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

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J. F. (Joe) Gerrath
Guelph

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

New Editor!

It is a bit hard to believe that I will no longer be producing the Bulletin every three months. Yes, there is a new editor who will be producing the Bulletin for the next three year term. The new editor is:

Denis Lauzer
Institut de recherche en biologie végétale
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I wish Denis well as he takes over this most important position, and I hope that you will continue to send in your contributions to the new editor so that we can maintain the Bulletin as an means of communication among members. Anyone who is reviewing books for the Bulletin should send your reviews to Denis (if you forget, I will pass them on to him.). To relieve the new editor of a very hectic autumn period, I have agreed to continue to produce the List of Members. The new editor is just as much an individual as I am, and we can expect the Bulletin to change under the new regime. He will be using a different publishing program and computer, and will have different

ideas on how to put together each issue. However, I am sure that we will quickly become used to the new presentation and will continue to look forward to receiving the Bulletin every 3 months.

New Treasurer

Geraldine Allen (Dept. of Biology, University of Victoria) has agreed to replace Christian Lacroix as Treasurer of the Association. To relieve the Treasurer's burden, the CBA/ABC Executive has authorized the use of a management company in Saskatoon, which will be responsible for the day-to-day management of financial transactions and the maintenance of the membership database.

My Last Issue

This Bulletin has been delayed to November to allow the organizers in Saskatoon to present the Second Announcement about the next annual meeting. This issue contains the usual autumn call for nominations, more about awards given at the Montréal meeting, a description about Plantwatch, a phenology program, minutes of the Ecology Section, and a page containing a list of Canada's endangered and threatened plants. Number 15 in the continuing series on Poorly Known Economic Plants of Canada presents information about Sweet Grass. There are several book reviews and my last compilation of Plant Press items. There is also an annoucement, which will be of interest to all members who conduct environmental surveys, about a move to certify environmental practitioners (page 70).

Th-th-th-ats all F-f-f-olks!

Yes, it is finally sinking in ... this is my last issue and commentary. I have so many people to thank, and so little space. I would like to thank Usher and Jean, for helping me to get started during the takeover from their editorial regime. I thank Frédérique, Christian, Richard, Hugues, and others who have at various times served as arbiters of French language usage or have contributed items in French to the Bulletin. Thanks are extended to the many members who served on the Executive of CBA/ABC during my tenure and who always supported my way of producing the Bulletin. A special thankyou to Ernie Small, Paul Catling and others they press-ganged into helping with their series on economic plants, an item which everyone looks forward to reading in each issue. A special thankyou also to all of you who have reviewed books, sent in items for the Plant Press, sent in notices of meetings and sent in information about new publications or items they have found on the internet. I repeat my hope that you will continue to support the Bulletin under the new editor by sending in more items and by reviewing books.

So ... as Porky Pig says, th-th-th-ats all f-f-f-olks! It's been a great run and I have enjoyed every minute (well, ... almost). I'll see you at future annual meetings.

Joe Gerrath, Editor

Future Annual Meetings
Prochaines Réunions Annuelles

1998
Plants and Biotechnology
University of Saskatchewan
Saskatoon, SK
June 27 juin to/à July 1 juillet

1999
America's Center, St. Louis, Missouri
(XVI International Botanical Congress)
August 1-7 août

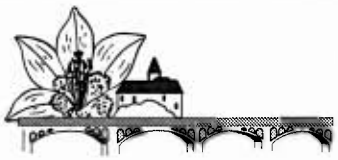
2000
University of Western Ontario
London, ON
June / juin

2001
Okanagan University College
Kelowna, BC

EDITORS / LA RÉDACTION

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"SASKATOON 1998"

(Second Announcement)

Annual Meeting of CBA/ABC at the University of Saskatchewan
Sat. June 27 to Wed. July 1, 1998

Theme: Plants and Biotechnology

SYMPOSIA (confirmed):

