

THE HALIFAX FIELD NATURALIST

No. 103
June to August 2001



Succulents

News & Announcements p. 3
Reports p. 4
Talks p. 7

Field Trips p. 8
Almanac pp. 13 & 14
Halifax Tide Table: July - August p. 15

Return address: HFN, c/o NS Museum of Natural History, 1747 Summer Street, Halifax, NS, B3H 3A6

OBJECTIVES are to encourage a greater appreciation and understanding of Nova Scotia's natural history, both within the membership of HFN and in the public at large. To represent the interests of naturalists by encouraging the conservation of Nova Scotia's natural resources.

MEETINGS are held, except for July and August, on the first Thursday of every month at 7:30 p.m. in the auditorium of the Nova Scotia Museum of Natural History, 1747 Summer Street, Halifax. Meetings are open to the public.

FIELD TRIPS are held at least once a month, and it is appreciated if those travelling in someone else's car share the cost of the gas. All participants in HFN activities are responsible for their own safety. Everyone, member or not, is welcome to take part in field trips.

HFN POST Halifax Field Naturalists
c/o Nova Scotia Museum of Natural History, 1747 Summer St., Halifax, Nova Scotia, B3H 3A6
EMAIL hfnexec@chebucto.ns.ca
WEBSITE <http://chebucto.ns.ca/Recreation/FieldNaturalists/fieldnat.html>

FNSN POST Federation of Nova Scotia Naturalists
c/o Nova Scotia Museum of Natural History, 1747 Summer St., Halifax, Nova Scotia, B3H 3A6
EMAIL doug@fundymud.com (Doug Linzey, FNSN Newsletter Editor)
WEBSITE <http://chebucto.ns.ca/Environment/FNSN/hp-fnsn.html>

MEMBERSHIP is open to anyone interested in the natural history of Nova Scotia. Memberships are available at any meeting of the society, or by writing to: Membership Secretary, Halifax Field Naturalists, c/o NS Museum of Natural History. New memberships starting from 1 September will be valid until the end of the following membership year. The regular membership year is from 1 January to 31 December. Members receive the HFN Newsletter and notices of all meetings, field trips, and special programmes. The fees are as follows:

Individual	\$15.00 per year
Family	\$20.00 per year
Supporting	\$25.00 per year
FNSN (opt.)	\$ 5.00 per year

EXECUTIVE	President	Bob McDonald	443-5051
2000-2001	Vice-President	Stephanie Robertson	422-6326
	Treasurer	Janet Dalton	443-7617
	Secretary	Harry Beach	469-4166
	Past President	Ursula Grigg	455-8160

DIRECTORS Elliott Hayes, Linda Payzant, Peter Payzant, Bernice Moores, Clarence Stevens, Colin Stewart

COMMITTEES **Membership** Linda Payzant 861-1607

Programme

Talks & Trips	Pat Leader	457-9197
	Grace Kendall	453-1074
Production	Stephanie Robertson	422-6326

Newsletter

Editor	Ursula Grigg	455-8160
Almanac	Patricia Chalmers	422-3970
Production	Stephanie Robertson	422-6326
Distribution	Shirley McIntyre	835-3673
	Pat Leader	457-9197
	Doris Young	457-2827

Refreshments Regina Maass

Conservation Colin Stewart 466-7168

FNSN Representative Doug Linzey 1-902-684-0943

ARTWORK All uncredited illustrations by H. Derbyshire or from copyright-free sources. Halifax Tide Tables - Canadian Hydrographic Service, Fisheries and Oceans Canada. Covers - M. K. Hawthorne, Cactus and Succulents, Sunset Books, 1982; p. 4 - Keji Interpretation, The Turtles; p. 8 - salamanders, Fred Scott; p. 11, Cinquefoil, W. B. Schofield, Plaster Rock, J. S. Erskine, 1958.



HFN NEWS AND ANNOUNCEMENTS

EDITORIAL

It's Midsummer, and so far a very satisfactory season. But The Halifax Field Naturalist needs some help; we especially need a temporary production editor, as Stephanie Robertson is going to be away for a while. The Halifax Field Naturalist is presently produced on a Macintosh using Pagemaker 6.5 software. Anyone proficient with producing text and graphics on a computer with relevant publishing software, and the commitment to carry this out in a timely manner four times per year, could do this.

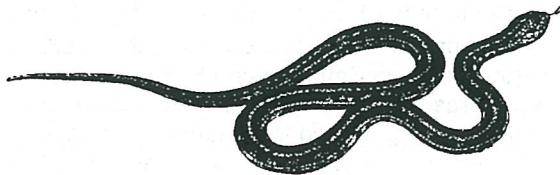
We need more writers too, especially for field trips. It is no harder than writing a letter, and can be part of the fun. The Bird Society seems to have it right – they put their heads together after a trip to remember what they saw. The account is handwritten or e-mailed and sent to the editor. Our editing follows 'Elements of Style', by Strunk and White. We try to edit submissions as little as possible; we just make sure the text reads clearly.

We have plenty of members who know their plants, or birds or butterflies, and enjoy making lists. Providing or checking the Latin names is a job for the editor, who gets them from authorities used by the Museum. People enjoy reading about our field trips, and publishing formal lists is a potent way of protecting our environment. The more information there is on the biology of any place, or the more records of occurrences there are, the better the Museum can answer questions on the suitability of an area for protection, or recommend protection for certain species (this reasoning also lies behind the Thousand Eyes project, now due to begin in September).

By the way, anyone can use binomials taken from an accepted field guide. It is only necessary to know which book was used. All the Peterson's and Audubon guides qualify. Tufts 'Birds of Nova Scotia' is a local standard for birds, and the newest standard for plants is 'Roland's Flora of Nova Scotia', edited by Marian Zinck. Latin names are international, and prevent the confusion which results from using local ones.

Please help if you can, but anyway, enjoy your summer sightings!

– Ursula Grigg



HERPATLAS

Cards and instructions for recording sightings of reptiles and amphibia can be found at the Museum of Natural History, Summer Street, Halifax, or the Biology Department, Acadia University, Wolfville, N.S., B0P 1X0; 902-585-1313.

Ask for the colour identification sheet! And, go to <<http://landscape.acadiu.ca/herpatlas>> for a colourful, informative website.

FNSN AGM

Doug Linzey, the HFN representative to FNSN, and editor of their newsletter, has reported on this year's Annual Meeting. As usual, it was a wonderful round of trips and activities. His report is on page 4.

CONGRATULATIONS CARL!

Congratulations to HFN member Carl Munden on the publication of his book, 'Native Orchids of Nova Scotia; A Field Guide'. This beautifully-illustrated book presents Nova Scotia's 39 species of orchids according to their habitats, in a way that satisfies both naturalists and taxonomists.

Published by Univeristy College of Cape Breton Press, this book is not yet easy to find, but can be ordered through a book shop. The Nova Scotia Natural History Museum gift shop stocks it.

NEW HALIFAX HIKING CLUB

The Chebucto Hiking Club, Nova Scotia's newest walking/hiking club, is hosting its inaugural event on Thanksgiving weekend, October 5-8, 2001 – "Walking Antigonish & Cape Breton". This is a four-day, five-hike event.

They will also offer 40 guided hikes during the year 2002. For membership and/or more detailed event information, contact Ruth or Bill, 477-7142; or email <chebuctohiking@hotmail.com>.

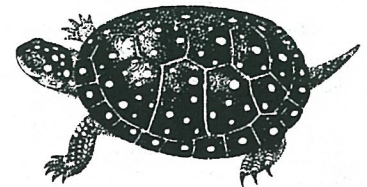
– William Parker, President, CHC

LATEST DISEASE SCARE

In May of this year, the Japanese Federal Agricultural Office announced a ban on all small rodents as house pets, along with an extermination order for existing pets.

This announcement follows the discovery of some nibbled mattresses in Tokyo and other nearby communities.

Authorities are reportedly asking for immediate compliance, as they fear an outbreak of futon mouse disease.



NEW AND RETURNING

Gertrude Pitcher
Kumiko Suzuki
Sharon Taylor

SPECIAL REPORTS

PRESIDENT'S REPORT

The end of the March, 2001 President's Report, missing from the last issue!

Our volunteers have contributed mightily to our success. Marie Moverley ran the Programme Committee almost single-handedly; the new Committee will have the three members it needs, with Marie still involved. Janet Dalton has taken charge of our treasury and our tax returns, which have become much more complex recently; Tony MacKay continues to help.

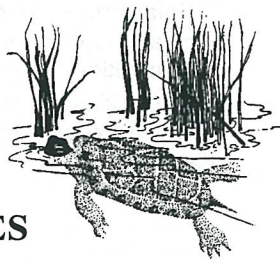
Many members have written for the 'Halifax Field Naturalist'. The Newsletter Committee still consists of me as Editor, Stephanie Robertson as Production Editor, and Pat Chalmers, who compiles the Almanac. 'The Halifax Field Naturalist' is distributed by Shirley McIntyre, helped by Doris Young and John Malley.

