the comforts and luxuries that many of us now enjoy, or would they? Perhaps they would tire of them as quickly as we do and seek the simplicity of the natural world that was our home for so long. Of course, we cannot retrace our history and go back to a life of rural toil, but we can spend some time close to nature. It may be that the whisper of the wind or the murmur of a stream will soothe spirits that are troubled in the clatter and roar of a city. The Canadian poet and nature-lover, Wilson McDonald, said it so well in his poem, The Feast:

"Wind is an old wine, comrade,
A cool dark wine is rain,
A warm red wine is sunset,
Moon-wine leaves no stain,
Drink deep, ease thy pain."

Do we need a Wilderness? We need it desperately. It offers us the opportunity to sit at the feet of nature and re-learn some of her lessons. Too few of us make use of that opportunity now, but maybe more of us will in the future, so let's keep the wild places there.

What is a Wilderness? It's a place where the wild creatures outnumber mankind by at least twenty to one, and a man's best friend is his mother (nature).

BIRD WATCHING IN THE TORONTO REGION IN LATE APRIL

By J. MURRAY SPEIRS

Bird watching can still be a rewarding experience, even in the rapidly growing Toronto region. We have lost some of our best birding areas, notably the lakeshore marshes of which Ashbridge's Bay has no doubt been the greatest single loss. There are still some relic marshes left and these are still productive. We have also made some gains; notably the many Metro parks. Of these Cold Creek in the northwest and Greenwood in the northeast are excellent birding areas and there are devotees of most of the other parks. Right at our doorstep are such places as Sunnyside, Grenadier Pond, High Park and the Humber marshes. The Exhibition waterfront and Toronto Island are also easily accessible. The various ravines with their smaller parks are excellent for songbirds.

Lake Ontario is a mixed blessing. We are grateful to the lake for the great variety of waterfowl. It is however quite a barrier to migration so the migrant songbirds become progressively scarce as you go from Hamilton to Oshawa along the lakeshore.

The Toronto region must have one of the greatest densities of bird watchers on the continent. No matter where you go to watch birds in the Toronto region in spring you are almost sure to find others similarly engaged. These people may be 'lone wolves' (some by choice, others because they have not yet discovered one of the many local clubs), but many go out with a car full of friends or several cars together to scour the area. The clubs vary from the large Toronto Field Naturalists' Club with several hundred members to smaller specialized groups such as the Toronto Ornithological Club, the Ontario Bird Banders, the Toronto Field Biologists, the Margaret Nice Ornithological Club, and several others in which birds are a fringe interest. I am sure that members of any of these organizations will be glad at any time to spare some time to initiate the visitors in our midst into the ornithological delights of our region.

What should you look for in late April in the Toronto region? The following is a list of those species which reach their greatest spring abundance in late April:

Red-necked Grebe	Marsh Hawk	Brown Creeper
Horned Grebe	Osprey	Winter Wren
Pied-billed Grebe	American Coot	Hermit Thrush
Great Blue Heron	American Woodcock	Golden-crowned Kinglet
American Bittern	Common Snipe	Ruby-crowned Kinglet
Green-winged Teal	Greater Yellowlegs	Pine Warbler
Blue-winged Teal	Mourning Dove	Rusty Blackbird
Canvasback	Belted Kingfisher	Savannah Sparrow
Lesser Scaup	Yellow-bellied Sapsucker	Vesper Sparrow
Bufflehead	Tree Swallow	Field Sparrow
Oldsquaw	Rough-winged Swallow	Fox Sparrow
Red-breasted Merganser	Barn Swallow	Swamp Sparrow

Many species reach their greatest abundance in May but pioneers straggle north in late April in favourable years. The following is a list of some species for which the earliest records have been, or usually are, during the latter half

of April -- these are the ones the 'experts' go looking for:

Red-throated Loon
Double-crested Cormorant
Green Heron
Black-crowned Night Heron
Gadwall
European Widgeon
Wood Duck
Turkey Vulture
Golden Eagle
Pigeon Hawk
King Rail
Sora
Yellow Rail
Semipalmated Plover
Upland Plover
Spotted Sandpiper
Solitary Sandpiper
Lesser Yellowlegs
Pectoral Sandpiper
White-rumped Sandpiper
Least Sandpiper
Dunlin
Forster's Tern
Caspian Tern
Barn Owl
Whip-poor-will
Chimney Swift
Ruby-throated Hummingbird
Great Crested Flycatcher
Least Flycatcher
House Wren
Bewick's Wren
Long-billed Marsh Wren
Wood Thrush
Swainson's Thrush
Veery
Gray-cheeked Thrust
Water Pipit
White-eyed Vireo
Solitary Vireo
Red-eyed Vireo
Black-and-white Warbler
Orange-crowned Warbler
Nashville Warbler
Yellow Warbler
Magnolia Warbler
Myrtle Warbler
Blade-throated Green Warbler
Cerulean Warbler
Blackburnian Warbler
Prairie Warbler
Palm Warbler
Ovenbird
Northern Waterthrush
Bobolink
Indigo Bunting
Grasshopper Sparrow
White-crowned Sparrow
Lincoln's Sparrow

So try your teeth on this list and confound the experts!

Finally there are a few species normally seen in winter which on occasion have lingered on into late April. These have included Barrow's Goldeneye, Hawk Owl, Great Gray Owl, White-winged Crossbill and Snow Bunting. These would be nice to find too!

In case you are interested in other kinds of life besides birds it is well to remember that this is the time for singing frogs. Toronto is also famous (or infamous) for its black squirrels (the melanistic form of the widespread gray squirrel). In some years the 'may flowers' are in fine bloom by late April and some of the outlying parks and ravines put on a fine show. The temporary ponds are the homes of a rich fauna of fairy shrimps, copepods, and many other fascinating invertebrates and are well worth examining. Suckers and smelts are running up the local streams and carp are thinking of spawning in the marshes.

So, if the birding gets dull, there are many other things to look for ... but I doubt if the birding <u>will</u> be dull.

It seldom is, in the Toronto region, at any time of year.

M O U N T P L E A S A N T C E M E T E R Y

By G. M. FAIRFIELD

Mount Pleasant Cemetery offers a handy place to escape from the downtown city environment and go for a quiet walk. The roar of the traffic and smell of exhaust fumes disappear one hundred feet inside the cemetery gates. Instead of fighting crowds and dodging traffic one can spend an hour or so strolling among trees and gardens and watching the occasional wild creature.

The best approach to the Cemetery is Mt. Pleasant Road which cuts through the middle of the Cemetery dividing it into east and west halves. A short way north of Moore Avenue you will find automobile and pedestrian entrances to both halves. There are streetcar stops beside the gates.

The Cemetery consists of 160 acres of fairly level land with one small ravine in the south-west area. It is heavily planted with a great variety of native and exotic trees and shrubs. Most of the trees, in the older western half, are mature and spaced widely enough to form an open stand which allows the sunlight to reach the ground. Some of the more common trees are: Hickory, White Oak, Red Oak, White Elm, European Mountain Ash, Sugar Maple, Red Maple, and Silver Maple. Many of the trees are labeled with their common and scientific names and this is a great help in learning your trees. During May when the blossoms are out, and October when the leaves are changing, the Cemetery is one of the most beautiful spots in Toronto.

During May, June and July, the Cemetery supports a rather sparse population of nesting birds. The writer censused the breeding birds for four years and found the following species (in order of abundance): robins, chipping sparrows, starlings, red-winged blackbirds, flickers, song sparrows, blue jays, crows, cardinals, cowbirds, mourning doves, indigo buntings and grackles. The resident mammals found were: grey squirrels, red squirrels, chipmunks, groundhogs, cottontails and a skunk.

The early spring and the fall are the best times for birding in the Cemetery. The spacing of the trees and shrubs seems to suit the migrating thrushes and the sparrows that go through at those times. The large number of fruit and nut bearing trees make the Cemetery a good feeding area for the occasional flocks of winter finches. Although the Cemetery is a little too tidy to be a really good birding spot it does provide a few surprises. One foggy morning I found a turkey Vulture perched on an old dead snag, a rather macabre scene in such a setting. Another morning I walked right up to a bittern standing on the neat grass with bill pointing up trying hard to look like a clump of bulrushes. Such odd occurences indicate the importance of the cemetery as a resting place for spring and fall migrants in a largely built up metropolitan area.