1. **Biotechnology of plants:** Speakers - M. Hinchee, K.K. Kartha, W.A. Keller and TBA
2. **Biocontrol of weeds:** Speakers - D.R. Johnson, K.L. Bailey, S.J. Darbyshire, R.A. DeClerck-Floate, M. Schwarzlander, W. Zhang
3. **Medicinal plants:** Introduction: T.A. Steeves; Speakers - J.L. Blackburn, R.J. Marles, J. Moes, E.D. Murray, G.H.N. Towers
4. **Weed communities:** Speakers - D.A. Derksen, N.C. Kenkel, A. Légère, A.G. Thomas, P.R. Watson

WERESUB LECTURE: M. Shaw (U.B.C.), Title - "Fungi: The good, the bad and the ugly"

FIELD TRIPS: An all delegate one-half day field trip to Wanuskewin Heritage Park. Other field trips: Fescue Prairie, Biodiversity and Agroecosystems, Last Mountain Lake Wildlife Refuge, Southern Boreal Forest.

CONFERENCE REGISTRATION AND ABSTRACT SUBMISSION:
Visit the Website: http://www.usask.ca/biology/cba.html

ACCOMMODATION BOOKING: also through the website.

DEADLINES: Abstracts and Registration - March 31, 1998.
University accommodation - June 6, 1998. First come/first served.
Hotel accommodation and campsites - see the website.

ORGANIZING COMMITTEE: J.F. Basinger, A.R. Davis, W.A. Keller, V.K. Sawhney, J.W. Sheard, A.G. Thomas

CONTACT PERSONS:

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or Art Davis, phone: 306-966-4732, e-mail:<davisa@duke.usask.ca>
Department of Biology, University of Saskatchewan,
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PLEASE NOTE: Registration, Abstract submission and University Accommodation booking is preferred via the website. Paper forms are available upon request.

CALL FOR NOMINATIONS

CBA BOARD OF DIRECTORS

Members of CBA are invited to submit nominations for the following positions on the Board of Directors of the Association.

President Elect - [term - 1998-2000]
Secretary [term - 1998-2000]
3 Directors [term - 1998-2000]

One of the Directors must reside east of the Manitoba-Ontario boundary. The others may reside anywhere.

Nominations must be signed by at least three members of the Association and must be accompanied by the consent of the nominee. **All nominations must be received before January 31, 1998, by the Secretary of the Association.**

Ronald E. Dengler
Life Sciences Division
Scarboroough Campus, University of Toronto
1265 Military Trail
West Hill, ON M1C 1A4

GEORGE LAWSON MEDAL

Members of CBA are invited to submit nominations for this prestigious award, to be presented at the next annual meeting at Saskatoon. A maximum of two awards may be given, one in each of the following categories of eligibility.

A. Recognition of the cumulative, distinguished contributions of a senior researcher, teacher or administrator who has worked in Canada for most of his/her career and who has contributed notably to the advancement of Canadian botany.

B. Recognition of a single outstanding contribution to botanical knowledge, which may be a published paper of exceptional significance, a series of published papers, a monograph, or a book. Canadian botanists at any stage of their career are eligible in this award category.

Nominations should be accompanied by a *curriculum vitae*, a clear statement of the nominee's contribution to Canadian botany, and as much documentation as possible (including letters by others supporting the nomination.). **Nominations should be sent to the President of CBA, who chairs the awards committee, before January 31, 1998.**

Dr. C.C. Chinnappa
Department of Biological Sciences
University of Calgary
Calgary, AB T2N 1N4

MARY E. ELLIOTT SERVICE AWARD

Members of CBA are invited to submit nominations for this award, which recognizes meritorious service to the Association by an individual member. If a suitable candidate is proposed, the award will be made at the next Annual Meeting in Saskatoon.