Linda and Peter Payzant have kept our web page and public service announcements up to date; they produced quizzes for the Spring Social, and Peter chaired the monthly meetings. Regina Maass provided refreshments, often with delicious home-baked cookies. Doug Linzey represented us at our provincial federation, FNSN. So many people helped, in all sorts of ways, and everyone seemed to enjoy HFN programmes.

The Board of Directors is losing two members. Shirley McIntyre is stepping down after many years as a blessedly precise membership secretary, and before that as Treasurer. Marie Moverley is taking a well-earned break from the Board, where her own enjoyment contributed so much to our programme. Thank you for all your hard work, Shirley and Marie; HFN will miss you.

I am grateful to the Board of Directors for their support this year. We held three meetings and kept the e-mail flowing; we did not achieve all we intended, but there is always next year.

At the end of my two year tenure as President, I have come to appreciate HFN's strength and solid values. I have enjoyed myself and learned a lot. Thank you for electing me. — Ursula Grigg



BLANDING'S TURTLES

The following is from a letter sent to Randy Lauff by Eric Alcorn, who works on Blanding's Turtle in the summers. Randy forwarded it to NatureNS.

"Thanks for the interest in the Blandings Turtle; here are my thoughts off the top of my head. The adult population has remained pretty much unchanged for the last 20 years or so. This is due to several possible factors. Recruitment has been low, or negligible, from the 50's - 70's due to elevated predation of nest sites, and loss of nest sites due to development and flooding. The elevated predation is due to the elevated population of raccoons supported by park visitors. Unfortunately, the

main camp ground is located near enough to a major nesting area to affect nest survivorship.

Since the 80's we have been engaged in more or less intensive nest protection. However, given the long generation time of the animal, the impact on the adult population may not be seen until now or the near future. For example, we have not had a new female nesting in over 20 years (I think), though last year I found some juvenile females in their early 20's that may be ready. The other problem is census – they just won't fill out the forms! Though we are quite confident of the adult numbers, we are not sure of the juvenile numbers.

Starting last year, the park is now counting juveniles. The fact of the matter is we had to find out where they were first. Hopefully this summer we may have some estimate of the numbers, which will give us some indication of how successful the nest protection program has been.

I'm glad to see that people are interested. I'm always looking for volunteers for the nesting program. It would be a great opportunity to see the population for themselves."

— Eric Alcorn, <ealcorn@stfx.ca>



FNSN AGM REPORT

More than 100 Nova Scotia naturalists met in the new firehall in Lunenburg on the June 1-3 weekend for the 2001 Federation of Nova Scotia Naturalists annual conference and AGM. The event was sponsored and organised by the South Shore Naturalists Club under the able leadership of Jill Comolli, president of the group. At least nine of the 11 member clubs of the federation were represented, with a good showing from HFN.

The poster displays included those from the Canadian Ocean Habitat Protection Society; the Kingsburg Coastal Conservancy; the Keji Seaside Adjunct; the Piping Plover Guardian Program; the LaHave River Watershed Enhancement Foundation; Friends of Crescent Beach; Green Bay and Area Society; the Bluenose Atlantic Coastal Action Program; and the Lunenburg County Trail Coordinator.

On Friday evening, many joined Eric Croft for a Lunenburg (a UNESCO Heritage site) walking tour. Eric is very knowledgeable – and you can't miss his sign across from the Fisheries Museum of the Atlantic.

What naturalists could do without those 6:00 a.m. nature walks on Saturday and Sunday? The subjects were birds, plants, and photography. Each day after breakfast we gathered for presentations on local and current topics. After lunch, there was a wonderful variety of field trips.

The first presentation on Saturday morning by Wendy Muise, Merrill Heubach, and Bill Freedman was about the campaign to preserve Gaff Point, a 122-acre headland that juts out into the Atlantic from Hirtles beach. Gaff Point has always been privately owned but never really developed. The public has used it for many decades. But when one of the properties came up for sale, and development threatened, a group of nine people formed the Kingsburg Coastal Conservancy in

1995, with the goal of preserving "wise and generous stewardship of the land." To date, 71 acres have been secured, the Nova Scotia Nature Trust has become involved, and the Nature Conservancy of Canada has joined a \$1.3 million campaign to buy the whole point. The goal will be to conserve natural values while allowing access to traditional activities. Public access will be free.

Geologist Howard Donahoe was next, telling us all about Nova Scotia gold – how it gets in the rocks, how it gets discovered, and what it's good for. He took us back 500-million-years to the time when Nova Scotia was being formed. Back then, some of the constituents of our province, specifically magma and quartz, combined in such a way to concentrate gold sufficiently for future human uses. The properties of gold (very dense, inert, highly conductive) have made it valuable for jewellery, coins, dental crowns, electronic circuitry, and heat screens on buildings and spacecraft.

Next, FNSN president Martin Willison gave us an update on the cold-water deep-sea corals of Nova Scotia and elsewhere. Hook-and-line fishermen have known about these corals for generations. Deep-sea dwellers, no one ever sees them from the surface. Until the last decade very few people knew about their existence. Nova Scotia has at least 20 named deep-sea corals. The submarine banks of offshore Nova Scotia and much of northern Europe have been home to corals since the glaciers receded. Unfortunately, we have probably destroyed much of the coral by now with draggers.

Derek Jones and Sanford Atwood, two Southwest Nova fishermen, are championing the preservation of the cold-water corals. They believe that the reefs hold the key to fish productivity, and that their destruction by large commercial bottom-dragging methods of fishing must be curtailed. They estimate that possibly more than 90 percent of the coral habitat in their area has already been ruined (estimates for European waters run to 50-65% destruction). Derek and Sanford, and other hook-and-line fishermen in southern Nova Scotia, were instrumental in founding the Canadian Ocean Habitat Protection Society (COHPS) in 1996. It is dedicated to raising awareness of the importance of marine habitat for fisheries and to promoting public education about marine ecology. COHPS has held many popular displays, including touch tanks containing local fish and collections of deep-sea coral specimens, known as 'trees' and 'bushes' by fishermen.

Legislation already exists to deal with the conservation of coral beds. Section 35.1 of the Fisheries Act prohibits the harming of fishing habitat. The Oceans Act embodies the precautionary principle: if you have evidence that an activity will cause damage, don't do it. The challenge is to get the regulators to act, and to get harmful fishing methods curtailed. Last summer Nova Scotia hosted the First International Symposium on Deep Sea Corals; it was very well-attended.

For more information go to:

<http://home.istar.ca/~eac_hfx/symposium/>

The COHPS website is:

<<http://cihos.atkabtusfirce.ig/>>

On Sunday morning the final presentation introduced 'biosphere reserves' to the audience. Jennifer Higgins, project coordinator for the Southwest Nova Biosphere

Reserve Association (SWNBRA), filled us in on progress of her group's application for status. The final application will be submitted to UNESCO in July 2001.

The core of SWNBRA is Keji and the Tobetic. A buffer zone will consist of C2 crown land around Keji and at least some Bowater working areas. The transition/cooperative zone will take in the five western counties of Annapolis, Digby, Queens, Shelburne, and Yarmouth. Partners include forestry companies, NS Power, various federal, provincial, municipal, and first nations departments and agencies, and a number of NGOs.

Tom Young, chair of the ecotourism committee of the Bay of Fundy Ecosystem Partnership Program, is a prime force behind a second initiative, the Fundy Biosphere Project. He is a keen advocate of sustainable development and has high hopes for an eventual Biosphere Reserve centering on the Bay of Fundy. A formal application is still some time in the future. The future core area would possibly include Fundy National Park, New Brunswick; and Cape Chignecto, Five Islands, and Blomidon provincial parks in Nova Scotia.

The weather wasn't ideal for field trips, but a little fog can't keep naturalists down. Coastal habitat was a primary field trip target. Howard Donahoe led a gold mining adventure at the Ovens; groups hiked to and toured Gaff Point on both days; and the geomorphology of Cherry Hill beach came under close scrutiny. Inland trips included the LaHave River valley; medicinal plants; sustainable living and forestry at Windhorse Farm; and walking through a woodland and the rhododendron forest at Bayport. A post-conference field trip headed off Monday for a day's birding on Cape Sable Island.

All in all, the conference this year certainly met the 4-E test. It was Entertaining, Educational, Enlightening, and Enjoyable!

At the AGM, Joan Czapalay of Halifax was elected president, Jean Gibson of Kentville became treasurer, and Elizabeth Kilvert of Halifax became secretary. For more detail on the AGM and the conference activities, see the upcoming federation newsletter, FNSN News, vol. 11, no. 2.

– Doug Linzey



FRIENDS OF POINT PLEASANT PARK (FPPP)

Our Winter Issue related the inauguration of FPPP (we incorporated last July in response to the threat by the Canadian Food Inspection Agency, the CFIA, to cut 10,000 trees in the Park), and outlined the first part of a presentation to Dal Biology which was then published in the Dalhousie February issue of the web newsletter 'Biotype'.

To continue with more rebuttals of the persistent media statements "no predators, no chemicals...", we found a list of even more predators in the 1996 Field Guide to North Eastern Longhorned Beetles, by D. Yanega.

