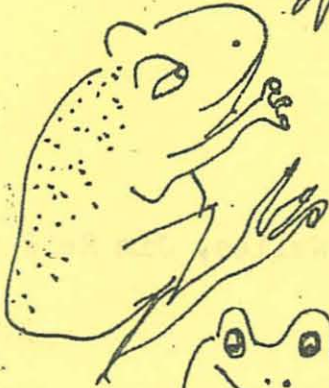
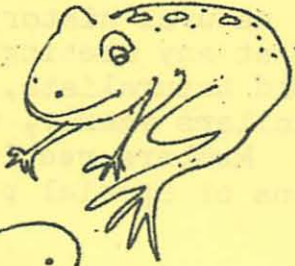


HALIFAX FIELD NATURALISTS NEWSLETTER

c/o Nova Scotia Museum
1747 Summer Street
Halifax, N. S.

march-april '77



HALIFAX FIELD NATURALISTS NEWSLETTER

march-april '77

NUMBER ten

Meetings are held on the third Tuesday of each month, at eight pm; in the Auditorium on the ground level of the Nova Scotia Museum, 1747 Summer St., Halifax.

Field Excursions are held at least once a month, or as can be arranged.

Membership is open to anyone interested in the natural history of Nova Scotia. Membership is available at any meeting, or by writing to Membership, Halifax Field Naturalists, c/o the Nova Scotia Museum. Fee three dollars yearly, with a family membership at five dollars. Members receive the newsletter and notice of all excursions or special programs.

Executive for 1977-78

President Heather Harbord
Secretary Kathy Aldous
Newsletter Debbie Burleson, Peter Welles, Jim Reid
Program Committee .. Mary Primrose
 .. Nan Hennesey
 .. Estelle Laberge
 .. Other helpful people

Mailing Address

Halifax Field Naturalists
c/o Nova Scotia Museum
1747 Summer Street
Halifax, N. S.
B3H 3A6

HFN is a member organization of the Canadian Nature Federation

president's report

One very wet night in the forests of Jollimore, the Executive had an in depth look at the newsletter and its production problems. Since the Museum's print shop is now servicing the whole of the Department of Education, it is very difficult for them to give our newsletter the priority it had before. Hence the increasing delays in publication that we have been experiencing lately. Various alternatives were suggested - all of which require more money. One of the least expensive is to have our members print the newsletter ourselves at MOVE and, in order to try to catch up on the number of issues that have come out so far this year, we decided to try this for this issue which is jointly edited by Debbie Burleson and Jim Reid.

We also decided that in order to get the newsletter out on time, we would go to press on the agreed deadline for each issue even if not all the copy is in. This may result in smaller issues and late copy will have to compete for space in the next issue with new copy.

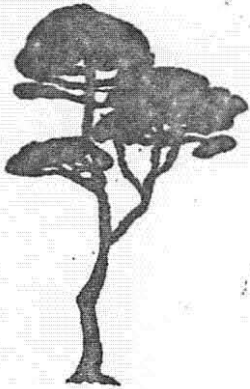
Newsletter copy deadlines for the rest of the year are:-

March-April issue.....	March 25th
May-June issue.....	May 20th
July-August issue.....	July 22nd
Sept.-Oct. issue.....	Sept.23rd
Nov.-Dec. issue.....	Nov.18th

In order to remind members about upcoming meetings and field trips, we will be putting out a flier in the months when the newsletter does not come out. This will be mailed to you eight days before the meeting.

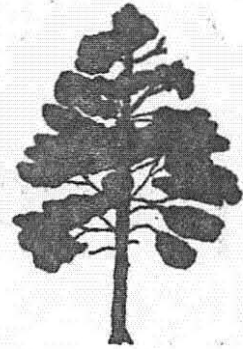
Flier copy deadlines are May 5th, July 14th, Oct.24th, and Dec. 19th.

Our trusty tea makers are emigrating to Sable Island so we need replacements. Sue MacKay has volunteered to help but she can't always be at the meetings so we need at least one and may be two more people. A special vote of thanks to Howard Ross and Sue MacCormick for doing it up till now.



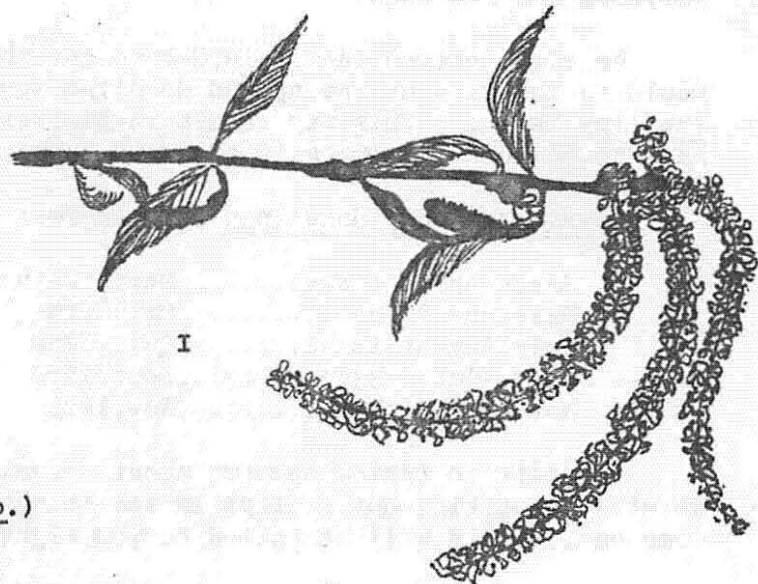
TREES HAVE FLOWERS TOO!

Spring is sprung,
The grass is riz;
I wonder where
The flowers is!