Nominations must include a citation of approximately 100 words and a statement detailing the service contributions of the nominee to CBA. **Nominations should be sent to the President of CBA, who chairs the awards committee, before January 31, 1998.**

Dr. C.C. Chinnappa
Department of Biological Sciences
University of Calgary
Calgary, AB T2N 1N4

Nominations for both the Lawson Medal and the Elliott Award are kept on file for three years after submission, but nominators are requested to provide updated information for the second and third years.



PROPOSITION DE CANDIDATURES

BUREAU DE DIRECTION DE L'ABC

Les membres de l'ABC sont invités à proposer des candidatures pour les postes de directeurs de l'ABC.

Président désigné [de 1998 à 2000]
Trésorier [de 1998 à 2000]
3 directeurs [de 1998 à 2000]

Un des directeurs doit habiter à l'est de la frontière provinciale du Manitoba et de l'Ontario; la location des deux autres n'est pas importante.

Chaque nomination doit porter la signature d'au moins trois membres de l'association et doit être accompagnée du consentement de la personne nominée. **Les nominations doivent être reçues avant le 31 janvier 1998 par la secrétaire de l'association.**

Ronald E. Dengler
Life Sciences Division
Scarborough Campus, University of Toronto
1265 Military Trail
West Hill, ON M1C 1A4

LA MÉDAILLE GEORGE LAWSON

Les membres de l'ABC sont invités à proposer des candidatures pour ce prix, qui sera presenté à la prochaine réunion annuelle de l'association, à Saskatoon. Il y a deux catégories d'éligibilité.

Catégorie A: Pour reconnaître une contribution unique et exceptionnelle à la botanique canadienne par un botaniste canadien. En pratique, ceci prendra la forme d'un livre, d'une monographie ou d'un article apportant une contribution significative ou exceptionnelle à la botanique.

Catégorie B: Pour reconnaître l'ensemble des contributions distinguées d'un chercheur, professeur ou administrateur qui a travaillé au Canada la plus grande partie de sa carrière, et qui a contribué de manière importante au développement de la botanique canadienne.

Toute nomination doit être accompagnée d'un *curriculum vitae*, d'un exposé concis faisant état de la contribution du candidat à la botanique canadienne, et d'autres documents comme des lettres d'appui d'autres personnes. **Chaque nomination doit être reçue, avant le 31 janvier 1998, par le président du comité de sélection.**

Dr. C.C. Chinnappa
Department of Biological Sciences
University of Calgary
Calgary, AB T2N 1N4

LE PRIX MARY E. ELLIOTT

Les membres de l'ABC sont invités à proposer des candidatures pour ce prix, qui est donné à un membre pour service de mérite exceptionel à l'Association. La présentation de ce prix aura lieu à la prochaine réunion annuelle de l'ABC à Saskatoon.

Toute nomination doit inclure une citation (comprenant à peu près 100 mots) et un exposé détaillé décrivant les services rendus à la société par la personne nommée. **Veuillez envoyer vos nominations, au plus tard le 31 janvier 1998, au président du comité de sélection:**

Dr. C.C. Chinnappa
Department of Biological Sciences
University of Calgary
Calgary, AB T2N 1N4

Chaque nomination, soit pour la médaille Lawson, soit pour le prix Elliott, est gardée pendant trois ans par le comité de sélection. Le comité demandera aux personnes qui ont proposé un nom de fournir de nouveaux détails ou des modifications pour la deuxième et la troisième année d'éligibilité.



AWARDS AT MONTREAL

Citations for awards presented at the joint CBA/ABC - BSA Banquet in Montreal.

LAWSON MEDAL
ANWAR MAUN

The George Lawson Medal is the most prestigious award made by the Canadian Botanical Association. The Lawson Medal was established in 1969 to provide a collective formal expression of the admiration and respect of botanists in Canada for excellence in the contribution of an individual to Canadian Botany. It was named after George Lawson, Canada's first professional botanist, who was instrumental in founding Canada's first botanical garden in 1861, the Botanical Society of Canada during 1860-1862 and subsequently the Botanical Club of Canada during 1891-1910. We have two awards under the folowing two categories: one to recognize a lifetime contribution to Canadian Botany and the second one for an outstanding single achievement or contribution.

