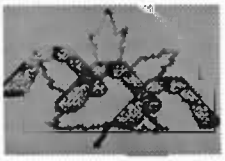
THE CANADIAN BOTANICAL ASSOCIATION

BULLETIN

DE L'ASSOCIATION BOTANIQUE DU CANADA

Patron / Président d'honneur
His Excellency the Right Honourable / Son Excellence le très honorable
Roméo Leblanc P.C., C.C., C.M.M., C.D.
Governor General of Canada / Gouverneur général du Canada

August / août 1997
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Editor / Éditeur:
J. F. (Joe) Gerrath
Guelph

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EDITOR'S COMMENTS
COMMENTAIRE DE LA PART DE L'ÉDITEUR

I returned from this year's Annual meeting tired but fully charged and ready to finish off this issue. There was not much in the way of phycological papers or posters in the cavernous Palais des Congrès (and I was not on the Cinq-Mars jury), so I passed the time profitably by going to a session on bryophytes and a symposium on fern evolution, both of which were excellent.

New Editor?

At Montréal I was accosted by several members who asked about the future of the Bulletin. All I could tell them then and all I can say now is that I think we have a person who might take on the task (and a person who would assist him as Associate Editor). I discussed with him the work load of the Editor during the Montréal meeting. I have offered to reduce the workload by continuing to produce the Membership supplement, so that the work required for the October period will go from horrendous to only hectic. The prospective new editor now must determine whether he can add this workload to his current schedule. A final decision to accept (or not accept) the appointment will be made before the next issue of the Bulletin is produced. If all things work out, the October issue will be my last one and the new editor will be responsible for production of the January issue.

New Treasurer?

A similar situation exists with the problem of finding a person to take over as Treasurer from Christian Lacroix. During the Montréal meeting a person expressed a wish to serve the Association in some capacity, and was told that the position of Treasurer was open. Just before going to press, your editor contacted Christian about the situation and was told that this person has not yet made a firm commitment to become the Treasurer of the Association.

Quote-of-the-Meeting

Those of us who went to the CBA/BSA Banquet in Montréal were regaled by Anwar Maun who, in accepting his Lawson Medal, said: "Working on sand dunes is not a day at the beach".

CBA/ABC Website

I had thought (wishfully, or perhaps even wistfully) that my duties for the CBA.ABC were finished, but not so. The Executive, at their second meeting in Montréal, have appointed me as Webmaster of the Association. I have been involved with my son, John, in setting up a web page for CBA/ABC attached to the Botany Department site at the University of Guelph (see the Editor's Report on page 37. It is still just a beginning, but after I am freed from producing the Bulletin I will have more time to add material to these pages. My son has given me a short course in HTML so that I can now prepare web documents fairly rapidly and give them to the Botany webmaster for installation. Have a look (URL is on page 37 of this Bulletin) and tell me what you think of it so far and what you would like to see on the site. Current plans include placing on the site the following: By-laws, Membership List, Descriptions of Sections, Lists of Award Winners, and selected items from the Bulletin (e.g. Plant Press and Book Reviews).

Finally, the Usual Plea

Even though you will be putting me out to pasture as past-Editor soon, I still have to produce one more issue of the Bulletin. As always, I am looking for any submissions you have, such as lists of graduating students, news about goings-on in your region, contributions to the Plant Press, book reviews (if you forgotten about those books I sent you), etc. I hope to mail out the October Bulletin (with this year's Address Supplement) by the first week in November.

Joe Gerrath, Editor

Future Annual Meetings
Prochaines Réunions Annuelles

1998
"Saskatoon 1998"
University of Saskatchewan
Saskatoon, SK
June 27 juin to/à July 1 juillet
www.usask.ca/biology/cba.html

1999
XVI International Botanical Congress
America's Center, St. Louis, Missouri
August 1-7 août
www.ibc99.org

2000
University of Western Ontario
London, ON
June / juin

2001
Okanagan University College
Kelowna, BC

EDITORS / LA RÉDACTION

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REPORTS FROM THE ANNUAL MEETING - MONTRÉAL

PRESIDENT'S REPORT - 1996-1997

Charlottetown 1996: Last year's meeting at Charlotte- town, P.E.I., was a big success. Thanks are in order to Jim Kemp and Christian Lacroix and their team for an excellent organization. Thank you letters were sent to all those involved in organizing and supporting the meeting.

Saskatoon, 1998: Arrangements for the 1998 CBA/ABC annual meeting are in progress. The theme of the conference will be **Plants and Biotechnology**, with three symposia: 1) *Biotechnology of Plants*, 2) *Medicinal Plants*, and 3) *Biocontrol of Weeds*. Suggestions for any other symposia should be directed to Vipen Sawhney. The dates of the conference are Saturday, June 27 through Wednesday, July 1, 1998. Vipen Sawhney has been appointed CBA/ABC Vice-President for the next year.

XVI International Botanical Congress, St. Louis, August 1-7, 1999: The first circular has already been distributed through various Botanical Societies. I received a formal letter of invitation from Peter C. Hoch, Secretary General of XVI I.B.C., to participate in the Congress and to help in developing the scientific program. He has assured us of the provision of suitable facilities to hold business or social events. I replied thanking him for the invitation and mentioned that we will inform him about the schedule and facilities required. Since Denis Barabé is going to be the President at that time, I suggested to him that he should coordinate with Peter Hoch of behalf of CBA/ABC.

London, Ontario, June 2000: I contacted Jim Phipps (Chair of Local Committee) regarding further details of the proposed meeting. It appears that it will not be a joint meeting with any other society as hoped earlier. The organizing committee is scheduled to meet soon to discuss the details of the program.

Kelowna, B.C. 2001: We have an invitation from Melanie Jones to meet at Okanagan University College.

Awards Committees:

Lawson and Elliott Awards: This year's committee consisted of Keith Winterhalder, Usher Posluszny, Luc Brouillet, Gordon Prichard (Dept. of Biological Sciences, University of Calgary), C.C. Chinnappa (Chair). We have awards in both categories for the George Lawson Medal and also an Elliott Award to be announced at the CBA/ABC - BSA Banquet at the Montréal meeting.

Macoun Awards: The Macoun Award Committee was chaired by C.C. Chinnappa and included Denis Barabé, Luc Brouillet, Ann Bruneau and Denis Lauzer. There are two wnners of the John Macoun Travel Bursary receving $400 each. I have mailed the cheques along with letters of congratulations to the winners and also letters of appreciation to all the participants in the competition.

Other Awards: The Weresub Committee was chaired by Randy Currah and the Rowe, Steeves and Porsild Awards were judged by committees from the relevant sections.

Canada-Wide Science Fair: This year the Science Fair was held in Regina, Saskatchewan. I nominated Dr. M.V.S. Raju, Biology Department, University of Regina, and requested him to represent the CBA/ABC, judge the exhibits and present the award. Judging for the Special Award was done on May 15, 1997 and the winner was Ms. Melissa Lemm, a student from Ontario, for the exhibit entitled, "*Biomonitors: the effects of sulphur dioxide on dicot cotyledons*". An award of $500 was presented.

Correspondence and Discussions: I responded to several requests and support in the matter of Canadian endangered species' conservation, Canadian Council for Human resources in Environmental Industry, "Plant Watch" (a National Program on Plant Phenology) and on combining Canadian Plant Biology.

C.C. Chinnappa, President CBA/ABC, July 1997

PAST-PRESIDENT'S REPORT (NOMINATING COMMMITTEE)

Three nominations for Directors were obtained: Jerry Chmielewski (Slippery Rock University, Slippery Rock, PA), Bruce Ford (University of Manitoba) and Sylvie Laliberté (Université du Québec à Montréal). Volunteers were found who expressed willingness to take over the positions of Treasurer and Editor. Their decision to take on these positions is not yet finalized.

Keith Winterhalder, Past-President CBA/ABC

VICE-PRESIDENT'S REPORT

As Vice-President of CBA/ABC, I was local representative of the society for the organization of this meeting. I want to point out that I also acted in the same capacity for the American Fern Society and the Botanical Society of America.

The local organizing committee was composed of Dr. J. André Fortin, Denis Barabé, Jacques Brisson, Denis Lauzer, Céline Arseneault and Luc Brouillet of the Institut de Recherche en biologie végétale, U. de Montréal and Jardin botanique de Montréal, of Dr. Sylvie Laliberté of UQAM, and of Dr. Paul Widden of Concordia, who also acted as liaison with the Mycological Society of America. All these people contributed greatly. Nevertheless, I would like to emphasize the contribution of J. Brisson who acted as field-trip coordinator. He put a lot of energy into a difficult and thankless task, and managed to develop an interesting program of field trips, even though not all attracted sufficient participants to occur. The success of the field trips is wholly

to his credit and to that of leaders.

All organizational matters were handled by AIBS, and I would like to thank Marilynn Maury for her help and support in organizing this meeting. Her handling of physical details greatly simplified our task. The program was wholly organized by BSA officers, although I was given the occasion to modify it so as to meet CBA/ABC requirements. The exceptional, cheerful collaboration of Dr. Wayne Elisens from BSA must be underlined. This rendered the task of scheduling Cinq-Mars Award talks less arduous. Collaboration between BSA and CBA/ABC was excellent thoughout.

At the CBA/ABC desk the following student volunteers helped us: Karyne Benjamin, Louis Dusseault, Nicole Brassard, Louise Lebrun, Félix Forest, Josée-Nadia Drouin and René Charest. We wish to thank them warmly for their contribution.

Luc Brouillet, Vice-President CBA/ABC

TREASURER'S REPORT

The CBA/ABC membership at the time of the annual meeting comprises 177 Regular Members, 38 Retired Members, 55 Student Members and 3 Life Members. The total of 273 members is one more than at this time last year. During the past year 34 new members have joined the Association and 33 have not renewed their membership. Paul B. Cavers is the winner of a complimentary membership for 1988, having sponsored 6 new members of the Association. This contest, which awards a free annual membership to the person sponsoring the most new members, will be continued next year.