Each spring many of us keep a watchful eye along sidewalks and house foundations for the first snowdrops and crocusses of the season, but forget to look upward and notice that trees have flowers too. In addition to the showy flowers that catch our attention on horse chestnut, mountain ash and the various fruit trees, flowers are also found on most of the common deciduous trees including beech, oak, birch, elm, poplar, willow and maple. Some take the form of catkins while others actually have true petals. Male and female flower parts sometimes occur in separate flowers, and some even grow on different trees. Most tree flowers are coloured in shades of red, green, yellow or white and often appear before the leaves come out.

For more information about trees and their flowers consult NATIVE TREES OF CANADA by R.C. Hosie (available at local book stores or through the Nature Canada Bookshop, about \$6.00 paper).



- A Serviceberry (Amelanchier sp.)
- B Willow (Salix sp.) - female
- C Willow (Salix sp.) - male
- D Red Maple (Acer rubrum) - male
- E Red Maple (Acer rubrum) - female
- F Trembling Aspen (Populus tremuloides) - male
- G American Elm (Ulmus americana)
- H Pin Cherry (Prunus pensylvanica)
- I Yellow Birch (Betula alleghaniensis) - male

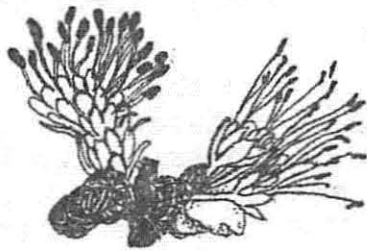
- sketches by Nancy Hooper



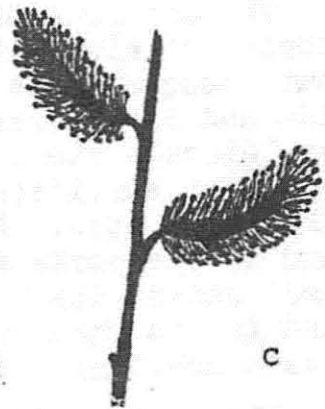
A



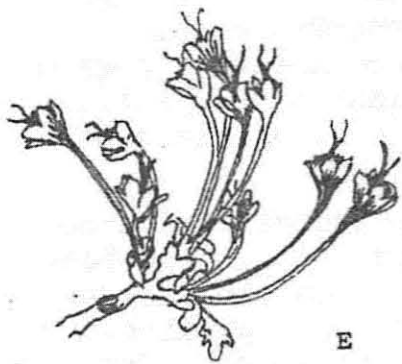
G



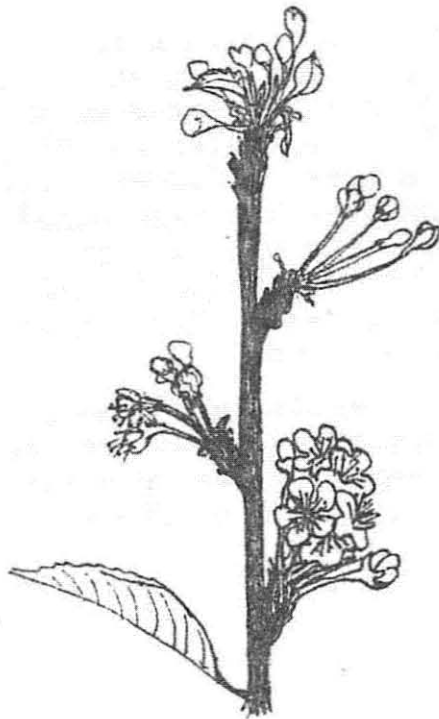
D



C



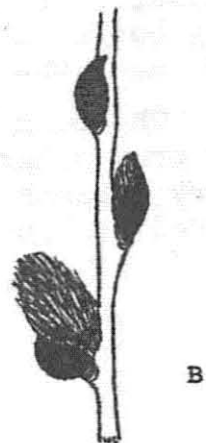
E



H




F



B

Foul + Loathsome Creatures



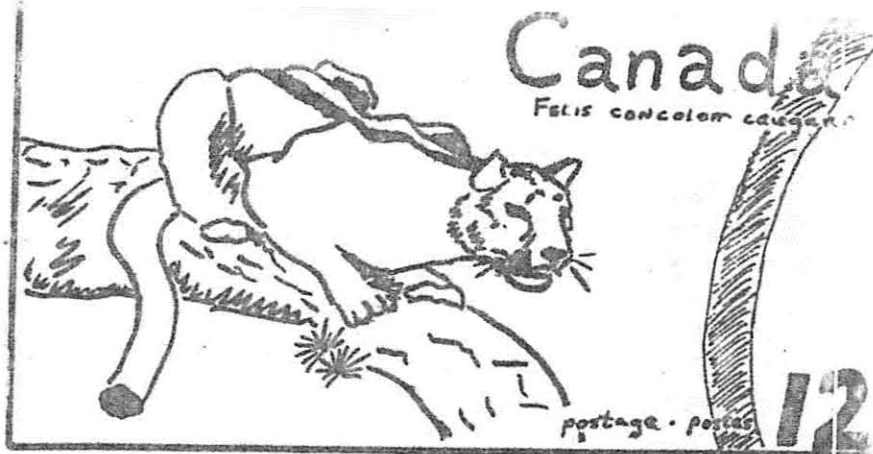
The book has an excellent text which not only presents many interesting facts but also manages to convey a basic overall understanding of amphibians and reptiles. The reptiles dealt with are those found in Ontario's three most southerly national parks and includes all those found in Nova Scotia with the exception of the Eastern Painted Turtle and the Jefferson's Salamander. The casual and humorous tone of the text as suggested by the title presents the information with cartoon-like illustrations in a way that is interesting and easy to read. The book has been written for children and adults alike.