I am pleased to present the George Lawson Medals for this year, in both categories, to two of the finest Canadian Botanists that I have known, and I am sure you will agree with me when you find out who they are.

This year's award in recognition of cumulative lifetime contributions to Botany is being presented to Professor Anwar Maun of the Department of Plant Sciences, University of Western Ontario, London. Dr. Maun, born in Pakistan, obtained a Ph.D. degree in Ecology from Washington State University, Pullman, came to the University of Western Ontario in 1968 as a postdoctoral fellow and never stopped working.

Some of Dr. Maun's best known work in sand dune ecology concentrates on colonization by various sand dune species. His excellent work on plant population biology in dune systems along the Great Lakes is recognized by many dune ecologists all over the world. He has also reached out internationally to work with students and colleagues in Mexico, the U.S., Europe and the Middle East. Anwar's keen interest in sand dune ecology has received public and government attention in protecting those fragile ecosystems. His research has a strong bearing on management policies of Ontario's sand dune ecosystems.

A strong nomination and glowing testimonials from a combination of more than 30 professors, scientists, administrators and graduate students on three continents is evidence that Prof. Anwar Maun has made a noteworthy contribution to teaching, research and administration.

On behalf of the Canadian Botanical Association I congratulate you, Anwar, and I invite you to accept this award.

LAWSON MEDAL
WILLIAM J. CODY

The second Lawson award is in the category of a single meritorious achievement of an outstanding work. This excellent piece of work, in the words of Rudolph Schmidt, published in Taxon 1997, Journal of the International Society of Plant Taxonomists, states: "Doubleplusgood! Wow! Most impressive! Lavishly done. He has now given us a masterful summary, and a most appealing flora". And there are several other excellent reviews about the flora.

What is this outstanding work? It is the **Flora of the Yukon Territory**, published by NRC Press in 1996. The Flora includes 80 families, 339 genera and 1,112 species. In other words, this book includes 1/4 of the Canadian flora.

This outstanding work, of course, is the creation of Mr. William J. Cody, known to most of us as Bill Cody. Bill received his B.A. degree from McMaster University in 1946, started work at Agriculture Canada, Ottawa, in October 1946, and became curator of the largest herbarium in Canada (DAO, Ottawa) in 1959. Although he retired in 1987 he has since continued to work very actively as an Honourary Research Associate. He is widely considered to be Canada's foremost expert on Canada's northern flora. He has authored and coauthored 5 books, written hundreds of articles and has over 100 publications in refereed scientific journals.

Bil was a founding member of the Canadian Botanical Association in 1965, served as the first Treasurer and has been a member ever since. I can go on saying so many nice things about Bill, but this will do for now. According to most of us, he will always remain a gentleman and a great scholar of the field of floristics. Bill, please accept this award, presented by me on behalf of the Canadian Botanical Association.

AWARDS AT MONTREAL

MARY E. ELLIOTT AWARD
JEAN GERRATH

The final award, the Mary E. Elliott Service Award, was created in 1978 in memory of plant pathologist and mycologist, Mary Elliott, who died in 1976 after serving as Secretary, Vice-President and President for the Canadian Botanical Association during the four previous years. This award recognizes meritorious service to the Canadian Botanical Association by an individual member.

I cannot say enough about the winner of this award. This person is one of our favourites and is none other than Dr. Jean Gerrath.

Jean is a graduate of the Department of Botany, University of Guelph, and is now at the Department of Biology, University of Northern Iowa, Cedar Falls. Jean has been a member of this Association for over 25 years and has served in a variety of roles in that time. Throughout the 70's and 80's Jean was always a regular participant in the Association meetings and other activities. More recently Jean co-founded and was the chair of the Development Committee, and also assumed the responsibility of Secretary of the Associaton. Jean has always been enthusiastic and very helpful to the executive, in both good and bad times. She represents a model of selfless participation, and we admire her a lot for her service to the Association. I am pleased to present this year's Mary Elliott Award to Jean.