There are nematodes, fungi, sarcophagid and tachinid flies; and a great many wasps including braconids, ichneumonids, eurytomids, eulophids, eupelmids,

pteromalids, encyrtids, gasteruptionids, and bethylids. Also clerid, colydiid, cucujid, elaterid, and ostomid beetles; xylophagid, and rhagionid flies; phymatid and reduviid bugs; and carpenter ants and spiders.

There are woodpeckers, flycatchers, nighthawks; shrews, bats; mice; skunks; and several other vertebrates. The predominant parasites are the braconid wasps (present in the Park) which drill through bark or stems to lay their eggs inside the cerambycid larvae.

The most important predators are the clerid beetles and woodpeckers (lots of both in the Park) which also attack larvae, adults, and eggs. There is evidence that cerambycids are themselves threats to other wood-eating insects, most notably certain bark beetles.

In the extensive resource species list of the 1994 Point Pleasant Park Management Plan by Bob Ogilvie, the following 31 insectivorous birds were recorded for the Park (new ones are listed as well):

Downy Woodpecker	<i>Picoides pubescens</i>
Hairy Woodpecker	<i>P. villosus</i>
Black-backed Woodpecker (recent)	<i>P. arcticus</i>
Pileated Woodpecker (recent)	<i>Dryocopus pileatus</i>
White-breasted Nuthatch	<i>Sitta canadensis</i>
Red-breasted Nuthatch	<i>S. carolinensis</i>
Black-capped Chickadee	<i>Parus atricapillus</i>
Boreal Chickadee	<i>P. hudsonicus</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>
Ruby-crowned Kinglet	<i>R. calendula</i>
Warblers (15 species)	
Red-eyed Vireo	<i>Vireo olivaceus</i>
Solitary Vireo	<i>V. solitarius</i>
Philadelphia Vireo	<i>V. philadelphicus</i>
Brown Creeper	<i>Certhis americana</i>
Common Nighthawk	<i>Chordeiles minor</i>



We researched further the possibility of even more chemical treatments, biological or otherwise. We found widely-used and commercially available preparations of fungi; and a nematode. The fungus *Verticillium lecani*, 'Vertalec-R', is an extremely common and effective world-wide soil fungus that is used and sold in Europe and the U.S. as a topical application for trees hosting BSLB. Also, two commonly used preparations of the widely-distributed and common soil fungi *Beauveria bassiana* and *Metarhizium anisopliae* are sold and used in the U.S., South America, and Europe.

The nematode *Aphelenchulus reversus* is used to attack Englemann Spruce Beetles and Ips confusus, the 5-spined Engraver. This parasite gives a 70% reduction in broods and a 40% reduction in adult size (Belleville, Ontario Biological Research Laboratories).

The media had repeatedly stated that "The BSLB is attacking healthy trees...". But, the most significant publication we found regarding cerambycid behaviour, and which trees they prefer, is a 1999 paper by L. M. Hanks of the University of Illinois on the relationship between tree-host health and the specificity of cerambycid species attraction.

From his own work and a bibliography of 90 years worth of entomological publications, Hanks studied the influence of cerambycid larval-host trees on the behaviour of the adults, hypothesising that their reproductive strategies are shaped by the host requirements of their larvae.

He found that behavioural differences between

cerambycid species were related to the general condition of the larval host tree, which he classified as:

HH – healthy host; vigorous

WH – weakened host; alive and growing, but defences compromised

SH – stressed host; severely stressed, often to the point that death is imminent

DH – dead host (our native *Rhagium inquisitor* longhorn prefers this last condition on which to mate and lay eggs).

Hanks found that in the past, although many cerambycid study species were considered capable of attacking trees in any state of health – from thriving to decaying – later research revealed that different species restricted their attacks only to hosts in a particular condition, and that some cerambycids previously thought to attack living healthy trees really required them to be weakened in some way.

Colonisation by stressed-host species requires that the tree be severely stressed, as by drought and attack by other organisms, especially bark beetles and nematodes. A common trait of SH species is that they will oviposit on fresh-felled trees and cut logs – (thus the CFIA's cut-log traps in PPP to attract the BSLB). And there is no doubt that the history of Point Pleasant Park management, right from the first clearcut-incursions and quarrying by Cornwallis up to the present day, shows that the forest there has been severely stressed by military activity and continuous forestry management for the past 250 years.

All the *Tetropium* sp. longhorns listed in Hanks's paper preferred stressed host trees for breeding. The large Whitespotted Sawyer longhorn, *Monochamus scutellatus*, also preferred stressed hosts; this was the most predominant beetle (80%) sent in by the public to the CFIA for identification as a possible BSLB, *Tetropium fuscum*. In fact, not one of the public offerings was a BSLB.

Stressed host trees *can* resist attacks of SH cerambycids in a year of good rains – with high bark turgor pressure, high bark moisture content, and copious sap/resin flow. Also, because SH trees are available only sporadically (wind damage, lightning strike, forest fire, drought, bark beetle attack), there is extreme intra- and interspecific competition among cerambycids that prefer those stressed trees, and this results in high rates of larval mortality.

Human Activity/Park Health/250 years

Trees/plants

- 1,000 & more introduced European Norway Spruce and other exotic trees, shrubs, and plants such as Scotch Pine, Silver Poplar, Copper Beech, European Ash; and Greater Celandine, Dyer's Rocket, Heather.
- Boy Scout tree-planting; 1940's, early 50's. Spruce?

Rocks (last 15 years)

- salted gravel (quartzite)

Vehicles/emissions/ground disturbance

- Trucks, vans, police cruisers, chain-saws, skidders, large tree/log removing equipment, leafblowers, (spreading salted gravel into the forest floor) all with their emissions and heavy compaction of roads and paths (tree-roots)



- acid rain
- Ports Canada vehicle emissions

Soil/compost

- none

Impact of Removal of 10,000 Trees +

- further reduction of soil nutrients and organic matter
- risk of future 'blowdown'
- soil erosion and dessication from exposure to wind and weather
- microhabitat removal
- insect parasite and predator removal
- reduced food for insect-eating birds

This has been an active first year for the FPPP.

When the court lifted our injunction in December, the



CFIA backed away from their initial intentions and spared 8,000 of the trees they had proposed to cut.

We have obtained thousands of pages of data under the Access to Information Acts from the provincial and federal governments. So far we have seen nothing to justify the CFIA's claims regarding the BSLB; and – the federal government has dropped its claim that the BSLB attacks healthy trees.

Insect collecting in the Park is still being carried out by an FPPP entomologist, and new ones are being found.

We have met with federal and municipal officials and have been invited to be on the Steering Committee for future Park Management. For further information, go to: www.chebucto.ns.ca/Environment/FPPP/.

– Stephanie Robertson

HFN TALKS

GM FOODS

5 APRIL

Dr. Bert Christie, Ph.D., P.Ag., a retired plant scientist from the Agriculture and Agri-Food Canada Research Station in Charlottetown, P.E.I., opened his talk with a history of his career. He summarised his concerns about GM foods with the following text, of which he distributed copies:

"The risks in biotechnology are undeniable, and they stem from the unknowable in science and commerce. It is prudent to recognize and address those risks, not compound them by overly optimistic or foolhardy behaviour."

– Editors, *Nature Biotechnology*, October, 2000

Definition

A genetically engineered (GE, sometimes referred to as genetically modified, GM) plant is a plant into whose genome has been deliberately inserted one or more pieces of DNA.

Or, put another way: A GE plant is one which has been modified by the addition of genetic material from a species with which it cannot be hybridized.

Concerns

1. Potential risks to human health
2. Potential risks to the environment
3. Potential risks to social, political, and economic relationships
4. Potential risks to religious and moral values

For Additional Information, go to:

'Genetic Engineering Alert' at www.canadians.org/ge-alert/

'Physicians and Scientists for the Responsible Application of Science and Technology' at www.psrast.org

'The EU-U.S. Biotechnology Consultative Forum, Final Report, December 2000' at www.user.be/ISSUES/biotreport2000.html

'Elements of Precaution; recommendations for the regulation of food biotechnology in Canada' – An Expert Panel Report, Royal Society of Canada, January, 2001 at www.rsc.ca

Dr. Christie answered many questions, and there was a lively discussion! He was thanked for his clear and concise exposition of a difficult and controversial subject!

– Ursula Grigg

MEDICINAL PLANTS

3 MAY

Dr. Alexander MacLellan, a botanical medicine practitioner, gave a presentation of the benefits of natural, less dangerous alternatives to pharmaceuticals, alternatives which are becoming more and more popular because they work effectively, and produce far fewer, if any, deleterious and uncomfortable side effects. They are also far gentler on the human body.

Unlike the highly refined pharmaceuticals, the active ingredient's of botanical medications efficacy is improved by its other, synergistic constituents, constituents which are removed from plant sources in the pharmaceutical industry's complex refining processes.

In general, botanicals are less toxic and less interactive within the body. There is also more tissue/organ specificity in botanicals; in other words, they can be internally 'topical'.

North American Society is over-medicated with substances that can effect the environment. And what is 'passed' affects the ecosystem; i.e. large populations of fish have mutated in the St. Lawrence due to its overload of hormone mimics from sewage, and industrial (including pharmaceutical) effluent. Also, the incineration of medical wastes is the world's largest environmental source of dioxins. In the year 2000, 291 million North American prescriptions totalled 11 billion dollars, and in the same year, 100,000 people died due to improperly prescribed pharmaceuticals!