The author deals not only with the biological and behavioural aspects but also with many of the misconceptions that people have about these animals (especially snakes). The book is not a field guide and is organized in a somewhat casual manner. It does, however, discuss the life histories of representative species and gives many specifics on habitats, behaviour, defence and breeding mechanisms, etc.. A section on the rare and endangered species found in the parks discusses the status of each species with regard to man and/or its habitat. A list of the amphibians and reptiles found in the three parks is also included with a note on the status of each species.

The expressed purpose of the book is to help educate the public and as such I feel there has been one major omission. The book lacks any labelled pictures of even the most common species discussed. It does have eight excellent pictures but they are not labelled. The difference between a Wood Frog, a Pickeral Frog, and a Green Frog is harder to remember and somehow has less significance if one does not know what they look like. The book is not a field guide so detailed descriptions of each species graphically illustrated is not necessary but some labelled pictures of rare or interesting species would have made the book more complete.

The book is very informative and does give one a good idea of the true nature and diversity of amphibians and reptiles in Canada. Harry Parsons is to be congratulated on a fine book which is flavoured by his love and dedication to the subject.

CANADA'S COMMEMORATED COUGAR

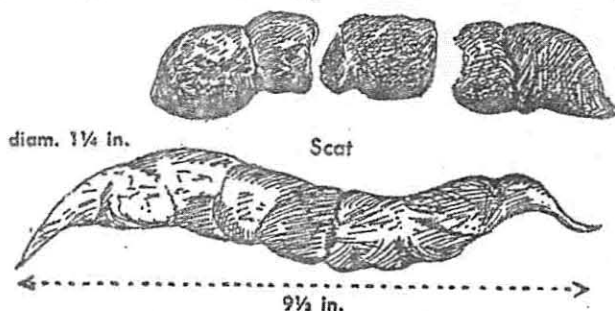
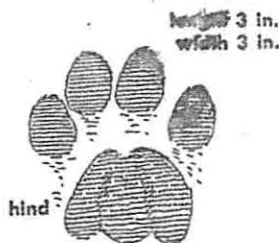


"The cougar stands over her kill. A rumbling gurgle travels through her stomach and becomes a hoarse belch as it is released through her mouth. The big cat yawns, stretches her long, supple body and starts dragging the doe's carcass to the edge of the timberline; she handles the dead weight easily and soon drops it under the canopy of a large hemlock. With her broad paws she drags leaves and mulch over the remains, caching the food that will last her some six days, unless other bush marauders find it while she is away caring for her kittens" (1).

On March 30th this year, Canada Post issued a very attractive 12¢ stamp commemorating an endangered species, the Eastern Cougar, Felis concolor cougar. Designed by Roger Bateman, a wildlife artist, the stamp depicts a cougar crouched in a pine tree in an isolated forest of Eastern Canada.

Many readers may be surprised to learn that cougars, in very small numbers, exist today in every province in Canada except Prince Edward Island and Newfoundland-Labrador. A fairly recent article (2) describes "the panther in the Maritime Provinces". Bruce Wright, a biologist at the Northeastern Wildlife Station at U.N.B., studied the cougars living in eastern Saint John County, west of Fundy National Park, and established the Martin Head Panther Range for scientific purposes. His work over 25 years is now leading to a greater understanding of the population dynamics (distribution, numbers, breeding success and life cycle, territory, food, predators, etc) of the 25-50 cougars he believes are alive today in New Brunswick.

Has anyone in H.F.N. recently spotted evidence of one in Nova Scotia to add to the records? Scientists at the Nova Scotia Museum have told me of a number of reliable reports of cougars in Nova Scotia over the years! It would be quite a sighting! The cougar (or mountain lion, puma, or panther, as it is also called) is described in the Peterson Series (3): head and body 42-54 in; tail 30-36 in; height at shoulder 26-31 in; wt 80-200 lbs; a large tawny to grayish cat, with dark brown on tip of long tail and on back of ears and sides of nose; eyeshine greenish gold; 30 teeth; chiefly nocturnal; secretive and seldom seen; feeds largely on deer and various small



mammals; caches uneaten portions of kills; dens in any concealed sheltered spot; roams widely except when cubs are small; breeds by 2 or 3 years of age having 1-6 cubs at a time; voice of magnified tomcat!!!

So this is a good opportunity to grace your letters and parcels with these beautiful stamps and support Canada Post's effort to draw attention to the plight of and need for conservation of the marvelous cats.

"Turning her back on the hidden deer carcass she moves away through the trees, a long, yellow blur that is at peace with herself and the world she has selected" (1).

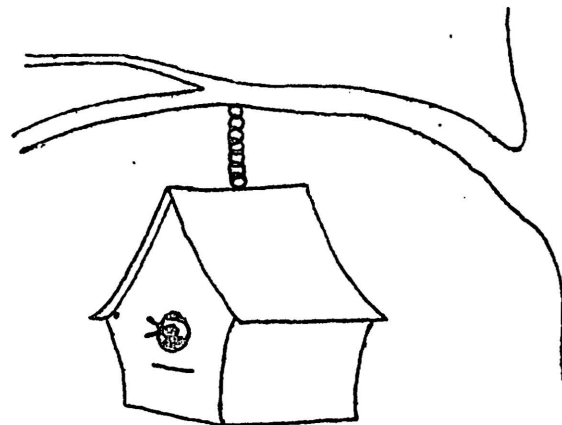
- (1) Lawrence, R.D. 1970.- Wildlife in Canada. Thomas Nelson and Sons (Canada) Limited, Toronto, Ontario. 246 p.
- (2) Wright, B.S. 1972. The Panther in the Maritime Provinces. Park News 8(3):23-28.
- (3) Burt, W.H., and R.P. Grossenheider. 1952. A Field Guide to the Mammals. Houghton Mifflin Company, Boston. 284 p.

P.G. Wells
March 22, 1977.