C.C. Chinnappa, CBA/ABC President



J. S. ROWE AWARD IN ECOLOGY 1997

This is the second year for the J.S. Rowe award for the best paper published in the discipline of plant ecology by a graduate or senior undergraduate student. We did not have as many nominations this year as for the first award. However, the quality continued to be high and, once again, we had a very close competition. The selection committee consisted of the members of the Ecology Section Executive: Kate Frego, Peter Nosko, Ed Reekie, Isobel Waters and Paul Cavers.

An Honourable Mention for a fine paper goes to **Sheri Gutsell** from the University of Calgary. Her paper, co-authored with her supervisor, Dr. Ed Johnson, was published in the Canadian Journal of Forest Research 26: 166-174. It was entitled "*How fire scars are formed: coupling a disturbance process to its ecological effect*". This paper arose from her M.Sc. thesis. Sheri is now a Ph.D. student at the NSERC Networks of Centres of Excellence on Forest Management.

The winner of the Rowe Award this year is **Richard Little**, now at the University of Alberta. His paper, co-authored with his M.Sc. supervisor at the University of Western Ontario, Dr. M.A. Maun, was published in the journal of Ecology 84: 1-7. It was entitled "*The 'Ammophila problem' revisited: a role for mycorrhizal fungi*". To quote one of our referees, "This paper was excellent. It tackles an interesting ecological problem from a balanced perspective, taking a number of potentially interesting factors into account. Its approach is so fundamentally ecological, exploring in the same study abiotic factors (sand burial) and biotic (mutualistic mycorrhizal interactions as well as herbivory). The experimental procedure is solid and well documented, with good replication and analysis. I particulary like the intelligent way the authors cope with an unexpected result, i.e. the failure of nematode-infected plants to increase in growth following burial; they present thoughtful arguments based not on speculation but on interpretation of other treatment effects in their study." Both *Nature* and the *New Scientist* agree with this assessment in prominent reviews.

Unfortunately, Richard Little is not able to be with us for this presentation. He has written to me as follows: "Thank you very much for the good news. It was surprising indeed. I'm really sorry, however, that I won't be able to be at the meeting. I'm trying to make this summer my last field season and will be up in northern Alberta that week. Dr. Maun has agreed to accept the award for me and once again I'm sorry that I cannot attend. Rich Little."

Accordingly I am very pleased to present this award to the co-author of the winning paper, and my long-time colleague, Dr. Anwar Maun. We ask him to transmit it and our congratulations to Richard Little.

Paul Cavers, Ecology Section Chair



PLANTWATCH
NATIONAL PLANT PHENOLOGY PROGRAM

Phenology is the study of the seasonal timing of life cycle events. At the Montréal CBA/ABC Annual Meeting, a phenology interest group in the Ecology Section was identified. It was the original Botanical Club of Canada that coordinated a national phenology survey beginning in 1891, until at least 1923. Dr. A.H. MacKay, who was Secretary of the Club, and also Superintendent of Education for Nova Scotia, expanded the survey by enlisting hundreds of students in the study of phenology.