The top five North American 'conditions' for which prescriptions are written are: high blood pressure; depression; stomach upset; diabetes; and colds and flus.

Lifestyle and nutrition changes can positively, and even permanently, reverse those conditions; and botanicals for these illnesses are safer than their pharmaceutical counterparts.

Dr. MacLellan showed slides of the most popular and well-known botanicals, outlining their uses.

In view of the fact that it recently has become known that many hospital admissions are due to inappropriately prescribed and over-prescribed pharmaceuticals, this talk was very timely.

– Stephanie Robertson

KEEPING GECKOS

7 JUNE

The speaker for June's meeting, Wes von Papineau, was unable to attend, so instead Neil Meister gave us a talk on his hobby of keeping geckos. He also introduced us to the Nova Scotia Herpetocultural Society, for hobbyists who enjoy keeping and raising reptiles.

Geckos belong to a small family of lizards, which live in Asia, including the East Indies; and parts of Africa, including Madagascar, where they are becoming scarce. However, populations are not depleted by the pet trade, because most species breed in captivity.

Geckos are the small lizards with pads on their toes which climb up walls and across ceilings in tropical countries, and harvest insects with their long sticky tongues. Many are attractively coloured. None is native to the Americas, where the lizard commonly kept as a pet is the unrelated American Chameleon, or Anole.

For reptilian pets geckos are small, hardy and good tempered. This contrasts with iguanas, which grow large, are fussy eaters, and can bite.

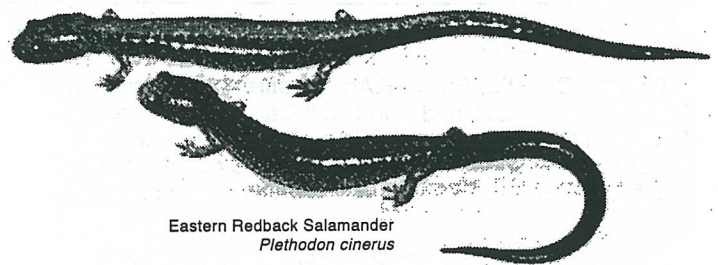
Snakes are not always popular, and are usually finicky and hard to accommodate. Salamanders require water and damp conditions generally, and do not thrive above about 12°C.

Geckos are small enough to live in aquaria, thrive in normal house conditions, and eat crickets and other foods which are easily available. More than 200 geckos can be housed in a single basement room! They do require special lamps or other heating arrangements, but their cages can be provided with branches and living plants and made to look very attractive. Moisture is provided by putting damp cotton balls in the caps of small glass containers; the geckos lay their eggs in these as well.

The leathery eggs are laid in pairs, and in some species are stuck together. They resemble sparrow's eggs, and have similar small, dark squiggles on them.

Neil Meister's topic was unexpected, but the geckos pictured in his slides were most attractive and his illustrations of gecko husbandry interesting. The shells of hatched eggs, stored in an egg carton, were charming; there may have been some converts!

— Ursula Grigg



Eastern Redback Salamander
Plethodon cinereus

FIELD TRIPS

DALHOUSIE CACTI

DATE: Saturday, 10 March

WEATHER: Sunny but cold

INTERPRETER: Paul Brunelle and Carman Mills

PARTICIPANTS: 18

Carman Mills, greenhouse manager, coordinated this trip for us and introduced Paul Brunelle Sr. (not Paul-Michel Brunelle, the dragonfly specialist). Mr. Brunelle started off with a slide presentation of Christmas cacti, detailing their characteristics and culture. His slides (he took all the photos himself) are used as a teaching resource by Dalhousie and his collection was donated to the university two years ago.

After discussing his cactus collection and photos, we went into the greenhouse where he identified the various species and told us interesting stories of how and when he started growing them. His son (Paul Brunelle Jr.) and grandson both attended by his side and everyone enjoyed this marvellous collection.

The following is adapted from an article in an issue of 'Dalhousie News':

"Paul Brunelle found himself with a thorny dilemma a few years ago – what to do with his world-class collection of more than 1,200 cacti? How did he come to have so many of these thorny plants? In the late 1960s, Brunelle became 'hooked' when he brought home a prickly pear and a pincushion. A few years later, he bought a package of cactus seeds. While continuing to work as a machinist, he was getting ever better at encouraging cacti to bloom. He collected seeds from all over the world and in turn began supplying seeds to growers. He gave lectures. He wrote papers. He took some of his cacti on the road to Kentville and Truro and

any other part of the province where people expressed interest.

He also learned to take photos of cacti that are unrivaled in their composition, lighting, and beauty. But, "Some years ago, I had to slow down", says Brunelle, (who is now 81). "I got sick and I had to give up my greenhouse. But I didn't get any replies from botanic gardens to whom I offered the collection." Brunelle was terribly disheartened.

Carman Mills, Manager of Dalhousie's Biology greenhouse, had struck up a friendship over the past 25 years because of Brunelle's expertise with the grafting of cacti. They decided that the best of the cacti would get a new home at the greenhouse. The bulk of the plants, about 600, came by van in a one-week period in October 1997. The following year, Brunelle's extensive library was donated to the university. These wonderful gifts were not the end of this happy story.

Among those who have been bitten by the cactus bug are biology professors Anne Mills and David Patriquin. Anne Mills, who has long had an interest in cacti, has made many field trips to deserts in the southwest United States. Now, she has a living laboratory for her students in the Terrestrial Diversity class. "It is a fantastic teaching resource", she says. "It puts Dalhousie on the map and it uses the greenhouse in a very constructive way."

And, under David Patriquin's tutelage, student April Schwartz developed a web site to highlight the Brunelle cactus collection. This web site is rapidly expanding, with continued maintenance by David. "We are planning to put a lot more of Paul's materials on this web site", he says. "It should be a site that is of interest to



cactus specialists all over the world and it will serve as a continuing educational resource." For more info, go to: <www.dal.ca/cactus>.

Paul's health has now improved, and on many mornings, you can find him among his beloved cacti in the Biology greenhouse. He continues to share freely his enthusiasm and expert knowledge and experience with anyone who wants to learn more about them."

—adapted from an article by Mary Somers in the 6 June, 2001 issue of Dalhousie News; with permission from Editor Catherine Young

THE MILL COVE WATER TREATMENT PLANT

PLACE: Bedford,

DATE: Saturday, 7 April

WEATHER: Sunny but cold

INTERPRETER: Rick Reid

PARTICIPANTS: 7

When I came to the Bedford area several years ago I asked various people about the plant across from the railway tracks just behind Sobeys. This area is a local shortcut to the waterfront. Most people did not know the answer, despite the fact that a flame of gas could be seen or that large container vehicles came and went.

Now I see that part of this obscurity is due to the landscaping and evergreens which effectively cause one to forget that the area houses an extensive plant which treats rain and storm run-off.

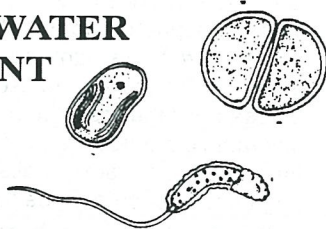
Manager Rick Reid introduced us to the working of his plant with a video of a similar plant in the States. The emphasis was on a type of water treatment which mimics Nature's own cleansing actions. It was clear from the video that the workers took pride in their plant, and this was also much in evidence at our own Mill Cove.

The plant here is run by six people who cover all the administrative technical work plus the maintenance and the cleaning. The plant is spotless. One of six in the Halifax area, Mill Cove is a secondary treatment plant (after primary treatment, the water still contains solid material).

Secondary treatment is largely a biological process, which is initiated in the Mill Cove Plant in the following way. Air is supplied to stimulate the growth of bacteria and other organisms which in turn consume most of the remaining solids. The water is then separated from the organisms and solids, disinfected to kill any remaining harmful bacteria, and then released to replenish other sources of water. By the time it leaves the plant, it is 90% cleaner.

After the video, the group went to the control area where computers monitor such things as the intake of water and what is happening in the three stages of secondary treatment. We then moved into the laboratory where electron microscopes revealed some of the biological life of the untreated water. On the bench, beakers of water contained samples from the treatment stages.

Next we followed the water as it went through the treatment cycle. In the first stage area the water flow is slowed so that any suspended substances can settle.



These, plus the heavier substances already on the bottom of the holding tanks, can then be removed.

In the second stage, water is tested every four hours to measure the strength of the pollutants and to see how much the oxygen has been depleted. The first stage solids are pumped into a digester, where at 35°C it is mixed with anaerobic organisms. The resulting biproduct of methane helps to heat the plant. The water is also sent under a battery of ultraviolet lights which kill any remaining organisms. The increased speed and wave-like action of the water here improve the oxygen content, and the water is then directed back to the beginning of the cycle for further cleaning.