(Stamp news flash: On April 22, 1977, 6 new definitive stamps showing wildflowers will be issued. They will show the closed or bottle gentian, the western columbine, the Canada Lily, the hepatica, the shooting star, and the sparrow egg lady's slipper. More on these later).

MARITIME NEST RECORDS SCHEME

Spring is the season when MNRers take to field and forest and shore, senses all sharpened and keen to experience the freshness of the season. And if you are lucky and watch carefully, you may even discover a hidden bird nest. If so, the Maritime Nest Records Scheme would be glad to hear about it. They even provide special cards for recording and reporting the details. These can be had by writing to the Canadian Wildlife Service, Box 1590, Sackville, New Brunswick, E0A 3C0.



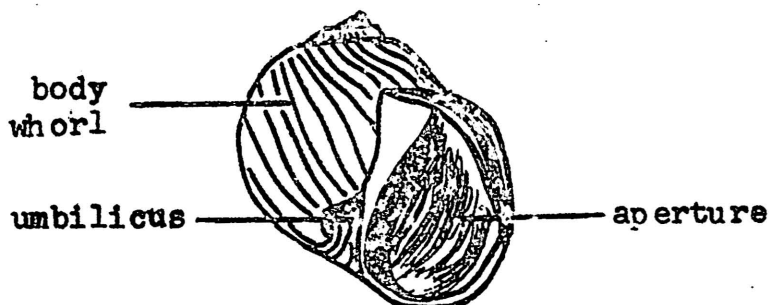
NOVA SCOTIA: SEA and SHORE

COMMON MOLLUSCS OF THE MARITIMES



Spotted Northern Moon Snail

Lunatia triseriata Say



Common Northern Moon Snail

Lunatia heros Say

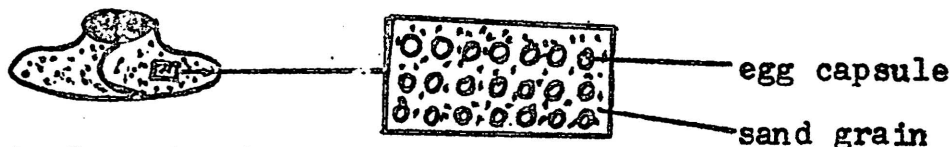
General Characteristics: These 2 species are the most common of the 6 species of moon snail on our Atlantic coast, and they can be found on intertidal sand and mud flats. L. heros has much the larger shell which can attain a height of 100 mm (about 4 inches). Its 5-whorled shell is globular, smooth, and an off-white to dirty brown colour. The body, or first, whorl is very large with a roundish aperture and a glossy white interior. Beside the aperture is a round, deep hole called the umbilicus.

Lunatia triseriata grows to about 30 mm high and has 3 (but sometimes 2) rows of bluish or reddish-brown spots on the body whorl. This species is very common in the Bay of Fundy area and in southwest Nova Scotia (1).

Locomotion and Feeding: The period from dusk to dawn is the best time for finding moon snails on the mud surface, for during the day most of them are buried 2-3 inches below the mud surface at low tide. While in motion, the fleshy foot is fully extended and not only surrounds the shell but sometimes even covers it. It is hard to believe that this large mass of flesh can retract entirely within the shell. Expansion and contraction of the large foot is probably by hydrostatic pressure, as large quantities of water are ejected when the foot is retracted. The moon snail is ideally suited to progression through the substratum as the front of the foot (the propodium) is wedge-shaped, and the shell is globular to minimize friction from the sand or mud.

Lunatia is carnivorous, feeding predominantly on clams and mussels, although it will feed on other snail species, including other moon snails. The snail progresses through the mud in random search patterns until it encounters a clam, at which time the propodium explores the clam shell. The entire foot of the snail then envelops the clam and coats it with mucus - it then attempts to bore a hole through the shell of the prey. There is some controversy as to the mechanism of hole-drilling. The moon snail has a toothed, filelike radula which rasps back and forth over the clam shell. In addition, the snail possesses an accessory boring organ, the function of which is not clear. It may be that the hole is "drilled" by an alternation of mechanical action by the radula and chemical action (to dissolve or soften the shell) by the accessory boring organ. The moon snail leaves a characteristic countersunk hole usually located below the hinge (umbo) area of the clam.

In some cases Lunatia has been known to devour clams without drilling a hole. Perhaps the mucus it secretes over the prey acts as a muscle relaxant or as a suffocant (2).



typical sand collar
of a Moon Snail

Reproduction: Mating on the surface usually takes place at night but can occur at any time below the surface. The reproductive act has rarely been seen so it is difficult to describe. There is a pronounced size difference between the sexes, as the growth rate of the male is much slower. In a mating pair, although both individuals may be the same age, the female is larger.

One intriguing feature of moon snail reproduction is the unique egg mass. Beachcombers in the spring and summer will often find volcano-shaped sand collars up to 90 mm in height on the mud surface. These have been manufactured by the female and contain her eggs. A cross-section of the sand collar reveals a layer of eggs in several rows surrounded by sand grains. These grains are held together by a mucus secreted by the female. When moist the sand collar is very flexible, but it becomes very brittle upon drying. If you hold the sand collar up to a light, you can very often see the eggs inside it.

The process of sand collar formation is well worth describing, and the work of Giglioli (3) is summarized here. Collar formation occurs below the sand surface and takes 10-14 hours involving a low tide, a high tide, and another low tide phase.

At low tide the female will secrete mucus on the sand surface. As the tide begins to come in she will burrow a few inches into the substratum. While buried she moves in a clockwise, circular direction secreting mucus and forcing her shell against the substratum to press sand and eggs into the mucus ribbon. As the tide ebbs once more, the female travels around and over the collar to trim and "finish" it, and at the same time she passes under it and forces it to the surface with her shell. The collar finally is pushed onto the mud surface and the female leaves.