NET WORTH REPORT - MAY 31, 1997

Bank and Cash Accounts:			
General chequing account			
Macoun savings			
Porsild savings		7,222.80	
Rowe savings		304.21	
Steeves savings		968.52	
Weresub savings		1,010.74	
Total Bank and Cash Accts:		1,470.33	11,784.21
		807.61	
Other Assets (Investments):			
General Account [2 GICs + 2 TDs]			
Macoun	[5 GICs]		
Porsild	[GIC]	54,461.09	
Rowe	[GIC]	15,595.62	
Steeves	[GIC]	2,678.94	
Weresub	[2 GICs]	1,928.60	
Total other assets:		1,714.52	96,554.61
		20,175.60	
Total Assets [Net Worth]			108,338.82

INCOME AND EXPENSE REPORT
GENERAL ACCOUNT
June 1, 1996 - May 31, 1997

INCOME		
AGM Profit (Charlottetown)	2,713.60	
Development Committee revenue	763.50	
Investment income - GIC	1,200.00	
Bulletin advertisement	85.00	
Bulletin subscriptions	160.00	
GST refunds	96.89	
TOTAL INCOME		16,295.10
EXPENSES		
Awards		
Cinq-Mars	200.00	
Macoun	2,600.00	
Plaques	134.31	
Rowe	250.00	
Steeves	250.00	
Weresub	1,000.00	
Bulletin		
Printing	900.69	
Postage	744.39	
Stationery	72.37	
Supplement	387.49	
Secretary's expenses	354.68	
Treasurer's expenses	368.35	
YSF [Science Fair]		
Membership	500.00	
Award	500.00	
Transfers to award accounts		
Macoun	599.27	
Porsild	364.27	
Rowe	150.00	
Steeves	479.03	
Weresub	175.00	
Telephone [Conference call]	456.30	
Investment - GIC purchase	5,000.00	
CBA'96 - late bill	45.00	
T-shirts - purchase	569.83	
Bank - service charges	60.00	
TOTAL EXPENSES		16,160.98
INCOME LESS EXPENSES		134.12
BALANCE (JUNE 1, 1996)		7,088.68
BALANCE (MAY 31, 1997)		7,222.80

Christian Lacroix, Treasurer CBA/ABC



SECRETARY'S REPORT

Regarding society correspondence, this year has seen a heavy use of email and FAX in my office. This has made for quicker turn around times on correspondence and has cut down on postal costs. However, it has also tended to lessen the formality of correspondence which some members may wish to comment on. Hard copy is kept of all significant email and FAX correspondence for our records.

I would like to thank the University of Toronto at Scarborough for picking up many expenses (postage, supplies, telephone) for our society. In particular I would like to thank Ms. Enid Lawson who has given freely of her time to help me with CBA/ABC secretarial tasks.

Ron Dengler, Secretary CBA/ABC

EDITOR'S REPORT

A possible successor as Bulletin Editor has been located. A brief discussion was held in Montréal concerning the Editor's duties and the time involved in producing each issue. The final decision to accept the position will depend on whether this person feels he can fit the time needed to produce the Bulletin into his already busy schedule (isn't that the story of all our lives? - finding time for anything extra!). To lessen the new Editor's burden, I have offered to continue producing the Membership Supplement so that the production of the October issue will more "normal" in terms of the time involved.

If it all works out, I will be producing my last issue of the Bulletin for October, including the Membership Supplement. The new Editor, whose name will be revealed in the next issue, will be responsible for production of the January issue.

During the past year I have been involved in the set-up of a CBA/ABC home page attached to the Botany page at the University of Guelph. My son, John, has done the initial design and production of the website, and I am now cooperating with the Botany Dept. webmaster, Margot Ursic, to continue the development of this site. The CBA/ABC page can be accessed through the Guelph Botany page:

www.uoguelph.ca/botany/

or can be bookmarked for direct access at the following URL:

www.uoguelph.ca/botany/cba/index.htm

Have a look and see what is currently there [historical stuff, awards, meetings, etc.]. Future plans include adding the membership list, the By-Laws, French versions of most pages and selected parts of the Bulletin (not entire issues). Realize, however, that heavy, time-consuming construction is involved, and the addition of new material to the site will probably not be completed until after I hand over the Bulletin to a new Editor. Your comments and suggestions for improvements of the website are welcomed.

Joe Gerrath, Bulletin Editor
and (recently appointed) CBA/ABC Webmaster

CONSERVATION COMMITTEE
Report for Western Provinces and Territories 1996-1997

Richard Staniforth (Co-chair, western Canada)
515 Portage Avenue, Winnipeg, MB R2L 1J9
Phone: (204) 661-3107
FAX: (204) 784-4134
E-mail: stanifor@uwinnipeg.ca

1) Unfortunately, we were unable to establish contact with the previous chair of this committee, who seems to have vanished without a trace! This has meant that there were no files, continuing items or membership lists available.

2) The first priority was to establish regional representatives in the western provinces, Yukon and NWT.

3) The following people have kindly consented to act as regional representatives.

Joyce Gould (Alberta)
Alberta Heritage Information Centre
Alberta Env. Protection
2nd Floor, 9820-106 St., Edmonton, AB T5K 2J6
Phone: (403) 427-7702
FAX: (403) 427-5980
E-mail: jgould@env.gov.ab.ca

Pam Krammitz (British Columbia)
E-mail: pamkrannitz@ec.gc.ca

John Ambrose (Ontario)
E-mail: jambrose@zoo.metrotor.on.ca

Marilyn Latta
Habitat Conservation Committee
Manitoba Naturalists Society
Rupert St., Winnipeg, MB

Other (unofficial) representatives have been established in Saskatchewan (2), Yukon (2), and Northwest Territories. I hope to be able to talk to them into official capacity soon and will provide local committee members with their names and addresses at that time.

4) Issues related to conservation of plant populations, species and communities have been sought from the regional representatives and these are currently coming to me. Two (from Alberta) need a response:

a) **Rare orchids at Gull Lake, Manitoba:** A 31 sq km wetland complex near Gull Lake has been proposed as a source of water to be pumped to Gull Lake to maintain lake water level. Lowering of the water table in the wetland may seriously influence the survival of 19 species of orchids (including 7 on the rare list) and several other rare wetland

plants. The Manitoba Naturalist Society is actively attempting to make government decision makers aware of the problem.

b) **Mixed and hardwood forests in Manitoba Lowlands Forest Region:** The Canadian Nature Federation has proposed extensions to the new national parks (Long Point Nat. Park and Limestone Nat. Park) in the interlake region of Manitoba to include greater protection of mixed and hardwood forests on limestone and karst landscapes within the Manitoba Lowlands Forest Region. These proposed park enlargements would also include bat hibernacula and habitat for woodland caribou.

c) **The Great Bear Temperate Rainforest, British Columbia:** Protection of temperate rainforest continues to dominate the conservation scene in British Columbia. At current risk is a region known as the "Great Bear Temperate Rainforest" which is renowned for its ancient (1000 year old) cedars and tall (90 m) Sitka spruce. Several conservation groups are fighting to protect it from logging.

d) **Alberta:** Seven items have been received from Joyce Gould.

• **The Alberta Natural Heritage Information Centre (ANHIC)**, a member of the Conservation Data Centre, Natural Heritage Program network of the Nature Conservancy, was formally established in 1996. Work is under way to enter information on vasculars and mosses which are on the tracking list into the system. Development of tracking lists for liverworts, macrolichens and plant communities is in progress. ANHIC and the Devonian Botanic Garden have also formalised their partnership through a memorandum of understanding. This MOU strengthens the ties between the two organisations and their roles in the conservation of plants (vascular and non-vascular) in Alberta (no assistance from CBA/ABC needed).

• **Wildcrafting of native plants** is emerging as an issue of concern. ANHIC and the Alberta Native Plant Council (ANPC) will be working with other agencies/groups in the development of guidelines/protocols related to this "industry" in Alberta. Assistance from CBA/ABC in determining the extent of this problem in other jurisdictions and possible development of policy/guidelines similar to those done for transplantation may be helpful if it is a nationwide issue.

• **Development of the Cheviot Mine** has been a big issue for several months. The current mine and the proposed new mine are situated near Cadomin and Mountain Park in the Front Range of the Rocky Mountains in an area just east of Jasper National Park. The area has many rare plants (both vascular and non-vascular) and butterflies and is thought to be a glacial refugium. Most conservations groups oppose the mine. However, after several months of hearings, the expansion was approved with some modification to the original plan, including addition of lands into the Cardinal Divide Natural Area. Of interest, the panel noted that proposed expansion into the upper Prospect Creek drainage could not be justified due to the "loss of large numbers of rare alpine plant species, potential impacts to wildlife or risks to the ecological integrity of the Cardinal Divide Natural Area . . . " (no assistance from CBA/ABC needed at this time).

• **Declining funding for herbaria and museums** is an issue. Collections are falling into disarray and becoming very difficult to access and use. Is CBA/ABC dealing with this formally on a national level?

• **Large-scale forestry and oil and gas activities** are having major impacts in the forested regions of the province. The Forest Conservation Strategy has just been released with some key recommendations, including the designation of large representative protected areas. The conservation committee is watching to see if such recommendations are implemented (no assistance from CBA/ABC needed at this time).

• **Special places**, a program to identify and establish protected areas within Alberta, has been under way for a couple of years now. Completion of targets is to be done by 1998 (no assistance from CBA/ABC needed at this time).

• **Funding for biodiversity research** is an issue. A national biological survey/service would be useful in targetting areas of Canada that need studies done, coordinating work with provinces. Each province needs an agency/organisation that can promote biodiversity, such as the conservation data centres (no assistance from CBA/ABC needed at this time).