In the third stage area, phosphorus and nitrogen are removed. These substances promote the growth of algae which can create fish kills as well as odour. This cycle of cleaning takes between four and six hours depending on the water volume. During heavy rains, as much as 30 millions gallons can be accumulated! However, when this occurs, excess volumes of water can be siphoned into a holding tank and treated later.

The pamphlet which accompanied our tour said "...bio-solids can be recycled in a variety of ways: applied as a fertilizer/soil conditioner (for agricultural land reclamation or horticultural use); burned to produce energy; or made into other useful products." At Mill Cove, approximately one cubic yard of solid material is retrieved each week and used as land fill.

In this age of concern for water purity, it was interesting to see how the municipality cleans our storm water. Now... moving, (or perhaps flowing), right along..., the nearby Bedford Basin...!

— Patricia Leader

BISSETT ROAD PARKLANDS

DATE: Saturday, 28 April

PLACE: Bissett Road Parklands

WEATHER: 3° to 7°C; cloudy

INTERPRETER: Elizabeth Corser

PARTICIPANTS: 23



It was great wandering through the Bissett Road Parklands with my granddaughter Leslie and 21 eager 'neighbours in nature' to enjoy this 600-acre parkland.

We are fortunate to have such a diverse jewel situated so close to metro.

A beautiful brook meandering through the park, swollen by recent rains, permitted unselfish service as we assisted each other to navigate across it without any mishaps.

The park contains grassy fields, knolls, small ravines, and streams. There is a diverse young mixed forest, beautiful high rocks, many types of plants, hidden shoreline bays, islands, and a fabulous pathway across the saltwater marsh and bay.

Elizabeth showed us the humble gravesites on a hill surrounded by trees. Reverence enveloped our group.

I was glad that Leslie and I proceeded across the good trail into the marshlands. We were rewarded by the sight of a Bald Eagle trying to relieve an Osprey of her catch. However, the Osprey was too quick with flight turning-manceuvres, and the eagle quit!

We observed 36 species of birds, a few mammals, and many plants.

The only downside of the walk was unleashed dogs and their droppings. I wish dog owners would realise that there are people like me who are uncomfortable around dogs. They should ask themselves if they would like to be mugged daily; maybe then they would be more considerate.

– Clarence Stevens Sr.

Bissett Road Parklands Species

BIRDS

Great Cormorant	<i>Phalacrocorax carbo</i>
Double-crested Cormorant	<i>P. auritus</i>
Great Blue Heron	<i>Ardes herodias</i>
Canada Goose	<i>Branta canadensis</i>
Mallard	<i>Anas platyrhynchos</i>
American Black Duck	<i>A. rubripes</i>
American Widgeon	<i>A. americana</i>
Blue-winged Teal	<i>A. discors</i>
Green-winged Teal	<i>A. crecca</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Osprey	<i>Pandion haliaetus</i>
Greater Yellow-legs	<i>Tringa melanoleuca</i>
Herring Gull	<i>Larus argentatus</i>
Greater Black-backed Gull	<i>L. marinus</i>
Rock Dove	<i>Columba livia</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Hairy Woodpecker	<i>P. villosus</i>
Northern Flicker	<i>Colaptes auratus</i>
Blue Jay	<i>Cyanocitta cristata</i>
Northern Raven	<i>Corvus corax</i>
American Crow	<i>C. brachyrhynchos</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Black-capped Chickadee	<i>Parus atricapillus</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>
American Robin	<i>Turdus migatorius</i>
European Starling	<i>Sturnus vulgaris</i>
Myrtle Warbler	<i>Dendroica coronata</i>
Ipswich Sparrow	<i>Passerculus sandwichensis princeps</i>
Song Sparrow	<i>Melospiza melodia</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Purple Finch	<i>Carpodacus purpureus</i>
American Goldfinch	<i>Carduelis tristis</i>
House Sparrow	<i>Passer domesticus</i>



MAMMALS

Red Squirrel	<i>Tamiasciurus hudsonicus</i>
Muskrat	<i>Ondatra zibethica</i>

PLANTS

Mosses

many species

Ferns

Cinnamon Fern	<i>Osmunda cinnamomea</i>
Christmas Fern	<i>Polystichum acrostichoides</i>

Flowering Plants

White Spruce	<i>Picea glauca</i>
Red Oak	<i>Quercus rubra</i>
Rhodora	<i>Rhododendron canadense</i>
Mayflower	<i>Epigaea repens</i>
Bunchberry	<i>Cornus canadensis</i>
Red Maple	<i>Acer rubrum</i>

LIGHTHOUSES

DATE: Sunday, 3 June

PLACE: Walton, N.S.

WEATHER: Rain at first, then sunny

INTERPRETER: Kathy Brown

PARTICIPANTS: 5

Heavy rain was falling when we congregated at the first lighthouse on our tour at Walton. The last original lighthouse in Hants County, it boasts a spectacular view from a perch above the Bay. We were met there by three people from the local lighthouse society who took us inside where we looked at the collection of old black and white photographs of the people who had been involved with this lighthouse. Then it was down to the local inn, where we met Ken Branchard, who has a nice house near the fossil beach, and who will be the lighthouse's guide this coming summer. Using a coffee table and some small balls as props, Ken explained why high tide is such a curse to lighthouses.

We then had a nice hearty soup at a nearby Inn for lunch. In our convoy of three cars, there was confusion for awhile getting to the next lighthouse, at Burnt Coat Head. I think it is a replica of the original.

The weather then mercifully changed to sunny and it became very pleasant. Burnt Coat Head Lighthouse had a good view of the Bay of Fundy from upstairs, but there was nothing inside of a historical nature. It is still a work in progress!

By this time it was low tide, so we explored the beach. There we found some angel wing shells (now becoming rare).

– Pat Leader



MAPLE CREEK FARM

DATE: Saturday, 9 June

PLACE: Annapolis Valley

WEATHER: Showery

INTERPRETER: Clarence Stevens

PARTICIPANTS: 7

The mission of Maple Creek Farm, owned by Ron Loucks, is "to enable many people each year to discover Nature through experiencing their connection and actively co-operating with nature."

We first walked up to the house, which is over one hundred years old and has been granted heritage status. It has no running water, so the toilet is an outhouse.

We looked at the beehive. Its bees use the Red Clover in the field to produce their honey. In the same field there was a large wooden rack used for drying hay. We walked down to a river valley and Clarence talked about the seasonal flooding which produces an alluvial plain. This supports quite different plants than the surrounding fields. The river bank contained stones with

visible fossils, and we saw water striders and a spring peeper.

Leaving the river we went up a steep slope into the woods. Ron said that rain on this slope could create erosion, so he uses a horse (easier on the land than machines) to cut cherry and maple which he sells for furniture making.

At the top of the woods we emerged into a field which Ron has been protecting over the years by laying down American Hawthorn. Cattle will not step on the prickly branches and thus are prevented from scoring paths through the turf.

A brown calf had been born twelve hours before we arrived and we saw this beautiful animal with its mother. Two calves had been born recently. Coyotes sometimes steal a calf while it is being born.

We then came into another field with a panoramic view of the river valley and we talked about the tides, the tidal bore, and the fun of riding it on inner tubes and riverboats.

Then Ron showed us a pump which cows can be trained to operate with their noses when they need a drink of water, no electricity needed. We had a sudden downpour so took shelter and there we had a drink of apple juice. Then it hailed! Ron told us that we could order honey and organically grown beef, and that the farm could be rented for 'retreats'. It certainly is a peaceful place.

The rain stopped and we went on to see an old cemetery which adjoins his land, passing his kiln, a huge plastic greenhouse affair in which he dries/cures his wood cut with a band saw. It was nice and warm in there (75°F) with a lovely smell of cherry wood (some black cherry) and maple.

The most famous gravestone in the cemetery is that of Shubach Dimmock - 1708-1781. He came with a religious group from the U.S. to settle here and he was the first Dimmock in N.S. Road maintenance to the cemetery is shared by both Ron Loucks and the Church.

During another deluge, we sheltered under one of several of the very large oak trees there until the rain stopped. Thank you to Ron and Clarence for their interesting interpretation.

- Pat Leader

MAPLE CREEK SPECIES

Amphibians

Northern Spring Peeper

Hyla crucifer

PLANTS

Columbine
White Violet
Northern Blue Violet
Yellow Rocket
Starflower
Common Cinquefoil
Wild Strawberry
Red Clover
Yellow Wood Sorrel
Mint
Goat's Beard
Jack-in-the-Pulpit
Wild Lily-of-the-Valley
Blue-eyed Grass



Aquilegia vulgaris
Viola sp.
Viola cucullata
Barbarea vulgaris
Trientalis borealis
Potentilla simplex
Fragaria virginiana
Trifolium pratense
Oxalis stricta
Mentha sp.
Tragopogon pratensis
Arisaema triphyllum
Maianthemum canadense
Sysyrrinchium montanum



SPRING SOCIAL AT MT. UNIACKE

DATE: Sunday, 17 June

PLACE: Mt. Uniacke Estate Museum

WEATHER: Blazing hot, still, and sunny

INTERPRETERS: thePayzants; Pat Leader

PARTICIPANTS: 8

The Spring Social was cancelled. We had gorgeous weather, but too many people were away, or busy. Eight of us met anyway for a beautiful outing in this historic place.