The structure of the sand collars differs among moon snail species. In general, the collar belonging to L. triseriata has thick rigid walls in which the egg capsules are large and visible to the naked eye. The sides of the collar are bumpy as they follow the contours of the egg capsules. For L. heros the walls are thinner, flexible, and the eggs are numerous and so small that they are virtually invisible to the eye. The sides of the collar are smooth.

Larval Development: After a certain period of time which depends on the species, the ability of the egg capsule to retain water decreases, and the capsule dries out, causing the sand collar to crumble. When this happens, the larvae are released.

The egg capsules of L. triseriata are large and contain copious amounts of jelly to nourish the single (but sometimes 2) embryo within each. The larva in its capsule will reach a very advanced stage of development before it is released after 5-7 weeks, and it will take up a semi-planktonic to benthic (bottom-dwelling) existence.

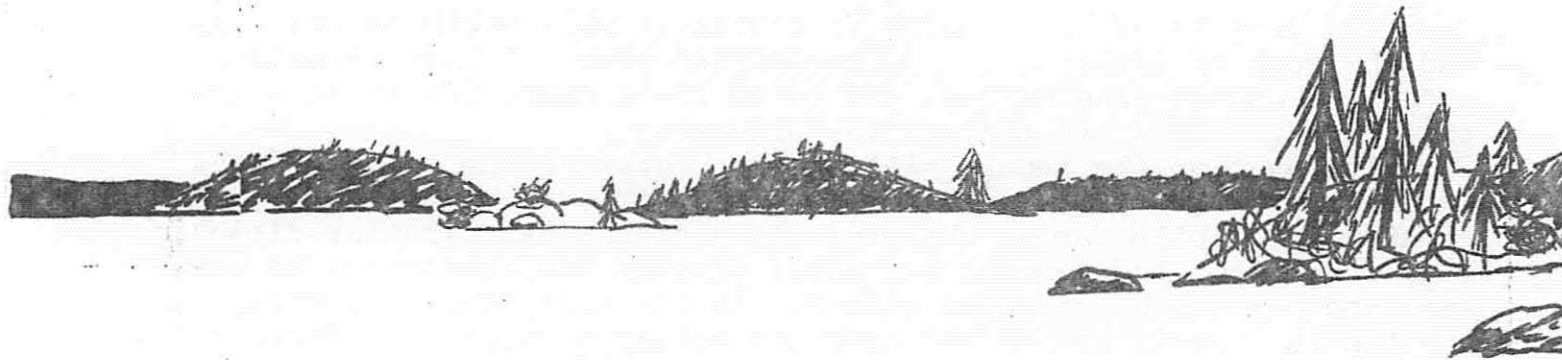
L. heros, in contrast, has very small egg capsules, each containing as many as 125 young. Each capsule is poor in nourishment, so the sand collar will crumble after 1-3 weeks to release the larvae in a much less advanced stage of development. All these larvae are planktonic.

REFERENCES

- (1) Bousfield, E.L. 1960. Canadian Atlantic Sea Shells. National Museum of Canada. p. 17.
- (2) Giglioli, M.E.C. 1949. Some observations on the biology of the whelk, P. heros Say, 1822 and P. triseriata Say, 1826 of Belliveau Cove, Nova Scotia. Manuscript Report, Fisheries Research Board of Canada, #398. 140 p.
- (3) Giglioli, M.E.C. 1955. The egg masses of the Naticidae (Gastropoda). Journal of the Fisheries Research Board of Canada 12(2):287-327.

NOTE: In the reference 2, the letter "P" stands for Polinices, the old name for this genus before it was changed to Lunatia.

Michael V. Burke
April 4, 1977.



FEB. 27TH CROSS-COUNTRY SKI TRIP

On a mild sunny Sunday at 10:00 am seven people arrived, skis and poles in hand, at the museum parking lot. All seven inexperienced cross-country skiers decided to pile their equipment and themselves into the only available means of transportation, Heather's Aspen station-wagon.

We proceeded to Portobello Road via the Waverly Road and then along Portobello Road as far as Spider Lake Road. We drove to the end of the road and unloaded our skis. We then realized no one knew anything about waxing skis, so that procedure took an extended period of time. At last we were ready to don our skis and to hit the trail.

The uphill-downhill trek to Spider Lake was punctuated by many tumbles. We weren't the only ones travelling over the snow; approximately one million snow fleas joined us. We split up when we reached the lake and explored until it was time for lunch. We picked a small island walled with lichen encrusted rocks, and sat down on the rocks for lunch. While we ate we had one lone visitor, a tiny shrew who scampered back and forth, in and out of tunnels in the snow.

After lunch we explored the rest of the lake and then set back over the trail to the car. By this time the warm sun had melted the snow to slush in some places making it rather slippery under-ski.

We reloaded the station-wagon and returned to the museum parking lot, unloaded and visited the display of Indian crafts on the main floor of the museum.

Perhaps next year we'll be able to do it again and have an equally enjoyable time and be a little more experienced.

Sue MacKay



HFN AWARDS PRIZE AT REGIONAL SCIENCE FAIR

The first Halifax-Dartmouth Regional Science Fair was held at Halifax West High School on the Weekend of April 2 and 3. Over 120 students ranging from grades 7 to 12 presented exhibits on their work in a variety of scientific fields. Exhibits ranged from model volcanoes and solar heaters to experiments on whether plants respond to music.

HFN had arranged to give an award for the best exhibit dealing with "Natural History and Conservation". There were three HFN members judging for the award - Estelle Laberge, Howard Ross, and Paul Keddy. We were disappointed at the few exhibits which could be judged in this category. There was an overwhelming emphasis on the more technological sciences and engineering. We were concerned this might in part reflect the emphasis on these sciences in our schools.