5) We ask members of CBA/ABC to report any relevant botanical conservation issues to a regional representative or to myself so that we can inform other interested members of the committee.

6) We also ask that the Conservation Committee be given an optional check-off box on the subscription renewal form (as is done for other CBA/ABC sections). This would provide us with means to put together an up-to-date members list.

Richard Staniforth, Co-chair, western Canada

DEVELOPMENT COMMITTEE

The Development Committee has been inactive over the past year. Because of the fact that this year's meeting was a joint one, we did not plan to hold any special fund-raising activities at Montréal. The local organizing committee produced and sold the CBA/ABC T-shirts at the meeting. People interested in helping to plan the fund-raising activities for the 1998 meeting should contact the Committee chair.

Jean Gerrath, Chair
gerrath@cobra.uni.edu

CANADIAN JOURNAL OF BOTANY EDITOR'S REPORT - AUGUST 1997

CJB had another busy year during which:

✿ The Ottawa office has unfortunately slipped from publication in the cover month.

✿ Publication of the first CSPP Gold Medal Review is scheduled for the June issue. The CSPP Gold Medal and CBA Lawson Medal winners have been invited to write.

✿ The Commentary section contributed to the debate over whether cell walls are really part of plant cells, which began in *The Plant Cell.*

✿ Acceptance rate was 58%. The positive decision time (review + revision) in 1996 rose to 155 days (from 137) for English papers. Current figures for 1997 are 153 days. Clearly there is much room for improvement, although some of the delay arose from a block of slow peer reviewing.

✿ Average publication time was 10.8 months. I am still convinced that publication time must be dropped to 6 months if a paper journal is to survive.

✿ Monthly contents pages for Can. J. Bot. are published electronically. Details are at: http://www.cisti.nrc.ca/cisti/journals/tocbot.html

✿ Time in press (between acceptance and publication) has gone back up to 169 days after an excellent 1995 performance of 149 days.

✿ There were 383 submissions in 1996 (down from 458 in 1995 and 465 in 1994). We are already on route to another 450+ year which appears to be the norm. The increasingly interdisciplinary nature of all submissions, especially this year in reproductive biology, makes assignment to expert editors very difficult. I thank all members of the Board for their willingness to deal with these increasingly cross-disciplinary submissions.

We continue to publish symposium papers, but only when the papers satisfy the peer-review requirements for intellectual novelty. The war against "salami" science continues. This year we rejected three papers specifically because the reviewers identified them as following up on "least publishable units". The cases of unethical practices were mainly with reviewers who were slow, sloppy or used inappropriate language. As with almost all Journals, our biggest ethical headache is the slow peer-reviewer. We are all busier than ever, but the obligation to provide timely reviews remains. Editors will be asking reviewers to say 'No' rather than agreeing to do a review and then delaying. The "black-list" was extended this year. Most colleagues step far beyond the call of duty and you do a fine job.

I continue to receive unsolicited comments that Can. J. Bot. is held in high esteem; this year from Québec, Europe and the United States. You, the Canadian botanical community, give generously to the Journal's reputation by your rigor as reviewers. Most reviews come from Canada. The scientific community could not survive without your free labor. It is a pleasure to thank you all for your efforts.

There have been several changes in the Editorial Board since I last reported to you. Associate Editors have a 3-year term. They work enormously hard and well beyond the call of duty. Randy Bayer, Tim Dickinson, Daniel Gagnon, Dick Hamilton, Tony Little, Larry Peteron, and Bill Remphrey have retired. They have done great service and we should all be grateful. New members are Carol Peterson (Waterloo), Mark Roberts (UNB), Kermit Ritland (UBC), Joel Shore (York U.) and Rob Guy (UBC). I am still recruiting in Systematics and in Structure and Development.

My second term as Editor-in chief will end on December 31, 1998. I will have served 10 years and it is time to step down. Bruce Dancik will be consulting widely before appointing my successor. Please think about this and be ready to respond.

I would like to thank all Board members for their enormous commitment and seemingly endless energy in the service of their colleagues.

Respectfully submitted
Iain E.P. Taylor, Editor, Canadian Journal of Botany

AWARDS AT MONTRÉAL

The following is a list of Awards presented at the joint CBA/ABC - BSA Banquet at the Annual Meeting in Montréal. Citations and further details for some awards will be printed in the October Bulletin.

LAWSON MEDALS

Anwar Maun
University of Western Ontario
London, Ontario

Bill Cody
Agriculture and Agri-Food Canada
Ottawa, Ontario

MARY E. ELLIOTT AWARD

Jean Gerrath
University of Northern Iowa
Cedar Falls, Iowa

LUELLA K. WERESUB AWARD

Analie Fernando
University of Western Ontario
London, Ontario

AWARDS AT MONTRÉAL (CONTINUED)

J.S. ROWE AWARD

Richard Little
University of Western Ontario
London, Ontario
(now at University of Calgary)

Sheri Gutsel (Honourable Mention)
University of Calgary
Calgary, Alberta

TAYLOR A. STEEVES AWARD

Judith MacIntyre
University of Prince Edward Island
Charlottetown, PEI

LIONEL CINQ-MARS AWARD

Julian Starr
University of Manitoba
Winnipeg, Manitoba

Honourable Mention:
Ping Li
Dalhousie University
Halifax, Nova Scotia

MACOUN TRAVEL BURSARIES

Gordon Lemon
University of Guelph
Guelph, Ontario

Julian Starr
University of Manitoba
Winnipeg, Manitoba

POSTER AWARD

René Charest
IRBV, Université de Montréal
Montréal, Québec



POSITION AVAILABLE

THE UNIVERSITY OF WESTERN ONTARIO

COMMUNITY / LANDSCAPE ENVIRONMENTAL ECOLOGIST

Applications are invited for a tenure-track appointment at the Assistant Professor level in the general area of Plant Ecology, with specialization in communities and/or landscapes. This is an inter-disciplinary appointment in Environmental Sciences between the Departments of Geography and Plant Sciences. The successful applicant will have expertise in both terrestrial and aquatic ecosystems and applied issues in environmental conservation. Expertise in numerical data analysis will be an asset. The appointee is expected to develop a vigorous, inter-disciplinary and innovative research program.

We require a Ph.D. and appropriate post-doctoral training or equivalent experience in a research-oriented environment, a proven research record including publications in refereed journals, the ability to work with others, and demonstrated evidence of interest, ability, and enthusiasm to teach at both undergraduate and graduate levels in the general area of Environmental Science.

Applicants should provide a curriculum vitae, a statement of research and teaching interests, copies of recent significant papers and the names and addresses of three referees, together with their E-Mail, FAX and telephone numbers. Send to **Dr. R. A. Haines, Associate Dean, Faculty of Science, Western Science Centre, The University of Western Ontario, London, Canada N6A 5B7.**

Consideration of applications will begin November 1, 1997 and continue until the position is filled. Starting date will be July 1, 1998, but an earlier start date is negotiable.

Positions are subject to budget approval. In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian Citizens and Permanent Residents of Canada. The University of Western Ontario is committed to employment equity, welcomes diversity in the workplace, and encourages applications from all qualified individuals including women, members of visible minorities, aboriginal persons, and persons with disabilities.

BOOK REVIEW

Seasonally Dry Tropical Forests. Edited by Stephen H. Bullock, Ernesto Medina and Harold A. Mooney.

Seasonally Dry Tropical Forests consists of 18 chapters, and reviews what is known about dry tropical forests from around the world. These are forested areas that experience periodic drought, which often results in leaf drop. Though the species richness of dry tropical forests can at least equal that of tropical rainforests, they have received little attention, both from scientists and conservation activists. Of interest to canadian scientists, Mexico is especially blessed with large areas of dry tropical forests (20% of land mass), where many of "our" neotropical migrants reside for the 8 months of the year they are not concerned with nesting activities up here.

Dry tropical forests have and are experiencing accelerated rates of conversion to agricultural uses and human habitation. Seasonally Dry Tropical Forests draws attention to the biological values of dry forests, and encourages work in ecology, conservation and land-management. It is a must for anyone interested in working in dry tropical forests. It contains a wealth of information not usually seen in books consisting of invited chapters. The numerous references cited in each chapter also provide an avenue for the reader to acquire more information if necessary.

After the introductory chapter, the first four chapters describe the dry tropical forests of a number of new and old world regions: 2) "Dry forests of Central America and the Caribbean" by P.G. Murphy and A.E. Lugo; 3) "Overview of the Brazilian caatinga", by E.V.S.B. Sampaio; 4) "Savannas, woodlands and dry forests in Africa", by J.C. Menaut, M. Lepage and L. Abbadie; and 5) "Dry forest ecosystems of Thailand", by P.W. Rundel and K. Boonpragob. The next chapter provides a geological perspective for dry tropical forests in North and Central America: 6) "The Cenozoic record of tropical dry forest in northern Latin America and the southern United States", by A. Graham and D. Dilcher. The following three introduce the species and functional groups contained within this ecosystem type: 7) "Diversity and floristic composition of neotropical dry forests", by A.H. Gentry (deceased); 8) "Vertebrate diversity, ecology and conservation in neotropical dry forests", by G. Ceballos; and 9) "Diversity of life forms of higher plants in neotropical dry forests", by E. Medina.

The next seven chapters address different ecological aspects of a number of regions: 10) "Drought responses of neotropical dry forest trees", by N.M. Holbrook, J.L Whitbeck and H. A. Mooney; 11) "Plant reproduction in neotropical dry forests", by S.H. Bullock; 12) "Plant-herbivore interactions in Mesoamerican tropical dry forests", by R. Dirzo and C. Dominguez; 13) "Biomass distribution and primary productivity of tropical dry forests", by A. Martinez-Yrizar; 14) "Nutrient cycling in tropical deciduous forests", by V.J. Jaramillo and R.L. Sanford, Jr., 15) "Biology of the below ground system of tropical dry forests", by E. Cuevas; and 16) "Nitrogen trace gas emissions in a tropical dry forest ecosystem", by P.A. Matson and P.M. Vitousek.