Mt. Uniacke Estate

Peter and Linda Payzant graciously shared their knowledge of butterflies and birds with us.

Close to the parking lot a field of fragrant blue irises greeted us. We passed between Richard John Uniacke's two famous lindens (one a stump), visited the Museum's still smelly but rapidly bleaching Right Whale skeleton, and began to look for butterflies and listen for birds' songs and calls.

Here are some of the interesting creatures we observed:

We all knew the Tiger Swallow Tail. We also saw a Tiger Moth, which is avoided by birds because it is poisonous.

We learned to recognise Common Ringlets by their weak flight and the orange-beige flashes they show while flying. This butterfly is an immigrant from New Brunswick; I have seen it in my garden too.

There was a Spring Azure ambling between flowers; this is often the first butterfly to appear in spring; it lives in woods and openings among trees. We saw some other blues as well, and learned that their larvae feed on sedge. They look like the sedge blooms before these open up, an excellent camouflage.

An osprey flew ahead, and four juvenile ravens were practising aerobatics above the trees. It was fun to see them chasing their parents, hoping for food.

A junco flashed white feathers, trying to scare us from the forest edge. There were goldfinches singing, and metallic chirrups from invisible chipmunks.

European wildflowers grew in the meadow; Stitchwort, Mouse-eared Chickweed, Creeping Buttercup, Timothy and Cocksfoot grasses. Native blackberries, Wild Strawberries, and a few blueberries grew with them. Unfortunately deer flies and horseflies were there too.

On the way out, we looked at the big old healthy American Beech tree, immune to the dwarfing effect of beech disease, and admired the enormous English Oaks. Richard Uniacke brought the acorns for these from Ireland.

Among the garden escapes was my favourite flower, the Columbine, and of course the unpopular Goutweed. We were told that an eight-inch deep metal flashing dug into the ground around this weed prevents it from spreading further by its underground roots.

At this point, the party split up to go with the Payzants to the Drumlín Field to look for butterflies, or to El Summit perennial nursery with Pat Leader.

- Regina Maass and Ursula Grigg

The Drumlin Field

The Drumlin Field has many low blueberry bushes, covered with blossoms promising a good harvest later on. We saw an early Silvery Blue; the earliest date for this butterfly is 15 June. It has a row of white-rimmed black spots along the outer margin of its wings.

A path through the woods along Martha's Lake took us back to the parking lot. On the way a white moth appeared, not to be confused with the Cabbage White - the only white butterfly in Nova Scotia and much bigger than this moth flying in front of us.

These leisurely hours in the fields and woods of Mount Uniacke were enriching and relaxing. Thank you, Linda and Peter, and all the others for sharing your expertise and thoughts.

— Regina Maass

El Summit Perennial Nursery

Leo Smit grows cultivated and local perennials on four acres of native spruce forest. He looks for interesting or improved cultivars with low maintenance requirements.

We were introduced to the layout and left to tour on woods roads made of brush and sawdust, like those at Windhorse Farm, and always returning to the starting point.

Leo began by growing his stock in beds among the trees and digging plants out for customers, but this proved too unwieldy, so now he plants in clusters (farms) of one-gallon pots, which make oval or irregular shaped masses in beds of leaves. Each has a waterproof 3-ring binder with pictures of the plants growing there. The farms are covered with leaves in winter, resulting in large sturdy plants.

The mixture of plantings leads to surprises — we walked through a wood carpeted with Starflowers, Goldthread, and Wild Lily-of-the-Valley, and suddenly found a mass of English Bluebells, and then were confronted by a pale rhododendron flowering among spruce. Two of us climbed through a patch of trilliums and Trout Lilies to peer into the top of an old soil heap, hollowed out and lined with plastic to form a rainwater pond. This contained two big Green Frogs grunting away, and a shoal of goldfish.

We enjoyed this natural spruce wood where cultivation was a happening instead of an intrusion; the plants fitted in, as if they were all natives. Seeing local and foreign members of the same plant families together was interesting too. In contrast to the fields we visited earlier, the pests here were mosquitoes.

Leo likes to start everything from seed — cultivars as well as wildings — believing it produces stronger plants. Some of the rhododendrons here were raised from tissue cultures!

A print-out on the best conditions for each plant is provided, and a very good catalogue is offered, but the plants are arranged under their Latin names only. Leo also bought some species peonies, which he finds more interesting than the old standby. Some of these specialities will be ready for sale within the next year.

We selected pots of plants from the various farms, paid for them at the office (the back porch) and looked at the excellent photos displayed on the walls.

Everyone drifted home well-satisfied, but also well-bitten!

— Ursula Grigg

Spring Social Species

Butterflies

Canadian Tiger Swallowtail
Azure sp.
Silvery Blue
Northern Crescent
Painted Lady
Red Admiral
Common Ringlet
Tawny-edged Skipper
Hobomok Skipper



Papilio canadensis
Celastrina sp.
Glaucopsyche lygdamus
Physiodes selenis
Vanessa cardui
V. atalanta
Coenonympha tullia
Polites thermistocles
Poanes hobomok

Birds

Osprey
Common Raven
Dark-eyed Junco
American Goldfinch

Pandion haliaetus
Corvus corax
Junco hyemalis
Carduelis tristis

Plants

Creeping Buttercup
Goldthread
Columbine
American Beech
English Oak
Mouse-eared Chickweed
Stitchwort
Linden
Blueberry
Starflower
Cinquefoil
Blackberry
Wild Strawberry
Goutweed
Cocksfoot, Orchard Grass
Timothy
Trout Lily
Clintonia
Trillium
Wild Lily-of-the-Valley
English Bluebell



Ranunculus acris
Coptis trifolia
Aquilegia vulgaris
Fagus grandifolia
Quercus ruber
Cerastium vulgatum
Stellaria media
Tilia europea
Vaccinium sp.
Trientalis borealis
Potentilla simplex
Rubus allegheniensis
Fragaria virginiana
Aegopodium podagraria
Dactylus glomerata
Phleum pratense
Erythronium americanum
Clintonia borealis
Trillium sp.
Maianthemum canadense
Endymion non-scriptus

Amphibians and Fish

Green Frog
Goldfish

Rana clamitans
Carassius auratus



ALMANAC



This almanac is for the dates of events which are not found in our programme: for field trips or lectures which members might like to attend, or natural happenings to watch for, such as eclipses, comets, average migration dates, expected blooming seasons etc. Please suggest other suitable items.

Among our wild fruits we have plums, which in some townships, are very fine and abundant; these make excellent preserves, especially when boiled in maple molasses, as is done by the American housewives. Wild cherries, also a sort called choke cherries, from their particular astringent qualities, high and low-bush cranberries, blackberries, which are brought by the Squaws in birch baskets, - all of these are found on the plains and beaver meadows. The low bush cranberries are brought in great quantities by the Indians to the towns and villages. They form the standing preserve in the tea-tables in most of the settlers' houses; but for richness of flavour, and for beauty of appearance, I admire the high-bush cranberries ...

– Catherine Parr Traill, Letter IX, "The Backwoods of Canada", 1833.

NATURAL EVENTS

- 15 June** Earliest sunrise of the year; 5:31 a.m.
- 21 June** Summer Solstice at 4:34 ADT; summer begins in the Northern Hemisphere; longest day of the year.
- 25 June** Latest sunset of the year; 9:06 p.m.
- 5 July** Full moon – this is the 'Buck Moon'.
- 21 July** Canada's 'Parks Day' – look for events at local parks.
- 21 July** Moon at perigee; expect large tides.
- 4 Aug.** Full moon – this is the 'Corn Moon'.
- 5-12 Aug.** Hottest days of summer; the average daily maximum is 22.5C°.
- 11-12 Aug.** Perseid Meteor showers peak; most visible before moonrise, about midnight each night.
- 13 Aug.** Temperatures start decreasing.
- 19 Aug.** Moon at perigee: expect large tides.
- 2 Sept.** Full moon – this is the 'Harvest Moon'.
- 16 Sept.** Moon at perigee; expect large tides.
- 22 Sept.** Autumnal Equinox at 20:04 ADT; fall begins in the Northern Hemisphere.
- 30 Sept.** Average date for first frost in Halifax (i.e. Environment Canada says there is a 1:10 chance that we will have frost before this date). Look forward to 210 days of frosty weather.

– Sources: Atmospheric Environment Service, Climate Normals 1951-80 Halifax (Shearwater A), N.S.; Blomidon Naturalists Society's 2001 Calendar; and Colombo's Canadian Global Almanac, 2001.

SUNRISE AND SUNSET ON SUMMER AND EARLY FALL SATURDAYS

2 June	5:32	20:54	7 July	5:37	21:02
9 June	5:29	20:59	14 July	5:42	20:58
16 June	5:28	21:02	21 July	5:49	20:52
23 June	5:29	21:04	28 July	5:56	20:45
30 June	5:32	21:04			
4 Aug.	6:04	20:36	1 Sept.	6:37	19:51
11 Aug.	6:12	20:26	8 Sept.	6:45	19:38
18 Aug.	6:20	20:15	15 Sept.	6:53	19:25
25 Aug.	6:29	20:03	22 Sept.	7:02	19:12
			29 Sept.	7:10	18:58

— courtesy of David Lane, Burke-Gaffney Observatory, Saint Mary's University



ORGANISATIONAL EVENTS

Blomidon Naturalists Society: Indoor meetings take place on the third Monday of the month at Room 241 in the Beveridge Arts Centre, Acadia University, 7:30 p.m. Field trips usually depart from the Robie Tufts Nature Centre, Front St., Wolfville. For more information go to <<http://www.go.ednet.ns.ca/~bns/home.htm>>.