Since my Masters thesis began in 1987 I have coordinated an Alberta phenology survey of 15 native plant species, and since 1995 have also developed "Plantwatch", a national program of plant phenology. Plantwatch is based at the University of Alberta's Devonian Botanic Garden, home of the Alberta Wildflower Survey. Plantwatch links students and other observers as the "eyes of science" tracking the green wave of spring moving north. Students develop scientific skills while observing springtime changes in plants and learning about biodiversity. Observers monitor flowering of up to eight plants and report the bloom times to central scientists over the Internet or by electronic mail. This program currently asks Canadian students and the public to report first and full bloom dates. Resulting maps are posted weekly to the Internet and complied data is available by E-mail. Please see the website listed with my address at the bottom for photos, descriptions and maps of flowering data for the plants listed below. Observer/teacher manuals illustrate flowering stages and describe the program and curriculum connections. Schools are encouraged to establish "Plantwatch Gardens", planting the following key indicator species: common purple lilac, *Syringa vulgaris* [worldwide, common garden cultivar]; aspen poplar, *Populus tremuloides* [continent-wide]; prairie crocus, *Anemone patens*, [western prairies and north]; saskatoon, serviceberry, *Amelanchier alnifolia, canadensis* [continent-wide]; white trillium, *Trillium grandiflorum* [eastern deciduous forest]; western trillium, *Trillium ovatum* [western forest]; purple saxifrage, *Saxifraga oppositifolia* [arctic, mountains] and white dryad, *Dryas integrifolia/octopetala* [arctic, mountains].

This program is linked to the International Tundra Experiment, a group of international botanists/climatologists studying arctic/alpine phenology and the effects of artificial warming. We translated the lilac info into Polish (as my assistant is from Poland) and have received much data from enthusiastic students there. Plantwatch is also linked to a developing International Phenology Monitoring Network, which I and members in the USA, Germany, Norway, Switzerland, the Netherlands, etc. have been working on since 1993.

Now some other provinces in Canada have started or are thinking of starting their own plant phenology surveys. Nova Scotia, under the guidance of Liette Vasseur, has a survey using 12 species, and she has encouraged planning for surveys in New Brunswick, Newfoundland and P.E.I.

To be effective, phenology surveys must be planned by botanists who understand plant life histories, so that appropriate species can be selected and data correctly interpreted. Liette and I would like to gather interested botanists together in some way to encourage other provinces to start similar surveys. The benefits are numerous:

for science:
- interannual changes in spring phenology may be the most sensitive and observable terrestrial biosphere change indicator. Flowering data for Edmonton show a trend to spring arriving a week earlier, over the last 45 years.
- links to El Niño events and ocean temperatures have been found in western Canada (spring 1998 should have early flowering on the prairies)
- the data can provide essential seasonality data for decision-making in agriculture and forestry [correct timing of planting, fertilizing, etc.], medicine [pollen warnings], tourism [best times to photograph flowers] and wildlife management [early springs have more successful deer fawns].

for society:
- increased awareness of botany, native plant ecology and the need for habitat conservation
- increased awareness of impacts of climate change
- opportunity to contribute to a global botanical/ climatological project.

If there are any botanists/botany students who would be interested in organizing a phenology survey of their province or region, please contact me for background on how to organize, promote and finance a survey.

Elisabeth Beaubien, Research Associate
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E-mail: e.beaubien@ualberta.ca
Internet homepage:
http://www.biology.ualberta.ca/devonian.hp/pwatch.htm

Please register using the homepage, or contact us by phone or E-mail. A teacher's manual is available for CAN$23.90, and a "How to Plantwatch" manual for non-school participants for CAN$12.20 (prices include tax and shipping).

Supporters of this program currently include: Alberta Native Plant Council, Alberta Sport, Recreation, Parks and Wildlife Foundation, Campbell Scientific, Canada Trust, Environment Canada, Federation of Alberta Naturalists, Friends of the Devonian Botanic Garden, Friends of the Environmental Education Society of Alberta, Hole's Greenhouses and Gardens Ltd., International Tundra Esperiment, Royal Botanic Gardens (Burlington, Ont.), Shell Canada and University of Alberta.

FROM THE INTERNET

Canada's Endangered and Threatened Plants

At the beginning of the school year your editor received a letter from a woman in Nova Scotia requesting information about endangered plants in Canada for a school project that was being done by her two daughters. The family had not been able to find any information on the topic at school and local libraries. This points to a certain lack in the botanical community about informing the public about these endangered plants. All one sees each year is a press release about any new ones that have been added to the list (this year's was in the Plant Press in the last issue of the Bulletin).