Finally, the remaining two chapters concern themselves with conservation issues: 17) "Conversion of tropical dry forest to pasture and agriculture", by J.M. Maass; and 18) "Ethnobotany of the Mexican tropical dry forests", by R. Bye.

I found each chapter to be informative, well written, and well referenced. Anyone initiating research in dry tropical forests will find this book a valuable resource that will make the initial literature search a much simpler task.

Pam Krannitz, Environment Canada
Pacific Wildlife Research Centre, Delta, BC

REVIEWERS WANTED

Here is a list of new arrivals. Contact the Editor if you wish to volunteer to write a review of any of these books for the Bulletin. - *The Editor (Address on pages 34 and 52)*

Experiments in Ecology. by A.J. Underwood. Cambridge Univ. Press. 1997.

Flora of Great Britain and Ireland. Vol. 5. Butomaceae - Orchidaceae. Cambridge Univ. Press. 1996.

Flora of North America. Vol. 3. Magnoliophyta: Magnoliidae and Hamamelidae. Oxford Univ. Pr. 1997.

Flora of the Russian Arctic. Vol. 1. Polypodiaceae - Gramineae. Univ. of Alberta Press. 1995.

The Nature of Disease in Plants. by Robert P. Scheffer. Cambridge Univ. Press. 1996.

Plants in Changing Environments. by F.A. Bazzaz. Cambridge Univ. Press. 1996.

Plant Microbe Symbiosis: Molecular Approaches. Cambridge Univ. Press. 1997. [Reprint of Symposium published in New Phytologist, Vol. 133]

Last call for reviewers for the following books:

Biology of Citrus. by R. Spiegel-Roy & E.E. Goldschmidt. Cambridge Univ. Press. 1996.

A Century of Mycology. Edited by Brian C. Sutton. Cambridge Univ. Press. 1996.

Poorly Known Economic Plants of Canada - 14. Kelp, Laminariales.

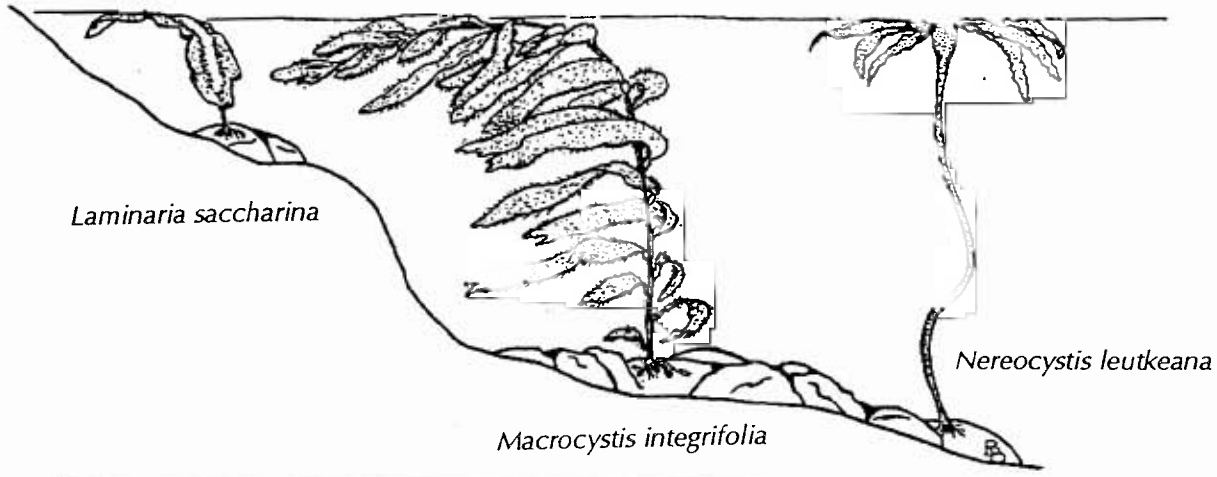
E. Small[1], L. Druehl[2] and P.M. Catling[1]
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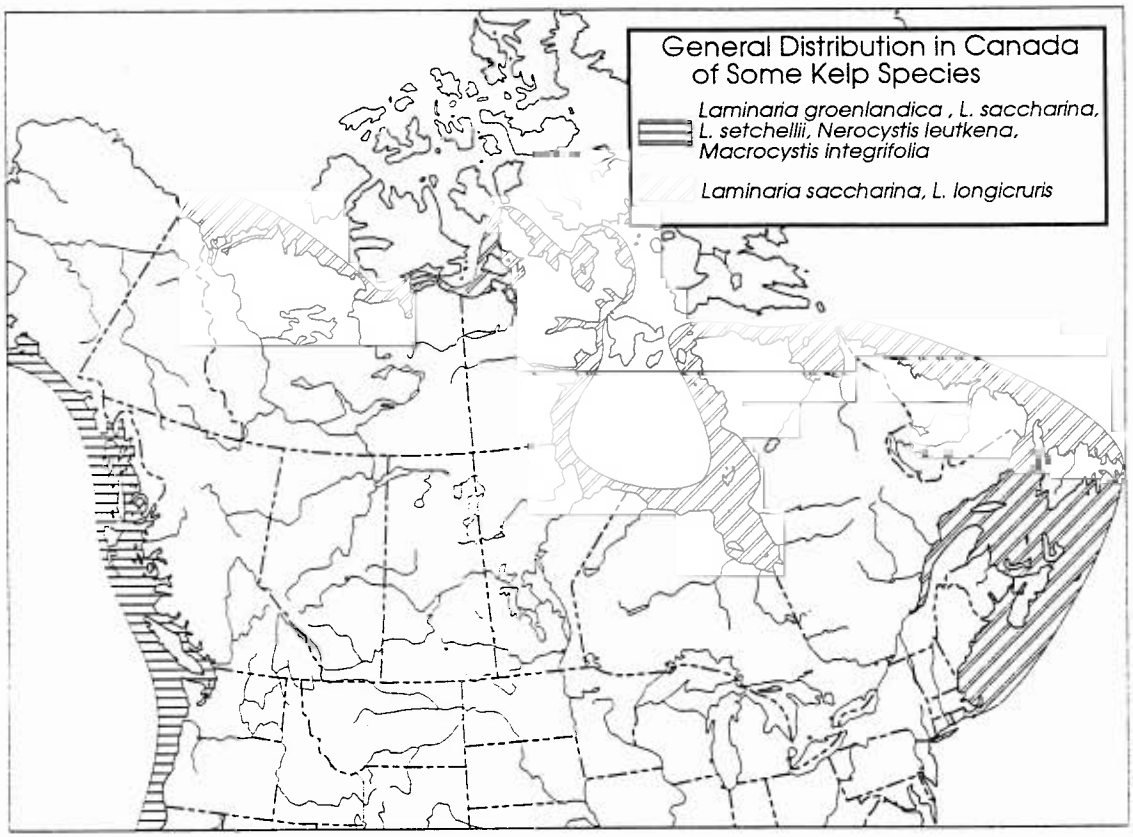
"Kelp" (French = varech) commonly refers to seaweeds of the brown algal order Laminariales, which have large flat, leaflike fronds (kelp is used both as singular and plural). Many of the Laminariales are huge, tough, leathery plants, well-adjusted for cold waters and overcast skies. Most of the kelp are found in the Pacific Ocean, with a restricted number in the Atlantic. They usually dominate the lower intertidal and upper subtidal floras. While rather variable, most kelp have a root-like holdfast, a flexible stipe (stem-like portion), and blades (flattened expansions often resembling leaves). The life cycle of the kelp involves alternation of a large spore-producing stage (the sporophyte) and a microscopic gamete-producing stage (the gametophyte). *Macrocystis* is perhaps the most impressive of the kelp, sometimes developing weights of over 200 kg. The longest known *Macrocystis* measured 47 m. In Canada, several species of kelp are considered economically important: *Laminaria saccharina* and *L. longicruris* (regarded as conspecific by some authors), are distributed along the entire Canadian Atlantic coast and south to New York, through the eastern Arctic, and the entire Canadian Pacific coast to Washington. *Laminaria setchellii* and *L. groenlandica* have limited economic importance in British Columbia. *Nereocystis leutkeana* presently has limited economic importance in British Columbia but because of its large biomass has considerable potential. *Macrocystis integrifolia* is probably the single most economically important kelp in Canada (based on dollar value, not biomass harvested).

Kelp forests constitute important marine ecosystems in coastal areas of much of the world, and can support important commercial and recreational fisheries. They vastly increase the surface area upon which other marine organisms can locate, thus increasing diversity. Kelp are fast-growing despite their often cool environment, and provide food and habitat for numerous species of marine organisms. Sea urchins are very significant herbivores of kelp, but their numbers are controlled through predation by lobsters, crabs and sea otters. Widespread destruction of kelp beds in shallow water on both the East and West Coasts of Canada has been attributed to the unchecked overfishing of lobsters and crabs in the East, and the early extirpation of sea otters in the West to supply fur for the European market during the 1700's. Sea otters were recently reintroduced from Alaska to northwestern Vancouver Island and are extending their range along the B.C. coast. The reintroduction has led to a decline in sea urchin populations and a resulting revival in barrier kelp, which was once so extensive that it provided a safe navigation route of sheltered water between the offshore beds and the land.

Another brown algal order, the Fucales, also contains algae sometimes marketed pharmacologically as kelp (and also often as "Fucus"), but these are best referred to as fucoids. *Fucus vesiculosus* (Bladderwrack), a frequent inhabitant on the rocky coasts of the Atlantic and Pacific Oceans, and *Ascophyllum nodosum* (Knotted Wrack) of the coasts of the North Sea, the western part of the Baltic Sea, and the east coast of Canada are the species usually encountered in commerce. The pharmacological properties of these fucoids are comparable to those of the true kelp.