- 24 June** "Yummy Muds of Minas – Intertidal Mud Life at Kingsport", with Jim Wolford, 542-7650.
- 22 Aug.** "Evening Nature Walk in Blomidon Provincial Park", with Ruth Newell, 542-2095.
- 17 Sep.** "Nova Scotian Rivers at Risk – Cry Me a River", with Bob Bancroft.

Burke-Gaffney Observatory: Currently closed until 1 July due to renovations. Public shows at the Burke-Gaffney Observatory at Saint Mary's University will resume every Saturday from July through September; tours begin at either 9:00 p.m. or 10:00 p.m. (depending on when it gets dark). For more information, 496-8257; or go to <<http://apwww.stmarys.ca/bgo/>>.

Friends of McNabs Island: For more information call Cathy McCarthy, 434-2254; or Mike Tilley, 465-4563; or go to <<http://chebucto.ns.ca/Environment/FOMIS/>>.

9 Sept. "McNabs and Lawlor Islands Paddle and Cleanup".

Nova Scotia Bird Society: Indoor meetings take place on the fourth Thursday of the month, October to April, at the Nova Scotia Museum of Natural History, 8:00 p.m. For more information phone Peter Richard, 221-5366, or 852-2428 (recording); or go to <<http://chebucto.ns.ca/Recreation/NS-BirdSoc/>>.

30 June "Bass River/Five Islands", with Fran Spalding, 647-2837.

1 July "Parrsboro/Port Greville", with Joan Czapalay, 348-2803.

15 July "Wallace Bay", with Paul MacDonald, 627-2568.

28 July "Pictou County", with Ken McKenna, 752-7644.

4 Aug. "Mahone Bay", with James Hirtle, 624-0893.

11 Aug. "Mathews Lake, Shelburne Co.", with David Young, 656-2225.

19 Aug. "The Hawk, Cape Sable Island", with Murray Newell, 745-3340.

25 Aug. "Point Michaud, Cape Breton", with George Digout, 535-3516.

1-3 Sep. "Bon Portage Island", with Joan Czapalay, 348-2803 (1 July to 12 Aug.), or 422-6858 (before 01 June and after 12 Aug.).



Nova Scotia Lighthouse Preservation Society: Organises visits to lighthouses, including boat trips to islands. For more information phone Dan Conlin, 424-6442; or go to <<http://www.ednet.ns.ca/educ/heritage/nslps/>>.

7-8 July "Bon Portage Island (Outer Island)", with Janet McGinity. **Register with Kathy Brown, 479-3115.**

18 Aug. "Isle Haute, Bay of Fundy", with Dan Conlin. **Register with Tony Thompson, 477-7366.**

8 Sept. "Georges Island, Halifax Harbour", with Dale Venoit, Victor Matthews, and George Hebb. **Register with Dorothy MacLeod, 423-8034, after 1 August.**

Nova Scotia Museum of Natural History: For more information about programmes, 424-6099 or 424-7353; or go to <<http://www.ednet.ns.ca/educ/museum/mnh/>>.

23 June "Dawn Chorus Field Trip to Uniacke", with Azor Vienneau. **Pre-register starting 1 May.**

30 June "Bat Walk" at Meander River Provincial Park, with Andrew Hebda.

late Jun.-Sept. "The Butterfly Pavilion" will reopen, with live, tropical butterflies.

1 July "Butterfly Social", – a full day of butterfly fun!

4 July "City Birds", with Fred Scott. **Pre-register starting 3 July.**

11 July "Nature Walk at Conrad Beach Provincial Park", with Alex Wilson. **Pre-registration necessary.**

14 July "Family Fossil Walk at Newport Landing", with Debra Burleson.

25 July "Botanical Ramble through the Public Gardens", with Alex Wilson. **Pre-register starting 3 July.**

3 Aug. "Stream Saunter at Salt Springs Provincial Park", with Andrew Hebda.

8 Aug. "Family Fossil Walk at Newport Landing" with Debra Burleson.

9 Aug. "Carboniferous Fossil Walk at Hantsport", with Deborah Skilliter.

14 Aug. "Family Butterfly Hike at Uniacke Estate", with Derek Bridgehouse. **Pre-register starting 10 July.**

18 Aug. "Walking Tour of Rocks & Fossils of Five Islands", with Graham Williams and Andrew MacRae.

12 Sep.-6 Dec. "Plants for People: A Historical and Contemporary Review of Economic Botany", a course offered in partnership with MSVU and the NSMNH. **Pre-register with the Registrar, MSVU, 457-6117.**

Nova Scotia Wild Flora Society: Meets fourth Monday of the month, September to May, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information phone Heather Drope, 423-7032, or go to <<http://www.chebucto.ns.ca/~nswfs/programme.htm>>.

30 June "Coastal Barrens near Peggy's Cove", with Charlie Cron, 477-8272.

5 Aug. "Coastal Plains Species at Gilfillan Lake, Yarmouth Co.", with Carol Jacquard. **Pre-register by 3 Aug., 423-7032.**

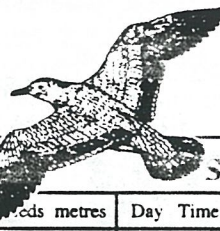
12 Aug. "Hartlen's Point", with Heather Drope, 423-7032.

9 Sept. "Hubbards Area", with Heather Drope, 423-7032.

24 Sept. "West Coast and Northern Peninsula of Newfoundland", with Heather Drope, 423-7032.

Royal Astronomical Society of Canada (Halifax Chapter): Meets third Friday of each month at the Nova Scotia Museum of Natural History, 8:00 p.m. For more information go to <<http://halifax.rasc.ca>>.