All in all Mount Pleasant Cemetery provides a pleasant place to walk, enjoy the trees and gardens, and do a little bird or squirrel watching close to down Toronto. If it is not a naturalist's paradise, it has at least one advantage over our other favourite haunts, - it will always be there.

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COMING EVENTS:

May 4 - - - - - -	Bird Banding at Albion Hills (2 p.m.)
May 11 - - - - - -	Open House at Albion Hills Conservation School
May 10, 11 - - - -	FON Point Pelee Regional Field Gathering
June 28 - July 5 -	FON Camp - Red Bay Lodge, Bruce Peninsula
August 12 - - - -	Perseid meteor shower

WHAT HAPPENED TO THE OWLS THIS YEAR? (Continued from Page 24)

Birds, to exist, must eat. If they cannot find food where they are, they must search for another area where food can be found. I believe this is what happened in January in the Toronto area. Heavy, crusty snow provided the mice with the makings for runways, protecting them from the cold and the searching eyes of predators. True, predators will take other small birds, but these are harder to catch, especially some of the faster birds which winter here. Some of them will take large insects, which of course are scarce in our Canadian Winters. This heavy snow cover, although it does produce benefits to the mice, also affects their food supply. The weak will die thus reducing the food supply for next year's owls. However, there is one redeeming feature. By eliminating the weaker of the species so that only the stronger survive, a healthier race is produced. Again the species will multiply to make a better food supply for the predators.

What happened to the owls this year? In my opinion, the majority went looking for something to eat: to some place where the weather elements left the mice exposed to the keen eye of the hungry owl. They found it and stayed for the Winter. In this way we share the pleasure we get from owls with someone else.

If anyone has any information about owls in other regions, I would appreciate hearing of them so we can try and piece together the movements of the owls.

A number of great grey (Strix nebula) were seen this year both to the east and west of us. Maybe next year one will show up in the Toronto region.

J. E. 'Red' Mason,
265 Markland Drive, Apt. 205,
Etobicoke, Ontario.

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WOLVES ON YONGE STREET - By BOB BOWMAN (from Toronto Daily Star)
(contributed by Miss Ethel Day)

Many people in Canada hear about Yonge Street in Toronto long before they see it. The Calgarians certainly put on a show there when they invaded Toronto for the Grey Cup Game. So when people see it for the first time, they are always puzzled to know why the name is spelt Yonge, rather than Young which is the way it sounds on radio or television.

Originally the street was a military road to get troops and supplies between Georgian Bay and Lake Ontario. It was built by John Graves Simcoe, the first Lieutenant Governor of Upper Canada, when he made York the capital. The section between Lake Ontario and Lake Simcoe was called Yonge Street after Sir George Yonge who was British Minister of War at that time.

Officially the road opened on January 29, 1796, but four years later residents of York (as Toronto was called then) were holding meetings to urge the government to 'open up Yonge Street'. When merchants and citizens agreed to share expenses, an appeal was made for six good axemen to do some more clearing. They were still working in January, 1801, because it is on record that payments were made to some of the axemen who brought in wolf scalps. Today the wolves on Yonge Street only whistle!

TORONTO FIELD NATURALISTS' CLUB NEWSLETTER

Visitors welcome! Visitors welcome!

MAY MEETING

MONDAY, MAY 5, 1969 AT 8.15 P.M.

at the

ROYAL ONTARIO MUSEUM

ANNUAL MEETING AND ELECTION OF OFFICERS

Speaker: MR. JOHN GRIFFITHS

Subject: YOUR FORESTS AND YOU (illustrated with colour slides).