Macroscopic marine algae or seaweeds have a diversity of uses, like many terrestrial plants. The B.C. coastal Indians stretched kelp stipes to make fishing lines and used the hollow bulbs and stipe bases as bottles. Many brown algae have been extensively used as agricultural fertilizers, especially as a source of potash (which supplies potassium). As a soil amendment, seaweeds also tend to be rich in micronutrients and nitrogen, but are low in phosphate. They have the advantage of being free of terrestrial weeds and fungi. Just as there has developed a certain mystique about the health benefits of brown algae for humans, so too are some convinced that algae have particular nutritional benefits for land plants. This has led to considerable research on plant





growth factors in seaweeds (possibly plant hormones, particularly cytokinins), and the marketing of seaweed extracts for use as plant growth stimulants. The hope has also been expressed that alginic acid (marketed as Nomozan) may inoculate some crops against viruses.

Another recent development is the use of kelp as a substrate for biogas (methane) production, a technology that was developed during the OPEC crisis by General Electric of the United States. The value of this technology in reducing the high energy costs of the Canadian Arctic is currently being explored by Canadian companies.

Of particular interest are the uses of kelp for food and medicine. More than a dozen kelp health commodities are marketed in Canada. Kelp tablets and powders have become popular herbal preparations in North America, and claims have been made that kelp products are useful in treating a variety of ailments. The therapeutic properties of kelp have been attributed particularly to content of trace minerals, especially iodine, which is typically 20,000 times as concentrated in the seaweed by comparison with its aHowever, the level of iodine has been found to vary considerably among algal species and even within a species, so that commercially available products may deliver different dosages. The very high iodine content of brown algae led to their use in goiter medicines, but the variability of concentrations and the varying absorption conditions for bound and unbound iodine in the plant has made such algal therapy obsolete. Required daily intake of iodine in adults is only 150 micrograms, and the thyroid gland normally does not make use of excess iodine, and indeed very large doses of iodine can induce or intensify hyperthyroidism. Kelp have large amounts of sodium, and so should be avoided in salt-restricted diets. However, calcium and magnesium, both desirable as nutritional electrolytes, have been found to be very high in some commercial kelp preparations.

Although kelp is thought to inhibit heavy metal absorption in humans, kelp growing in polluted waters may accumulate very high levels of heavy metals such as strontium and cadmium. Toxic levels of lead can develop. Most dangerously, kelp accumulates arsenic, although in non-polluted waters this should not pose a risk. Manufacturers of kelp products should of course ensure that toxic levels of any of these are not present.

Seaweed products were used in traditional Chinese herbal medicine as early as the sixteenth century, and the kelp have also been employed in western folk medicine. Until very recently, however, there has been limited evidence of pharmacological value, aside from the effects of compensating for iodine deficiency. Kelp are currently marketed as a weight-reducing agent, supposed to be a result

of increased production of thyroid hormones that increase metabolism and so remove deposited fats. While beneficial effects on obesity have been claimed, the medical community considers such therapy as potentially dangerous and highly inadvisable. However, there are a few more promising medical applications. Sterile, dried stipes of *Laminaria* have the ability to expand their original circumference 3-5 times on wetting, and have been used to produce non-instrument mechanical dilation of the cervical canal during birth and gynaecological treatment. The polyphenols present in the plants have antibiotic activity, which may be useful for external applications. Algin from kelp is a useful bulk demulcent (soothing) laxative. Fucans from kelp and fucoids are sulfated polysaccharides, also known as kelp slimes. Recent research has suggested that these may be of use as antithrombin, anticancer and anticoagulant agents. Of these, the anticancer activity has proven most exciting, with preliminary results indicating that fucan is a very potent antitumour agent in cancer therapy.

The brown algae have considerable amounts of the high molecular weight polysaccharide algin, which comprises almost half the dry weight of some species. Algin produces viscous colloidal solutions or gels in water, like carageenans and agars commercially obtained from red algae. All of these :hydrocolloids: are primary cell wall structural constituents of brown and red algae. Unlike cellulose in land plants, which provides rigidity to withstand gravity, the hydrocolloids provide seaweeds with flexibility to withstand currents and waves. Algin is used in the manufacture of more than 300 commercial products, and is particularly valued for its ability to suspend agents in food, cosmetics, medicine, and a variety of commercial liquid mixtures. Illustrating food applications, algin stops ice crystal formation in ice cream, acts as an emulsifier in salad dressings, sherbets, and cheeses, clarifies and stabilizes the foam of beer, is a filler in candy bars, and a thickener in gravies and puddings. Non-edible products using alginates include plastics, paints, adhesives and rubber tires. Algin can be used as a fiber in fire-resistant clothes and in audio speakers. Alginates are also used in the paper and welding industries. *Ascophyllum nodosum* of Canadas east coast is harvested for its algin content.

Kelp carbohydrates are not normally digested by humans, and three quarters of the dry bulk of the most edible brown seaweeds is indigestible. Nevertheless kelp are used directly as vegetables and condiments, principally in China and Japan. The Ainu in northern Japan collected *Laminaria* for food as early as the eight century A.D., and later for a period in Japan only the privileged classes were allowed to eat this sea vegetable. Like other seaweeds, kelp are also harvested as dried fodder for terrestrial livestock in coastal areas (despite the limited digestibility), and sometimes grown as forage for cultivated aquatic animals, such as abalone. A special roe on kelp, greatly valued in sushi bars of Japan, has been produced in British Columbia by herring spawning in penned kelp enclosures. The industry is largely managed by native people and the harvest is valued at over 20 million dollars annually.

Uncontrolled harvesting has led to reductions of wild supplies of some algae, but seaweed farms are well established in parts of the world, reducing the pressure on natural stands. :Polyculture: (combining fish farming and seaweed culture) is a clever way of using seaweeds to metabolize by-products of the fish culture. China is a major seaweed producer, growing over 2.5 million tonnes of *Laminaria japonica* annually. Japans primary aquaculture seaweed is nori (mostly *Porphyra yezoensis*, belonging to the red algae, not the brown), with an estimated value of U.S. 1.5 billion annually (by contrast, the edible seaweed market in the U.S. is currently valued at only about $30 million annually). Canadas development of a cultivated seaweed industry lags far behind that of several countries with low labour costs and a warm climate that allows year-round cultivation. However, there has been some cultivation of *Laminaria saccharina* and *L. groenlandica* on the Pacific coast, for the Oriental and health food markets.

Although Canada currently provides less than 2% of the worlds seaweed resources, there is considerable potential for increasing commerce, particularly on the species-rich Pacific coast. In fact, with 20 kelp species, coastal British Columbia is one of the worlds major regions of kelp diversity, and it has been estimated that 650,000 tonnes of wild kelp currently grow along the B.C. coastline. Current Canadian regulations permit 100,000 tonnes to be harvested annually under strict conservation guidelines, but less than 1% of this amount was harvested in 1996.

Canada has the longest coastline of any nation, suggesting that we should be making greater use of our cold-water marine plant resources. Canada's marine environment may remain much less polluted than elsewhere, providing an attractive situation for algae and algal products intended for human consumption. Of course, we should be providing the best protection possible for this potentially very valuable natural resource.



Teaching Section for CBA/ABC

At the Annual Meeting in Montréal several members interested in the establishment of a Teaching Section met and discussed the possibility of presenting a session devoted to teaching of Botany at the next Annual Meeting in Saskatoon. It was decided to ask for input from members regarding the kind of presentations they would like and to ask members to volunteer to give presentations at the planned session next year.

Any comments about the proposed Teaching Section and commitments to give presentations should be communicated to the person who has volunteered to receive them and to help to organize next year's session (if there appears to be enough support for such a session). Send your comments to: **Jean Gerrath, Dept. of Biology, University of Northern Iowa, Cedar Falls, Iowa 50614-0421. FAX: 319-273-7125; E-mail: gerrath@cobra.uni.edu**

NOVA SCOTIA PLANTWATCH: its first year of activities

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Phenological Surveys

Human activities often alter natural populations and ecosystems. For example, without urgent measures to control CO_2 and other greenhouse emissions, according to the mechanistic simulation models, the global climate may be rapidly and radically modified (Mooney *et al.* 1991). Changes in rainfall patterns, mean, summer and winter temperatures may be among the factors leading to ecosystem modifications. Trends toward warming, especially in summer, have already been reported on a global scale and in some parts of Canada. In the future, new monitoring programs of global ecology and climatology will be needed for better modeling environmental quality (Leith 1994).

Among the periodical phenomena of plants that can be monitored easily and are sensitive to spring temperatures, time of flowered (phenology) is one of the most evident. Flowering phenology is receiving more attention in recent years because of its importance in relation to plant fitness. Although there is a genetic component influencing the time of flowering, it is usually closely linked to the environment (Rees 1987). It thus represents a useful trait not only for evolutionary studies but also for ecological monitoring. In the past centuries, it has been used to describe the influence of the climatic conditions on plants. It is also of significant help in planning many agricultural tasks such as sowing, pesticide and herbicide application. Phenology can thus be an interersting tool for monitoring global change. In western Canada, for example, historical flowering data for the Edmonton area shows that spring flowering is now 10 days earlier than it was 45 years ago (Beaubien *et al.* 1996). Because of its simplicity, it is also possible to involve the general population in phenological surveys which will have a more educatie purpose. Public participation in such programs can improve their awareness about global environmental and ecological issues.

Nova Scotia Plantwatch

Last year, with the help of approximately 200 people in all Nova Scotia counties, the Nova Scotia Plantwatch initiated a long-term phenological survey of flowering events of 12 common plant species. Almost 1000 dates of flowering events throughout the province were collected. This project was initiated in January 1996 during the Second National Science Meeting (Ecological Monitoring and Assessment Network [EMAN] of Environment Canada), with the assistance and encouragement of Elizabeth Beaubien at the Devonian Botanical Garden in Alberta. Currently, in addition to the voluntary contributions of the seven-member steering committee, the project is logistically supported by Saint Mary's University and EMAN. Funding remains limited, to say the truth, nonexistent.