Not really knowing where to start or who to contact, I fired up Netscape, went to what sounded like the ideal search engine (HotBot) and typed in "endangered plants Canada". Bingo! I found a webpage maintained by Erich Haber, CBA/ABC member and chair of the plant subcommittee for COSEWIC (Committee on the Status of Endangered Wildlife in Canada). The URL for his page is the following:

http://infoweb.magi.com/~ehaber/risklst.html

For those of you who are "web-challenged" I include on this page Eric's listing of the plants designated by COSEWIC as "endangered" (facing imminent disappearance from Canadian habitats) or as "threatened" (will probably become endangered if no action is taken). The list includes common and scientific names and the region and date of designation.

Plants designated as Endangered

Lichen:
Seaside Centipede Lichen (*Heterodermia sitchensis*) BC/1996

Vascular Plants:
Cucumber Tree (*Magnolia acuminata*) ON/1984
Deltoid Balsamroot (*Balsamorhiza deltoidea*) BC/1996
Eastern Mountain Avens (*Geum peckii*) NS/1986
Eastern Prickly Pear Cactus (*Opuntia humifusa*) ON/1985
Engelmann's Quillwort (*Isoetes engelmannii*) ON/1992
Furbish's Lousewort (*Pedicularis furbishiae*) NB/1980
Gattinger's Agalinis (*Agalinis gattingeri*) ON/1988
Heart-leaved Plantain (*Plantago cordata*) ON/1985
Hoary Mountain Mint (*Pycnanthemum incanum*) ON/1986
Large-whorled Pogonia (*Isotria verticillata*) ON/1986
Long's Braya (*Braya longii*) NF/1997
Pink Milkwort (*Polygala incarnata*) ON/1984
Pink Coreopsis (*Coreopsis rosea*) NS/1984
Prairie Lupine (*Lupinus lepidus* var. *lepidus*) BC/1996
Seaside Bird's-foot Lotus (*Lotus formosissimus*) BC/1996
Skinner's Agalinis (*Agalinis skinneriana*) ON/1988
Slender Bush Clover (*Lespedeza virginica*) ON/1986
Slender Mouse-ear-cress (*Halimolobos virgata*) AB, SK/1992
Small-whorled Pogonia (*Isotria medeoloides*) ON/1982
Small White Lady's Slipper (*Cypripedium candidum*) ON, MB/1981
Southern Maidenhair Fern (*Adiantum capillus-venerus*) BC/1984
Spotted Wintergreen (*Chimaphila maculata*) ON/1987
Thread-leaved Sundew (*Drosera filiformis*) NS/1991
Water-plantain Buttercup (*Ranunculus alismaefolius*) BC/1996
Water-pennywort (*Hydrocotyle umbellata*) NS/1985
Western Prairie White fringed Orchid (*Platanthera praeclara*) MB/1993
White Prairie Gentian (*Gentiana alba*) ON/1991
Wood Poppy (*Stylophorum diphyllum*) ON/1993