This year our award went to Stella Couban, a grade 10 student from Sir John A. MacDonald High School. She studied the water quality of various lakes, as well as the Bedford Basin. The experimental work had been well done, and Stella has clearly carried out a lot of field work as well. An interesting result was the presence of a serious disease organism in Lake Banook - almost certainly the result of sewage pollution. Stella received a book prize, a scroll (beautifully done for us by Pat Evans) and an HFN membership.

We hope that this HFN award, which will be presented annually, will encourage more interest in field biology oriented projects in future years.



HFN CONSERVATION CORPS

Martinique Beach is (or was) one of the finest beaches on the eastern shore. It is a long expanse of barrier beach which stretches across Musquodoboit Harbour. It protects a rich salt marsh which is a Game Sanctuary.

The beach is a tragic example of resource abuse. Intensive recreation, four wheel drive vehicles and dune buggies have destroyed large areas of vegetation. The damage was compounded this winter when a severe winter storm broke entirely through a section of the beach.

Unless the damage to Martinique is repaired, the beach may break up entirely. Lands and Forests finally (after years of pressuring by concerned citizens) fenced off most of the road and parking lots last fall - this should considerably reduce vehicle damage. Apparently the Department of Lands and Forests will also be constructing boardwalks this summer - this will reduce the damage which occurs as people walk across the vegetation to reach the beach proper.

The HFN conservation corps - headed by Murray Cunningham - has decided that Martinique Beach should be the first project for the conservation corps to tackle. On the weekend of April 23 and 24, volunteers of the conservation corps plan to arrange brush and spruce trees to help rebuild the destroyed section of dune and several blowouts. This will act like snowfencing and trap sand being blown by the wind. Areas where the vegetation has been completely destroyed will be replanted with Marram Grass from adjacent areas.

We are waiting for final confirmation of details from Lands and Forests. We hope to be able to stay overnight in their Musquodoboit Harbour depot. We are also dependent upon them for a supply of brush and spruce trees. If all goes well, we will stay the weekend, providing our own food, sleeping bags, etc..

If you are interested in participating in this - or future HFN conservation corps projects - let us know. Contact Dr. Murray Cunningham 429-4751.

BOOK REVIEW

LOOKING BACK - Recollections of a Migratory Bird Officer, by
Robie W. Tufts

When the federal Migratory Birds Convention Act became law in Canada in 1918, Dr. Robie Tufts was appointed Chief Federal Migratory Birds Officer for the Maritime Provinces, a position which he held for 28 years. Dr. Tufts, also author of the definitive BIRDS OF NOVA SCOTIA, was given five full-time deputies to assist in the enforcement of the Migratory Bird Act, which regulates the hunting of ducks and geese, and gives protection to shore birds and other migrant species. LOOKING BACK is a short collection of some of the experiences which the author had during his first 13 years as an enforcement officer. Dr. Tufts was not the type of man to patrol well-traveled roads checking hunting licenses and obtaining easy convictions for minor offences. Instead, he and his dedicated assistants carried out a broad spectrum enforcement program which involved prosecution for illegal possession of terns' eggs, spring goose hunting, illegal sale of geese, night shooting, and problems concerning offenders with political connections.

The reason why the book covers a period of only 13 years is simple. In 1932, after obtaining more than 600 convictions under the MBA, irrespective of the offenders political preferences, the top brass of the political arena in Ottawa were so bothered by complaints from local Members of Parliament whose party supporters had run afoul of the bird-laws - and Robie Tufts - that all five of his assistants were fired and he was instructed to stop law enforcement and to act as liason officer with the RCMP, who from then on would enforce the Migratory Bird Act.

What has been the attitude of the RCMP toward the protection of migratory birds since assuming this responsibility? One of their officers answered this question shortly after the change-over: "Oh, we haven't time to look after the sparrows." Dr. Tufts laments today that if there has been any appreciable change in the general attitude of this Force since 1932, it has escaped his notice.

At the age of 93 Robie Tufts still has strong convictions when it comes to the protection and preservation of our bird life. Reminiscing by a cheerful fire at his home in Wolfville, Nova Scotia on a cold November day, he recalled that too often in his long and colorful career government officials of high position had put more value on political votes than on the wildlife their office was entrusted to protect. He feels very strongly that the RCMP have neither the inclination nor the competence to properly manage and protect our migratory bird resources, and as a result of their negligence the violation of game laws has become a way of life for those in the Maritimes who have no regard for the future of this priceless asset.

These feelings were strongly put forward when I chatted with this remarkable man, and although this short book does not reflect all of his views, it is well written, at times humorous, and gives insight to the many problems facing officers who dedicate themselves to the protection of our migratory birds.

Copies of LOOKING BACK may be obtained from the author in Wolfville, Nova Scotia. (72 pages, paperback, \$2.50)

Ralph S. Widrig

BEE PASTURE and HONEY PRODUCTION



fig. 145

Trèfle-blanc, fl. blanches



fig. 154

Aster, fl. jaunes et blanches

Commercial apiaries in Nova Scotia are small in comparison to those found in the prairie provinces, (apiaries with 1000 to 2000 hives are common there as compared to our apiaries, a few of which have 500 to 600 hives). An average yearly yield per hive here in Nova Scotia is about 70 pounds of honey while in Manitoba the average is approximately 200 pounds. The reasons for such a dramatic difference are due to the climate and the quality of beepasture available. The prairie climate while more severe in winter than our own, is steady and not subject to the ups and downs we experience here. The summers there are also warmer and again less likely to be as variable as our maritime summer, with its fog and cooler temperatures that are not as ideally suited to maximum activity (and therefore maximum productivity) of cold-blooded animals such as the Honey Bee. The nature of agriculture in the west is well suited for large scale honey production. Large acreages of rapeseed, sweet clover, alfalfa, alsike clover and legume seed production are capable of yielding 30 pounds of honey per day to nearby individual hives during the main honey flow. The comparatively smaller acreages of good bee pasture in the maritimes result in comparatively smaller honey yields, especially if the bees must expend more energy in the gathering of pollen and nectar when suitable pasture is interspersed with unuseable lands. Beekeeping in Nova Scotia as a commercial endeavour can be divided into honey-wax producers and pollination operations. Orchard crops, blueberry and strawberry production yields are heavily dependent on the pollination services supplied by some beekeepers who specialize in this activity.