The present project has two objectives: 1) to improve public education and awareness about our flora, the importance of its conservation and the effects of environmental changes (such as global warming) on their survival and 2) to compare the present phenological data with historical data collected a century ago. In Nova Scotia there is a very detailed phenological record for the end of the last century. This record comes from Alexander H. Mackay, the superintendent of education in the province, and includes surveys from 1891-1926. Mackay taught natural history in schools, initiated and maintained a network of 370 schools across the province. Each year a total of 100 phenological observations were made, including first flowering and fruiting of more than 50 native and cultivated plants, the first appearance of migratory birds, dates of hay-cutting and sheep-shearing, along with important weather events like hurricanes and hailstorms. Some of the present species being monitored are common with Mackay's data. It is therefore possible to compare the pre-1926 and present flowering dates in the different parts of the province.

Observations of the first year

In March/April 1996, more than 800 survaey sheets were sent to potential volunteers across the province of Nova Scotia. Approximately 200 surveys were completed and returned from most regions of the province (success rate of 25%). The present Nova Scotia Plantwatch includes 12 species: *Acer rubrum*, *Larix laricina*, *Syringa vulgaris*, *Tussilago farfara*, *Clintonia borealis*, *Houstonia caerulea*, *Forsythia suspensa*, *Epigaea repens*, *Populus tremuloides*, *Trientalis borealis*, *Cornus canadensis* and *Rhododendron canadense*. Most of these species are common not only in Nova Scotia but also in other parts of Canada where they can also be monitored. From the survey sheets received in summer 1996, a first data base was built whcih includes Mackay's phenological data.

Table 1 shows the flowering dates for the 12 species, some being common in both surveys. In comparison with Mackay's data, some species such as Populus tremuloides and *Epigaea repens* flowered later in 1996 (see Fig. 1 and 2 for may flower). However, other species such as *Syringa vulgaris* and *Clintonia borealis*, flowered earlier in 1996 than during the 1898-1923 survey period. However, in most cases, because of important within-year variation, especially in 1996, the results may not be significantly different. Notice that statistical analyses cannot be performed since we only have a year of data for the present survey. Flowering dates varied between counties because of variation in climatic conditions (Fig. 1 and 2). *Acer rubrum*, however, does not show any similar trend and, in fact, appeared to be not as much affected by year-to-year variation as the other species.

The first year of survey showed that it is possible to monitor phenology with the help of volunteers. But, as pointed out by Klaveness and Wiegolaski (1996), analysis and interpretation of the data require a critical sense of data quality and sound judgment. It may not always be possible to fully rely on the data. Such surveys are useful for public education purposes. But because of microscale variation, there may be a high variability in flowering dates. Future analyses will have to include parameters defining these microscale physical and climatic conditions.

Table 1. Mean (standard deviations) dates of flowering between 1898 and 1926 and in 1996 for the province of Nova Scotia. Dates are transformed in day of the year for better comparisons. Also notice that no analyses can currently be done since we have only one year in the present survey.

Years	1898-1926		1996		
Flowering sequence	First	50%	First	50%	Full
Populus tremuloides	120 (6)	124 (6)	127 (14)	136 (14)	139 (15)
Epigea repens	106 (5)	116 (4)	124 (10)	133 (12)	138 (15)
Syringa vulgaris	159 (4)	165 (4)	145 (11)	152 (10)	158 (10)
Acer rubrum	128 (5)	134 (5)	128 (12)	137 (13)	143 (13)
Cornus canadensis	151 (4)	156 (4)	150 (11)	152 (9)	157 (8)
Rhododendron canadense	147 (4)	153 (4)	149 (12)	150 (11)	152 (9)
Clintonia borealis	153 (4)	159 (4)	148 (13)	153 (11)	159 (8)
Trientalis borealis	148	-	148 (8)	150 (9)	158 (7)
Houstonia caerulea	134 (9)	141 (1)	135 (19)	143 (18)	148 (13)
Forsythia suspensa	-	-	129 (13)	135 (11)	138 (11)
Tussilago farfara	-	-	119 (16)	126 (15)	130 (16)
Larix laricina	-	-	130 (10)	137 (10)	148 (13)

Future steps

The first year of Nova Scotia Plantwatch showed that it is potentially feasible to compare data between centuries but some transformations will be necessary in order to improve comparisons. The variation observed in the 1996 phenological data suggests that there is a need for more detailed description of the species, especially in terms of flowering morphology and the definition of flowering stages. It is also important to explain to the volunteers that in some species such as coltsfoot, flowers may close at night or under adverse weather conditions.

For the second year, 1997, Nova Scotia Plantwatch has increased its mailing to include all the schools in Nova Scotia. It is also expected that more people will get involved in the survey. The success of the first year led other provinces such as Prince Edward Island and New Brunswick to initiate similar phenological networks. We can expect that in a few years, the program will include all the provinces. Already in the Prairies, the network has successfully collected data for several years (Beaubien 1996).

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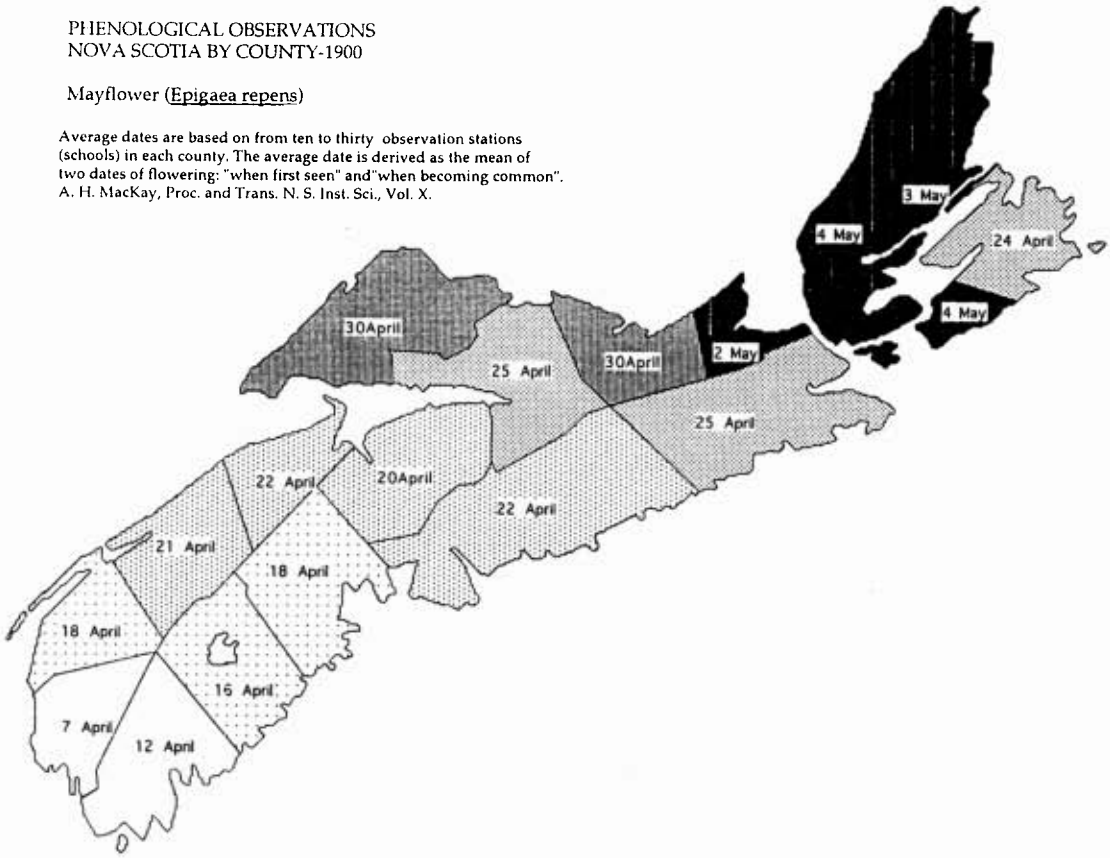
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PHENOLOGICAL OBSERVATIONS
NOVA SCOTIA BY COUNTY-1900

Mayflower (Epigaea repens)

Average dates are based on from ten to thirty observation stations (schools) in each county. The average date is derived as the mean of two dates of flowering: "when first seen" and "when becoming common". A. H. MacKay, Proc. and Trans. N. S. Inst. Sci., Vol. X.