We are pleased that Mr. Griffiths is available for our May Meeting, in lieu of the March date which he was unable to fulfill because of illness. Mr. Griffiths, a forester on the staff of the Ontario Department of Lands and Forests, will discuss the York County Forest, in connection with which he is a specialist. (This reforestation area is known to a number of our members as the 'Vivian Forest') His address will provide pertinent and up-to-date facts relative to private land forestry and the advice available to private individuals and will also touch upon forestry in relation to recreation.

o O o o O o o O o

The Toronto Field Biologists' Club will hold its final meeting of the season on Tuesday, April 29, 1969, in St. James-Bond United Church (on south-west corner of Avenue Road and Willowbank Blvd.) commencing at 8 p.m. The Speaker will be Mr. Barry Ranford of Cooksville. His topic will be 'Bird Photography' illustrated with outstanding colour slides recorded in the Canadian Arctic, Bonaventure Island, Georgian Bay and the Toronto region. You will enjoy the presentation of this talented young photographer. Any interested TFNC members are invited to attend this meeting. Further information may be obtained from Donald Burton, 223-3663.

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OUTINGS

(Detail of June 7 Outing)

SATURDAY JUNE 7

Toronto - 8 a.m.

Craigleith - 10 a.m.

BRUCE TRAIL, CRAIGLEITH PROVINCIAL PARK - Birds, Botany & Hiking

LEADER: Mr. Eric Lewis

A bus will be chartered for this outing: Fare is $4.00.

Passengers may board at the following times and places:

N. E. corner Yonge & Bloor	8.00 a.m.
N. E. corner Yonge & St. Clair	8.05 a.m.
N. E. corner Yonge & Eglinton	8.10 a.m.
N. E. corner Yonge & Lawrence	8.15 a.m.
Glen Echo Loop (Yonge at City Limits)	8.20 a.m.

The bus will arrive back in Toronto at about 5.30 p.m. Those wishing to travel by bus may make reservations by phoning Walt or Lil Hutton at 782-5955 from May 26 to June 5 or by purchasing tickets at the May meeting. For those driving cars, Craigleith is approximately 6 miles west of Collingwood on Highway #26. Meet at the entrance to the Park. Bring lunch to be carried all morning. This hike will be approximately 4 to 5 miles over rugged terrain.

Special Interest Events

of the

Metropolitan Toronto and Region Conservation Authority

The Authority has scheduled the following events which we feel may be of special interest to our members:

May 4:	10.30 a.m. - 5 mile hike from Glen Haffey
May 4:	2.00 p.m. - Bird-banding at Albion Hills
May 25:	10.30 a.m. - 3.00 p.m. - 'Find your way hike' at Glen Major
June 1:	8.00 a.m. - Breakfast and hike at Greenwood
June 15:	10.00 a.m. - 4 mile hike at Palgrave Forest

For further information and details phone the Authority at 889-5425.

Outings Chairman: Mr. Walter Hutton, 782-5955

JUNIOR CLUB Saturday May 3 10.00 a.m.	A general meeting in the Museum Theatre. Prizes will be given for the best articles, and Flight Magazine will be distributed: Also: 2 Walt Disney feature-length films. Adults welcome. Director: Mr. Robt. MacLellan, 488-9346
INTERMEDIATE GROUP Saturday May 3, 1 PM	Meet in Room P-1 (near Ethnology Dept.), ROM. Discussion will take place on the recent field trip to Long Point in Lake Erie, and on the summer project area, Thorah Island in Lake Simcoe. Chairman: Mr. Paul Catling, 698-3405
BIRD GROUP Thursday May 17 8.00 p.m.	Meet at St. James Bond United Church, west side of Avenue Road 2 blocks north of Eglinton. An open meeting: Questions and Answers from the programmes of the past winter; Outings for the summer will also be discussed. Chairman: Mr. Clive Goodwin, 241-1572
BOTANY GROUP	No meeting of the Botany Group until October. Chairman: Miss Edith Cosens, 481-5013
ECOLOGY AND CONSERVATION GROUP	No meeting of the Ecology and Conservation Group until October. Chairman: Prof. W. A. Andrews, 425-4607

PRESIDENT - Mr. John A. Gingrich

SECRETARY - Mrs. H. C. Robson
49 Craighurst Avenue
Toronto 12, 481-0260