fig. 141

Moutarde, fleurs blanches.



fig. 159

Ronce, fleurs blanches



fig. 119

Menthe, fleurs roses

As well, we have a large number of beekeepers with small apiaries of 2 to 10 hives whose interest in beekeeping is not linked with the larger commercial scale operations. These people can produce enough honey each year to meet their own needs and usually sell the surplus they have to friends. Although the average honey production for Nova Scotia is generally low, some beekeepers are consistently capable of harvesting at least 150 pounds of honey per hive per year and in some cases as much as 270 pounds. They are able to achieve these results through careful management techniques that are based on observation and knowledge of bee behaviour. The importance of proper hive location with respect to the appropriate bee pasture cannot be underestimated. To have a successful harvest you need the bees and a good continuous supply of nectar and pollen.



fig. 144
Sarrasin, fleurs blanches
rosées.



fig. 146
Colza, fl. jaunes



fig. 152
Noisetier coudrier
fl. jaunâtres



fig. 151
Thym, fl. roses et bleues



fig. 158
Erable, fleurs jaunes
verdâtres.

A new hive with about 8000 worker bees in the last week of April must increase to a force of approximately 30 to 50,000 by mid August, the time of the main summer honey flow. During this period the Queen must lay enough eggs to replace the workers who die (life span of about five to six weeks during periods of high activity) and at the same time maximize the work force. The first five weeks is a critical time period, for the worker bees that were hatched in the late fall will die around the time that the young workers emerge from the hive. The old workers during the critical period must draw out comb in which the queen lays the eggs, the larvae that hatch out must be fed, the hive must be ventilated to maintain a proper hive temperature and to allow the ripening of honey (14-20% water) from nectar (50-75% water), nectar and pollen (protein source) must be gathered and stored to meet the ever increasing demands of an ever expanding population.



fig. 153
Acacia, fleurs blanches



fig. 155
Bruyère, fleurs roses



fig. 163
Tulipe, fl. jaunes rouges



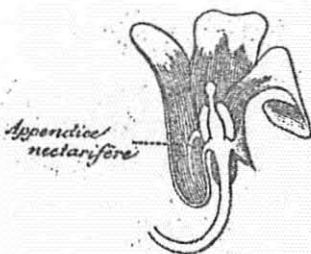
fig. 158
Lierre, fl. jaunes

In the first weeks of spring a pollen substitute (yeast and soya flour), sugar syrup and antibiotics are given to the bee colony to ensure a good start. However, once the warm, sunny days and the emergence of spring flowers begin, the need for these protein and energy substitutes is eliminated if the hive is in close proximity to natural sources. This is important because during the cool days of spring the radius of bee activity may be restricted to only half a mile while during the warmer summer months the radius may extend to a radius of one and a half to two miles.

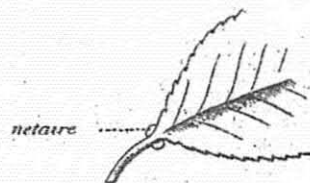
The ideal type of bee pasture has a diversity of plants with a staggered flowering schedule thus allowing pollen and nectar to be available continuously throughout the spring, summer and fall. In the spring, trees are a plentiful and sometimes excellent source of both pollen and nectar. Included amongst these are Willows, Maples, Oak, White Birch, Ash, Walnut, Alders, Plum and Apple. As well during this period the Dandelion is an important contributor of pollen and nectar. The major honey plants of the Midsummer Bloom include strawberries, Buckwheat, Alfalfa, Alsike Clover, Red Clover, White Clover, Blackberries, Wild Mustard, Hops, Thyme, and Purple Thistle. The major plants of the Fall Bloom include golden rod, Asters, White Clover, White Mustard, Flax, Mint, Climbing Ivy etc..

The knowledge necessary to be a Beekeeper and not a Beehaver requires a knowledge of bee behaviour and natural history as well as a familiarity with botany. If you are interested in locating a couple of hives in the Halifax-Dartmouth area, you should attend the next HFN meeting (at which G.G. Smeltzer an authority on Beekeeping and a Field Crop Specialist with the Kentville Research Station will speak on "The World Food Situation and The Importance of Beekeeping"), and enquire about the possibilities.

- Acacia - Acacia
- Aster - Aster
- Bruyere - Heather
- Cerisier - Cherry
- Colza - Rapeseed
- Erable - Maple
- Lierre - Ivy
- Menthe - Mint
- Moutarde - Mustard
- Noisetier - Hazel
- Ronce - Blackberry
- Sarrasin - Buckwheat
- Trefle-blanc - White Clover



Flours de Violette
fig. 137



Feuille de Cerisier
fig. 134

COMING EVENTS -- SUMMER 77

(The January/February issue of the HFN Newsletter was lost by the printer! It is now being printed and will be sent out shortly. Sorry for the delay)