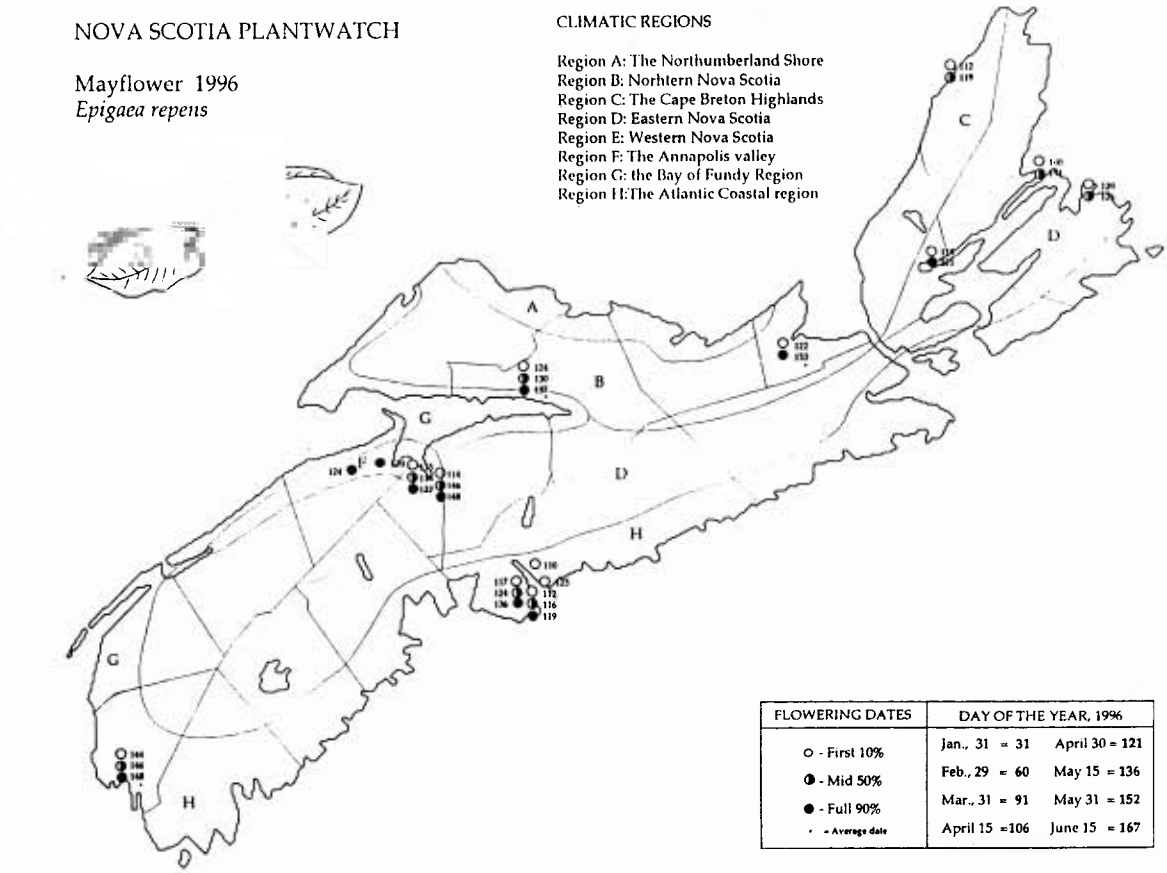


NOVA SCOTIA PLANTWATCH

Mayflower 1996
Epigaea repens

CLIMATIC REGIONS

Region A: The Northumberland Shore
Region B: Norhtern Nova Scotia
Region C: The Cape Breton Highlands
Region D: Eastern Nova Scotia
Region E: Western Nova Scotia
Region F: The Annapolis valley
Region G: the Bay of Fundy Region
Region H:The Atlantic Coastal region



FLOWERING DATES	DAY OF THE YEAR, 1996	
○ - First 10%	Jan., 31 = 31	April 30 = 121
◑ - Mid 50%	Feb., 29 = 60	May 15 = 136
● - Full 90%	Mar., 31 = 91	May 31 = 152
· - Average date	April 15 =106	June 15 = 167

The Plant Press / La Presse Botanique

These pages are intended as a chronicle of news items about plants (or about CBA/ABC members) appearing in newpapers or in the popular science magazines. Contributions from your local newspapers are invited. Send the editor a clipping, photocopy or simply a note about the item and don't forget to indicate the source and date.

Ces pages sont consacrées aux nouvelles concernant les plantes (ou certains membres de l'ABC/CBA) qui paraissent dans les journaux. Les contributions en français sont également encouragées. Faites parvenir vos soumissions au rédacteur en chef ou à la rédactrice adjointe, section francophone, et n'oubliez pas d'indiquer la source de l'article et la date de publication.



Additions to Endangered Canadian Plants

This year's list of newly endangered species in Canada includes 5 plants:

- Fernald's milk-vetch
- Fernald's braya
- Long's braya
- False hop sedge
- Apple moss

Ottawa Citizen, April 18, 1997



The Pompeii of the Americas

The 6th Century village called Cerén in El Salvador is similar to Pompeii in being preserved by volcanic ash. About 590 A.D. a volcanic eruption buried the village under 16 feet of ash and provided archaeologists (and, in particular, palaeoethnobotanists), with a bonanza of preserved material. Researchers have found ceramic vessels filled with seeds of beans, squash, cacao and other plants. As occurred in Pompeii, many organic remains have decayed, leaving cavities which can be filled with dental plaster to produce a 3-dimensional replica of the original. In this way botanists have obtained replicas of early corn cobs. The thatch used on village houses was made from a grass that now appears to be extinct, probably outcompeted by alien grasses from Europe. The wide range of plant material found indicates that the villagers ate a varied diet, including such familiar foods as beans (several kinds), squash, chili peppers, avocados, various nuts, cherries and many other kinds of fruit. They drank cacao, the favourite beverage of the Mayans. Cotton was probably a major crop, providing fiber for clothing and trade. There is evidence also that they ground cotton seeds to extract the oil (probably for use as a cooking oil).

New York Times, April 8, 1997



DNA may Convict B.C. Tree Thieves

The British Columbia Ministry of Forests and the Canadian Forest Service are supporting research into the use of DNA technology as a tool to assist in convicting tree thieves. A large coastal cedar tree could be worth as much as $10,000 in cedar shakes. Until now, however, it has been difficult to prove that logs taken from poachers have been cut illegally from public or private forest reserves. It is estimated that 10 to 20 million dollars of provincial revenue is lost each year because of this illegal activity. It is hoped that DNA matching of seized logs with freshly cut stumps will provide the evidence needed to convict the poachers.

Gordon Hamilton, Vancouver Sun, May 29, 1997



"Cell from Hell"

This is the catchy nickname for a rather nasty dinoflagellate responsible for massive fish kills in the estuaries of North Carolina. You may remember a previous Plant Press report on this organism, now officially named *Pfiesteria piscicida.* Although *Pfiesteria* is thought to spend most of its life as a photosynthetic, more-or-less dormant (non-flagellate) stage on the bottom of the estuary, when a school of fish swims by it leaps into action by quickly sprouting flagella and swimming upward among the fish. The "cells from hell" release a powerful toxin that causes the deaths, in some cases, of millions of fish. The dinoflagellate then proceeds to eat the flesh of the dead fish, to produce millions more dinoflagellate cells and then to return to its innocuous dormant stage. Our previous Plant Press item noted that the principle researcher studying *Pfiesteria*, JoAnn Burkholder of North Carolina State University, is convinced (but cannot yet prove) that neurological symptoms (including memory loss) experienced by her and several of her lab technicians were caused by the dinoflagellate toxins (which have yet to be isolated and identified). Now there is evidence that *Pfiesteria* may actually attack humans! More than a dozen fishermen, divers and others who have come into contact with the brown water surrounding the dead fish of a mass kill have found open sores on their bodies or reported neurological symptoms (feeling faint or having memory loss). The story of the "cell from hell" has also appeared in a recently published book by journalist Rodney Barker [*And the Waters Turned to Blood: The Ultimate Biological Threat*].

Scott Mooneyham, Toronto Star, May 4, 1997



The "Cell from Hell" Strikes Again

A mass mortality of menhaden (a fish) in a Maryland estuary last month is being blamed on the dinoflagellate, *Pfiesteria piscicida.* Skin lesions typical of *Pfiesteria* attacks were found on the dead fish. Swimmers who were in the water at the same time also reported the presence of skin lesions. This television report did not mention any neurological effects.

CNN News, August 8, 1997

Lichens as Indicators for Lung Cancer

High levels of air pollution are known to cause the death of many lichens. Now some Italian researchers have shown that areas with low lichen biodiversity are also areas which have a high incidence of lung cancer. These areas have high levels of sulphur dioxide, nitrous oxides and dust in the air.

Kitchener-Waterloo Record, June 13, 1997

Grape DNA proves Parentage

Dr. Carole Meredith of UC Davis has traced the parentage of the great Cabernet Sauvignon grape using DNA technology. As you might have expected from the name, Cabernet Sauvignon is descended from the Cabernet Franc (a red wine grape) and Sauvingon Blanc (the grape that is used to produce Bordeaux and Loire white wines and the Californian wine called Fumé Blanc).

Globe and Mail, May 10, 1997

Sea Parsley

In a few years you may be able to buy a product with this name at your local supermarket. A Halifax company is gearing up for commercial production of this burgundy-coloured alga, which is a mutant of dulse (*Palmaria palmata*). According to Ed Cayer, Vice-President of Ocean Products International, "sea parsley" tastes like celery when uncooked, like bacon when deep-fried and like mussels when boiled. The company is building a greenhouse in Shelburne, Nova Scotia, to produce the alga and hopes to issue production contracts to about 20 other growers. Under the right growing conditions, Cayer claims that sea parsley will double its volume in about a week.

Kitchener-Waterloo Record, June 10, 1997

Palaeoclimate Bonanza

When Heal Lake on the Saanich Peninsula (Vancouver Island) was drained recently for use as a landfill site, hundreds of ancient logs were discovered on the exposed lake bed. According to Richard Hebda of the Royal B.C. Museum, who collected more than 700 wood samples from the site, these trees could provide a continuous tree-ring record extending back about 9000 years. Already Hebda's research on the logs has discovered that it was quite dry on the B.C. coast between 400 and 600 AD , and that there were 50 straight wet springs followed by 50 dry springs between 100 and 200 AD.

Margaret Munro, Vancouver Sun, June 9, 1997

"A-maizing Black Corn"

Wang Litian, an amateur Chinese plant breeder, has produced two new black-fruited varieties of corn [*Zea mays*], which may be used to provide better nutrition for farmers in remote regions of China. Tests show that the new varieties, 'Black Pearl' and 'Black Guanyin', contain 0.373 grams of lysine per 100 grams (about 50% more than ordinary yellow corn) and are also high in niacin, calcium, iron and selenium.

Cao Min, China Daily, June 27, 1997

M-m-m-m Good!

A professor of environmental toxicology at UC Davis suggests that just sniffing the aroma of freshly brewed coffee could be a means to fight cancer and heart disease. High-temperature brewing produces beneficial antioxidants in the aroma. The aroma antioxidants are absorbed into the body to neutralize free radicals that are implicated in causing DNA damage leading to cancer. For the best effect you should sniff your coffee within 10 minutes of brewing.