HALIFAX TIDE TABLE



July-juillet

August-août

September-septembre

Day	Time	Feet	Metres	jour	heure	pieds	metres	Day	Time	Feet	Metres	jour	heure	pieds	metres	Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0435	4.9	1.5	16	0345	4.6	1.4	1	0015	1.0	0.3	16	0520	4.9	1.5	1	0120	1.0	0.3	16	0050	0.0	0.0
	1105	1.3	0.4		0955	1.6	0.5		0610	4.9	1.5		1135	1.6	0.5		0720	5.2	1.6		0655	6.2	1.9
SU	1650	5.6	1.7	MO	1600	5.2	1.6	WE	1235	1.6	0.5	TH	1725	5.9	1.8	SA	1335	1.6	0.5	SU	1315	0.7	0.2
DI	2345	0.7	0.2	LU	2250	1.0	0.3	ME	1810	5.2	1.6	JE				SA	1925	5.6	1.7	DI	1905	6.2	1.9
2	0535	4.9	1.5	17	0445	4.6	1.4	2	0105	0.7	0.2	17	0020	0.3	0.1	2	0155	1.0	0.3	17	0145	0.0	0.0
	1200	1.3	0.4		1055	1.6	0.5		0700	4.9	1.5		0615	5.6	1.7		0800	5.2	1.6		0740	6.6	2.0
MO	1740	5.6	1.7	TU	1655	5.6	1.7	TH	1320	1.6	0.5	FR	1235	1.3	0.4	SU	1410	1.6	0.5	MO	1410	0.3	0.1
LU				MA	2345	0.7	0.2	JE	1900	5.6	1.7	VE	1825	6.2	1.9	DI	2005	5.6	1.7	LU	2000	6.6	2.0
3	0040	0.7	0.2	18	0545	4.9	1.5	3	0145	0.7	0.2	18	0115	0.0	0.0	3	0225	1.0	0.3	18	0235	0.0	0.0
	0625	4.9	1.5		1155	1.6	0.5		0745	5.2	1.6		0710	5.9	1.8		0835	5.6	1.7		0830	6.6	2.0
TU	1255	1.3	0.4	WE	1745	5.9	1.8	FR	1400	1.6	0.5	SA	1330	1.0	0.3	MO	1440	1.6	0.5	TU	1500	0.3	0.1
MA	1830	5.6	1.7	ME				VE	1940	5.6	1.7	SA	1920	6.2	1.9	LU	2040	5.6	1.7	MA	2050	6.6	2.0
4	0125	0.7	0.2	19	0040	0.3	0.1	4	0225	0.7	0.2	19	0205	-0.3	-0.1	4	0255	1.0	0.3	19	0325	0.0	0.0
	0715	5.2	1.6		0635	5.2	1.6		0825	5.2	1.6		0805	6.2	1.9		0905	5.6	1.7		0915	6.6	2.0
WE	1340	1.6	0.5	TH	1250	1.3	0.4	SA	1435	1.6	0.5	SU	1425	0.7	0.2	TU	1515	1.3	0.4	WE	1555	0.3	0.1
ME	1915	5.6	1.7	JE	1840	6.2	1.9	SA	2025	5.6	1.7	DI	2015	6.6	2.0	MA	2115	5.6	1.7	ME	2135	6.2	1.9
5	0210	0.3	0.1	20	0135	0.0	0.0	5	0255	0.7	0.2	20	0255	-0.3	-0.1	5	0325	1.0	0.3	20	0415	0.3	0.1
	0800	5.2	1.6		0730	5.6	1.7		0905	5.2	1.6		0855	6.2	1.9		0940	5.6	1.7		1000	6.6	2.0
TH	1420	1.6	0.5	FR	1345	1.0	0.3	SU	1510	1.6	0.5	MO	1520	0.7	0.2	WE	1545	1.3	0.4	TH	1645	0.7	0.2
JE	2000	5.6	1.7	VE	1935	6.2	1.9	DI	2105	5.6	1.7	LU	2105	6.6	2.0	ME	2150	5.6	1.7	JE	2225	5.9	1.8
6	0245	0.7	0.2	21	0225	-0.3	-0.1	6	0330	0.7	0.2	21	0345	-0.3	-0.1	6	0400	1.0	0.3	21	0505	1.0	0.3
	0845	5.2	1.6		0820	5.9	1.8		0940	5.6	1.7		0940	6.6	2.0		1010	5.6	1.7		1040	6.2	1.9
FR	1500	1.6	0.5	SA	1440	1.0	0.3	MO	1540	1.6	0.5	TU	1615	0.7	0.2	TH	1625	1.3	0.4	FR	1740	0.7	0.2
VE	2040	5.6	1.7	SA	2025	6.6	2.0	LU	2140	5.6	1.7	MA	2155	6.2	1.9	JE	2225	5.2	1.6	VE	2310	5.6	1.7
7	0325	0.7	0.2	22	0315	-0.3	-0.1	7	0400	1.0	0.3	22	0440	0.0	0.0	7	0435	1.3	0.4	22	0605	1.3	0.4
	0925	5.2	1.6		0915	6.2	1.9		1015	5.6	1.7		1025	6.6	2.0		1045	5.6	1.7		1125	5.9	1.8
SA	1535	1.6	0.5	SU	1535	1.0	0.3	TU	1615	1.6	0.5	WE	1715	0.7	0.2	FR	1710	1.3	0.4	SA	1840	1.0	0.3
SA	2125	5.6	1.7	DI	2120	6.2	1.9	MA	2220	5.2	1.6	ME	2245	5.9	1.8	VE	2305	5.2	1.6	SA			
8	0355	0.7	0.2	23	0405	-0.3	-0.1	8	0430	1.0	0.3	23	0535	0.3	0.1	8	0515	1.6	0.5	23	0000	5.2	1.6
	1005	5.2	1.6		1005	6.2	1.9		1050	5.2	1.6		1110	6.2	1.9		1120	5.6	1.7		0700	1.6	0.5
SU	1610	2.0	0.6	MO	1635	1.0	0.3	WE	1700	1.6	0.5	TH	1815	0.7	0.2	SA	1800	1.6	0.5	SU	1215	5.6	1.7
DI	2205	5.6	1.7	LU	2210	6.2	1.9	ME	2255	5.2	1.6	JE	2335	5.6	1.7	SA	2340	4.9	1.5	DI	1935	1.3	0.4
9	0430	1.0	0.3	24	0500	0.0	0.0	9	0510	1.3	0.4	24	0630	1.0	0.3	9	0605	1.6	0.5	24	0050	4.9	1.5
	1045	5.2	1.6		1050	6.2	1.9		1120	5.2	1.6		1200	5.9	1.8		1155	5.2	1.6		0800	2.0	0.6
MO	1650	2.0	0.6	TU	1735	1.0	0.3	TH	1745	1.6	0.5	FR	1910	1.0	0.3	SU	1855	1.6	0.5	MO	1305	5.2	1.6
LU	2245	5.2	1.6	MA	2305	5.9	1.8	JE	2330	4.9	1.5	VE			DI			LU	2035	1.3	0.4		
10	0510	1.0	0.3	25	0555	0.3	0.1	10	0550	1.3	0.4	25	0025	5.2	1.6	10	0025	4.9	1.5	25	0155	4.6	1.4
	1120	5.2	1.6		1140	5.9	1.8		1155	5.2	1.6		0725	1.3	0.4		0705	2.0	0.6		0900	2.3	0.7
TU	1735	2.0	0.6	WE	1840	1.0	0.3	FR	1835	1.6	0.5	SA	1245	5.6	1.7	MO	1245	5.2	1.6	TU	1410	4.9	1.5
MA	2325	5.2	1.6	ME	2355	5.6	1.7	VE				SA	2010	1.0	0.3	LU	2000	1.6	0.5	MA	2130	1.6	0.5
11	0550	1.3	0.4	26	0655	0.7	0.2	11	0010	4.9	1.5	26	0120	4.9	1.5	11	0120	4.6	1.4	26	0315	4.6	1.4
	1200	5.2	1.6		1230	5.9	1.8		0640	1.6	0.5		0825	1.6	0.5		0810	2.0	0.6		1000	2.3	0.7
WE	1825	2.0	0.6	TH	1940	1.0	0.3	SA	1235	5.2	1.6	SU	1340	5.2	1.6	TU	1340	5.2	1.6	WE	1525	4.9	1.5
ME				JE				SA	1930	1.6	0.5	DI	2105	1.3	0.4	MA	2100	1.3	0.4	ME	2225	1.6	0.5
12	0005	4.9	1.5	27	0050	5.2	1.6	12	0100	4.6	1.4	27	0225	4.6	1.4	12	0230	4.6	1.4	27	0435	4.6	1.4
	0635	1.3	0.4		0750	1.0	0.3		0730	1.6	0.5		0925	2.0	0.6		0915	2.0	0.6		1055	2.3	0.7
TH	1240	4.9	1.5	FR	1320	5.6	1.7	SU	1320	5.2	1.6	MO	1445	4.9	1.5	WE	1445	5.2	1.6	TH	1635	4.9	1.5
JE	1920	2.0	0.6	VE	2035	1.0	0.3	DI	2025	1.6	0.5	LU	2200	1.3	0.4	ME	2200	1.0	0.3	JE	2320	1.3	0.4
13	0050	4.6	1.4	28	0150	4.9	1.5	13	0155	4.6	1.4	28	0345	4.6	1.4	13	0350	4.9	1.5	28	0530	4.9	1.5
	0720	1.3	0.4		0845	1.3	0.4		0825	2.0	0.6		1025	2.0	0.6		1020	2.0	0.6		1145	2.0	0.6
FR	1325	4.9	1.5	SA	1415	5.6	1.7	MO	1415	5.2	1.6	TU	1555	4.9	1.5	TH	1600	5.6	1.7	FR	1735	5.2	1.6
VE	2010	1.6	0.5	SA	2135	1.0	0.3	LU	2125	1.3	0.4	MA	2300	1.3	0.4	JE	2300	0.7	0.2	VE			
14	0140	4.6	1.4	29	0255	4.6	1.4	14	0300	4.6	1.4	29	0500	4.6	1.4	14	0500	5.2	1.6	29	0005	1.3	0.4
	0810	1.6	0.5		0945	1.3	0.4		0930	2.0	0.6		1120	2.0	0.6		1125	1.6	0.5		0615		



NATURE NOTES

5 April Meeting

There are many Sea Acorns (ctenophores) in Halifax Harbour.

3 May Meeting

Annika Renborg saw an Otter off Black Rock Beach in Point Pleasant Park a few days ago. She also saw a Beaver on Monday, 30 April, at the Frog Pond in Jollimore, and pointed it out to her Beaver group, who were excited to see their namesake!

Barry Sawyer saw a Spring Azure butterfly one week ago on the 26th of April.

Mayflowers, Red Maple Trees, Daphne, and Coltsfoot were widely reported as being in bloom.

Patricia Chalmers and Peter Payzant both reported seeing Mourning Cloak butterflies within the past week.

Glen H. (reacting to the furore over walruses) reported a Unicorn

7 June Meeting

Peter Payzant said Red Admiral butterflies are due. He and Linda found a Hermit Thrush nest under a fern. Regina Maass found a bird's nest under a bush beside the North West Arm, but it vanished before she identified the builders. Peter commented that it's believed each pair of birds only raises two young to adulthood in their whole lives.

A starling was reported being trapped in a bathroom fan. Pat Chalmers saw four Chimney Swifts over Halifax, and ten over King's College

Nancy Meinertzhagen) has a Bluejay nesting under her deck; it attacks when she approaches the washing line, so she wears a colander on her head for protection!

David Henry pointed out a large bumble bee, probably a queen, apparently nesting in a crack in the cement at the foot of a pillar in the verandah of the Museum's basement. Ursula Grigg reported this, and that the wasps in her bathroom wall were very scanty this year – there were only three seen.

! NEXT DEADLINE !

1 September for September Issue
contributions to the Editor, HFN
c/o NS Museum of Natural History
Please phone 455-8160 to alert the Editor