- May 17 The Ecology of Nova Scotian Lakes - mthly meeting, 8:00 PM, N.S. Museum
- May 28, 29 Kejimikujik National Park - A combined weekend long field trip of the Halifax Field Naturalists and the Nova Scotia Bird Society. Accompanied by the park naturalist, we will explore a mature hemlock stand an old growth hardwood area and a red maple floodplain. Favourite habitat of birds and other wildlife will be visited. The campground will be open and canoes will be available for rent. Contact Kathy Aldous (479-3032, evenings) if interested.
- June 1 Early morning bird walk(with Don MacDougall) - Meet in front of the Highland Theatre at the rotary at 6:00 AM. The search for spring birds will last approximately 2½ hours.
- June 21 An Ecologist View of Nova Scotian Forests - Dr. Barry Goldsmith will speak at the monthly meeting at 8:00 PM in the N.S. Museum.
- June 26 Pond Life - An afternoon walk, meeting at the N.S. Museum parking lot at 1:30 PM.
- July 19 Edible Wild Plants - The monthly meeting will have Scott Cunningham as guest speaker at 8:00 PM at the N.S. Museum.
- July 23 Old Annapolis Trail - A daylong excursion through the forests of the Bowater-Mersey Paper Co. Ltd., accompanied by a representative of the company.
- August 16 Salt Marshes - Monthly meeting, 8:00PM, N.S. Museum.
- August 21 Field Trip - to Cole Harbour Salt Marshes

Membership in the Halifax Field Naturalists is open to anyone interested in the natural history of Nova Scotia. Membership fee is three dollars annually, family membership five dollars. Come to a meeting or write care of the Nova Scotia Museum, 1747 Summer Street, Halifax.

All members are reminded that we would like to receive your fees for 1977.

Halifax Field Naturalists new _____ or renewal _____

name _____

address _____

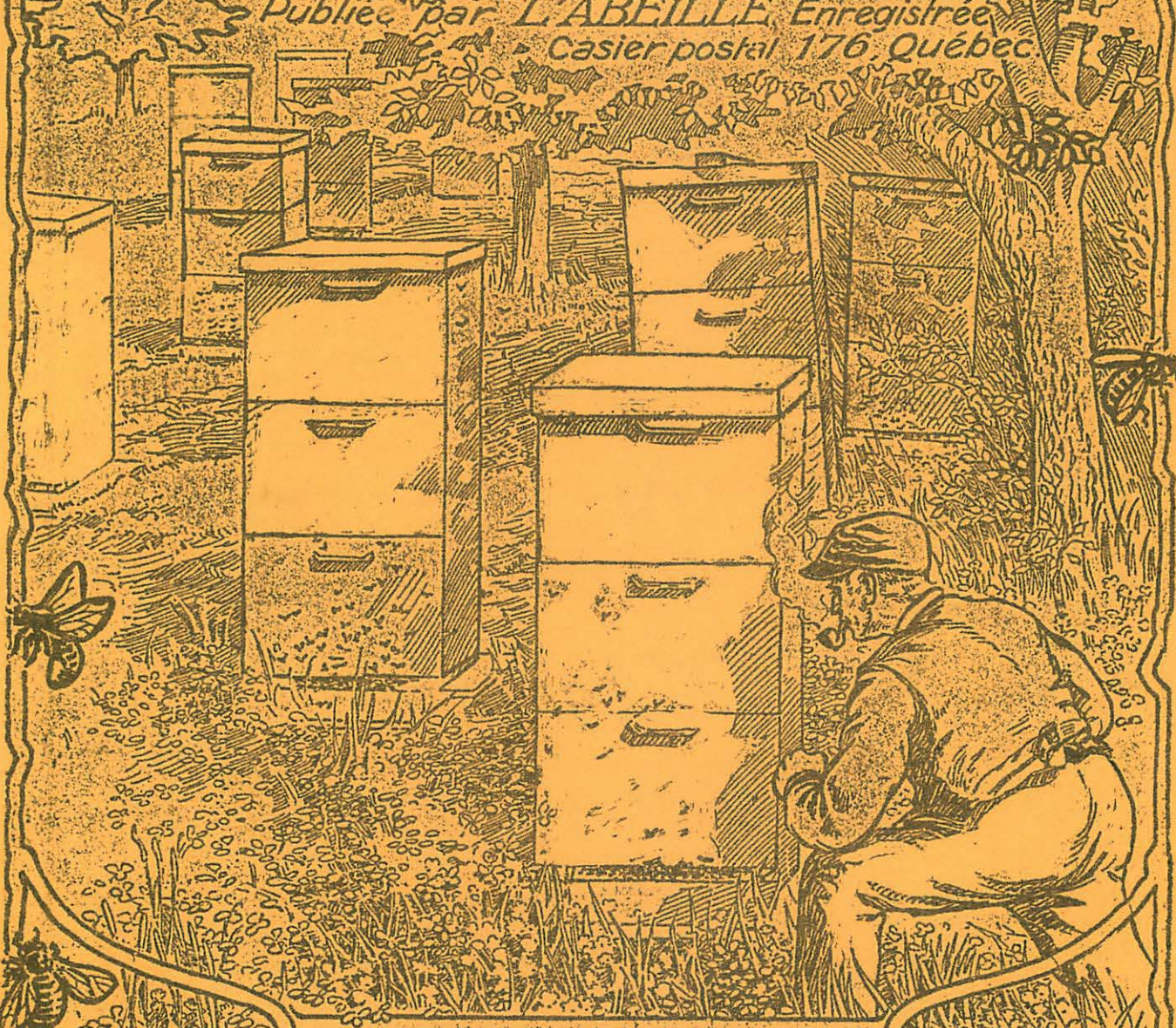
occupation or interests _____

suggestions for programs? _____

BERGERVILLE
Mère St-Joseph, 25-1-2
Sillery
Couvent Jésus-Mari

L'Abcille

REVUE APICOLE
ORGANE DES APICULTEURS DE LA PROVINCE DE QUEBEC
Publiée par "L'ABEILLE" Enregistrée
Casier postal 176, Québec



Directeur: M. C. VAILLANCOURT,
Apiculteur en Chef, Ministère de l'Agriculture,
Québec