Globe and Mail, April 19, 1997

Fungus to Fight Malaria

Scientists at the Malaria Research Centre in the State of Goa, India, have isolated a rapidly growing fungus, which they believe could be a valuable weapon in the fight against mosquito-borne diseases such as malaria and dengue, which kill many people annually in India. The scientists report that the fungus, designated MRC-367, can kill mosquito larvae in about 3 hours.

Kitchener-Waterloo Record, May 26, 1997

Regina's Elms face "Ecological Disaster"

Dutch elm disease has reached Regina. An eight-metre tree in the Uplands area of the city was recently diagnosed as having the disease and was destroyed. City officials fear that the disease, which has affected well over 100,000 elms in the Qu'Appelle Valley, has already infected more of Regina's elms. A house-to-house inspection of the area is planned.

Globe and Mail, July 26, 1997

It's Official!!

No less than the world's top cardiologists at a recent conference in Montréal have endorsed the moderate consumption of wine as a protective measure against heart disease. "Moderate consumption" means a glass or two a day (more will increase your risk). The "French Paradox" (high dietary cholesterol and saturated fats, but low death rate from heart disease) is now ascribed to the effect of constant wine consumption by the French. According to Gilles Dagenais, a Montréal cardiologist, there is recent evidence that wine also protects against cancer, Alzheimer's disease, aging and gastro-intestinal infection. So ... when your old maiden aunt said she kept some wine in the house for "medicinal purposes", she probably didn't realize how right she was.

Kitchener-Waterloo Record, July 5, 1997

Genetically Altered Potato Shunned

An Australian researcher has produced a genetically altered potato that will not discolor when cut or bruised. However, spokespersons for both Cavendish Farms and McCain Foods say that this new potato is unlikely to be used in Canada, especially in the production of potatoes for making french fries. The browning characteristic of potato is necessary to produce french fries acceptable to consumers.

Kitchener-Waterloo Record, June 12, 1997

RECENT GRADUATES
LAURENTIAN UNIVERSITY - M.Sc., 1994-1997

Dan Bazinet. 1995. "Impact of residential wood combustion on ambient air quality in a northern Ontario community." Supervisors: Peter J. Beckett & D. Corr.

Angèle Landry. 1995. "The effects of vegetation cover on the habitat preference of ermine, *Mustela erminea* L. (Carnivora, Mustelidae) in captivity." Supervisor: Jean-François Robitaille.

M. Kathryne McDonald. 1995. "The spectral and physiological response of trembling aspen (*Populus tremuloides*) to mineralization in glaciated soils of the southern boreal forest". Supervisor: G.M. Courtin.

Sharron Lynn Meier. 1995. "Ecology of two endophytophagous insects of *Pedicularis* (Scrophulariaceae) in the high Arctic." Supervisor: Joe
D. Shorthouse.

Robert J. Ongarato. 1995. "Feeding biology of adult *Kleidocerys resedae* Panzer (Hemiptera: Lygaeidae) on female catkins of paper birch (*Betula papyrifera*)." Supervisor: Joe D. Shorthouse.

Scott Brooks. 1996. "Patterns of development and interactions among the inhabitants of the *Diplolepis nodulosa* (Hymenoptera: Cynipidae) gall system." Supervisor: Joe D. Shorthouse.

Steve Lawrence. 1996. "Demographic changes in small mammal populations on black spruce peatland impacted by clear-cut and careful-cut forestry management practices." Supervisor: Frank F. Mallory.

Derek McHale. 1996. "An examination of the role of calcium-magnesium ratio of limestone in the amelioration of acid, metal-contaminated soil in the Sudbury area." Supervisor: Keith Winterhalder.

Louise Paquette. 1996. "Biology of the cynipid *Phanacis taraxaci* (Hymenoptera: Cynipidae) and its gall on the common dandelion *Taraxacum officinale*." Supervisor: Joe D. Shorthouse.

Andrea Sinclair. 1996. "Floristics, structure and dynamics of plant communities on acid, metal-contaminated soils in the Sudbury area." Supervisor: Keith Winterhalder.

Renée R. Cloutier. 1997. Effects of nutrient addition mode on Jack pine (*Pinus banksiana* Lamb.) seedling outplanting performance. Supervisors: Gerard M. Courtin & Gary D. Hogan.

Charles Contant. 1997. "Relationships between *Acer rubrum* L., mycorrhizae, and reclamation activities in the Sudbury region." Supervisor: Keith Winterhalder.

Catherine Daniel. 1997. Soil metabolic activity and properties of soil organic matter in the A1 horizon of reclaimed acid metalliferous mine tailings in the Sudbury area. Supervisor: Keith Winterhalder.

Chantal Sarrazin-Delay. 1997. "Predicting time-to-ignition from stem fuel characteristics of fifteen herbaceous species." Supervisors: John Hogenbirk & Keith Winterhalder.

Bryan Tisch. 1997. "Studies on the use of depyritized tailings, gold tailings, sewage incinerator ash and granulated slag as cover alternatives for the reclamation of sulphide tailings." Supervisor: Keith Winterhalder.

Submitted by Keith Winterhalder,
Department of Biology, Laurentian University



Report on Canada-Wide Science Fair
CBA Special Award
by M.V.S. Raju, University of Regina

The **36th Canada-Wide Science Fair** (CWSF - 1997) was held on the Campus of the University of Regina. The CWSF is an annual national gathering of young and bright students of High Schools across the country. It is an important event of the National Science Fair Program of the Youth Science Foundation Canada. There were nearly 500 students and more than 400 exhibits, both in English and in French. The exhibits were judged by more than 280 judges. On the final day, Friday 17th of May, awards were made to the participating exhibitors. The next CWSF meetings will be held in Timmins, ON in 1998 and in Edmonton, AB in 1999.

I was one of the 6 members of the Judging Committee, and I represented the CBA. On behalf of the Canadian Botanical Association I had the opportunity and pleasure to present the **Special CBA Award** of $500 to **Ms. Melissa Lem**, a grade 12 high-school student of the Sir Oliver Mowat Collegiate Institute, West Hill, ON. for her outstanding Plant Science Exhibit entitled **"Biomonitors: The Effects of SO2 on Dicot Cotyledons"**. After graduation (completing grade 13) Ms. Melissa Lem will attend University to pursue a career in Biology and/or Environmental Science.

Editor's note: The Treasurer passed on to me a summary of Ms. Lem's project which he received from the Youth Science Foundation. The project involved the exposure of 3-day-old seedlings of 5 dicot species to a range of sulphur dioxide concentrations (generated using sodium metabisulphite) for 1 to 4 hours in a clear plastic bag. Damage was scored on a percentage basis by comparing exposed cotyledons with controls. The results showed that the species used had different sensitivities to sulphur dioxide exposure, radish being the most resistant, amaranth, Chinese cabbage and alfalfa showing increasing sensitivity, and finally tomato being the most sensitive. Ms. Lem concluded that 3-day-old dicot seedlings could prove to be useful as low-cost biomonitors for sulphur dioxide pollution.



MEETINGS / CONGRÈS

Medicinal Plants

Medicinal Plants for Survival, an international conference on medicinal plants conservation, utilisation, trade and intellectual and cultural property rights will take place **February 16-20, 1998** at the National Institute of Advanced Studies, Indian Institute of Science Campus, Bangalore, India. The conference will include invited and contributed papers, poster sessions, exhibition & video, and visits to local sites of related interest. Obtain further information from: **Foundation for Revitalisation of Local Health Traditions (FRLHT), No.50, 2nd Stage, MSH Layout, Anandanagar, Bangalore-560024, India [E-mail: root@frlht.ernet.in].**

Phosphorus Conference

The 14th International Conference on Phosphorus Chemistry will be held in Cincinnati, Ohio, **July 12-17, 1998.** Topics to be discussed will include:

- Structure and reactivity of organic P compounds
- Phospholipids in membranes, liposomes, etc.
- ^{31}P NMR in biological systems
- Phosphorylated proteins
- Phosphorus chemistry in agriculture

Obtain further information from the website: **www.usc.edu/dept/chemistry/ICPC14/index.html**

AIBS 1998

The next Annual Meeting of the **Botanical Society of America** will be with AIBS in Baltimore, Maryland, in **August, 1998.** Details about the meeting will be placed on the BSA website: **http://www.botany.org/bsa/**

Carbohydrate Symposium

The 19th International Carbohydrate Symposium will be held in San Diego, California, **August 9-14, 1998.** The First Circular is now available and can be viewed at the website: **http://www.ics98.uci.edu** or can be obtained from: **ICS 98 Symposium Secretariat, Dept. of Chemistry, University of California, Irvine, CA 92697-2025.**

IOPB Symposium

The 7th International Symposium of the International Organization of Plant Biosystematists will be held in The Netherlands, **August 10-15, 1988.** The theme of the symposium is "**Evolution in Man-made Habitats**". For further information, contact: **Dr. Hans den Nijs, LSP - Hugo de Vries Laboratory, Kruislaan 318, 1098 Amsterdam, The Netherlands. [E-mail: IOPB98@bio.uva.nl]**

SASKATOON 1998
(First Announcement)

Annual Meeting of
The Canadian Botanical Association
L'Association Botanique du Canada

at the University of Saskatchewan
(June 27 juin to/à July 1 juillet, 1998)

Theme: Plants and Biotechnology

Symposia:
Biotechnology of plants
Biocontrol of Weeds
Medicinal Plants
Others to be arranged

Field Trips:
One-half day visit to Wanuskewin Heritage Park; national historic site with 6,000 years of First Nations history. The trip will include walks on nature trails. Other field trips to be announced later.

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To ensure continuous delivery of the Bulletin please notify the Treasurer promptly of any change of address.

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