Plants designated as Threatened

Moss:
Apple Moss (*Bartramia stricta*) BC/1997

Vascular Plants:
American Water-willow (*Justicia americana*) ON, QC/1984
American Chestnut (*Castanea dentata*) ON/1987
Anticosti Aster (*Aster anticostensis*) NB, QC/1990
Athabasca Thrift (*Armeria maritima* ssp. *interior*) SK/1983
Bird's-foot Violet (*Viola pedata*) ON/1990
Blue Ash (*Fraxinus quadrangulata*) ON/1983
Bluehearts (*Buchnera americana*) ON/1985
Blunt-lobed Woodsia (*Woodsia obtusa*) ON, QC/1994
Colicroot (*Aletris farinosa*) ON/1988
Deerberry (*Vaccinium stamineum*) ON/1994
False Hop Sedge (*Carex lupuliformis*) ON, QC/1997
Fernald's Braya (*Braya fernaldii*) NF/1997
Giant Helleborine (*Epipactis gigantea*) BC/1984
Ginseng (*Panax quinquefolium*) ON, QC/1988
Goat's Rue (*Tephrosia virginiana*) ON/1996
Golden Paintbrush (*Castilleja levisecta*) BC/1995
Golden Crest (*Lophiola aurea*) NS/1987
Golden Seal (*Hydrastis canadensis*) ONO/1991
Kentucky Coffee Tree (*Gymnocladus dioica*) ON/1983
Mosquito fern (*Azolla mexicana*) BC/1984
Nodding Pogonia (*Triphora trianthophora*) ON/1988
Pitcher's Thistle (*Cirsium pitcheri*) ON/1988
Plymouth Gentia (*Sabatia kennedyana*) NS/1984
Purple Twayblade (*Liparis liliifolia*) ON/1989
Red Mulberry (*Morus rubra*) ON/1987
Redroot (*Lachnanthes caroliniana*) NS/1994
Round-leaved Greenbrier (*Smilax rotundifolia*) ON population/1994
Sand Verbena (*Abronia micrantha*) AB, SK/1992
Small-flowered Lipocarpha (*Lipocarpha micrantha*) BC, ON/1992
Sweet Pepperbush (*Clethra alnifolia*) NS/1986
Tyrrell's Willow (*Salix planifolia* ssp. *tyrrellii*) SK/1981
van Brunt's Jacob's Ladder (*Polemonium van-bruntiae*) QC/1994
Western Spiderwort (*Tradescantia occidentalis*) AB, MB/1992
Western Blue-Flag (*Iris missouriensis*) AB, BC/1990
White-top Aster (*Aster curtus*) BC/1996
White Wood Aster (*Aster divaricatus*) ON, QC/1995
Yellow Montane Violet (*Viola praemorsa* ssp. *praemorsa*) BC/1995

The COSEWIC list also contains 34 plants which are designated as "vulnerable" (i.e. species we should be concerned about) and a list of 14 plants which have been considered for designation by the Committee but have been found to be not at risk.

Just two plants have been found to be "extirpated" (no longer in Canada, but existing elsewhere). These are Blue-eyed Mary, *Collinsia verna* (ON/1987) and Illinois Tick Trefoil, *Desmodiuim illinoense* (ON/1991).

Using this list you should now be able to reply confidently to any inquiries from members of the public in your region about Canadian plants at risk.

Joe Gerrath, Editor

Poorly Known Economic Plants of Canada - 15. Sweet Grass, *Hierochloe odorata* (L.) Beauv.

E. Small, J. Cayouette, and P.M. Catling, Eastern Cereal and Oilseed Research Centre, Agriculture and Agri-Food Canada, Saunders Bldg., Central Experimental Farm, Ottawa, ON K1A 0C6

Common Names: Sweet Grass, Sweetgrass, Sweet Holygrass, Indian Sweet Grass, Vanilla Grass, Seneca Grass. French: Foin d'odeur, Herbe sainte.

Hierochloe odorata is sometimes included in other genera, notably *Savastana* or *Torresia*. The genus name *Hierochloe* was coined from the Greek *hieros*, sacred, and *chloë*, grass, a reference to the use of *H. odorata* in parts of Europe as a strewing herb on porches of churches, especially on saints days. Reflecting the original Greek, the name is often rendered "Hierochloë". However, the Code of Botanical Nomenclature prohibits diacritical signs in Latin names. The name "Sweet Grass" is mostly used for species of *Hierochloe*, but is sometimes applied to other species, such as *Glyceria septentrionalis*. In French, "Foin d'odeur" is also applied to the introduced grass *Anthoxanthum odoratum*.

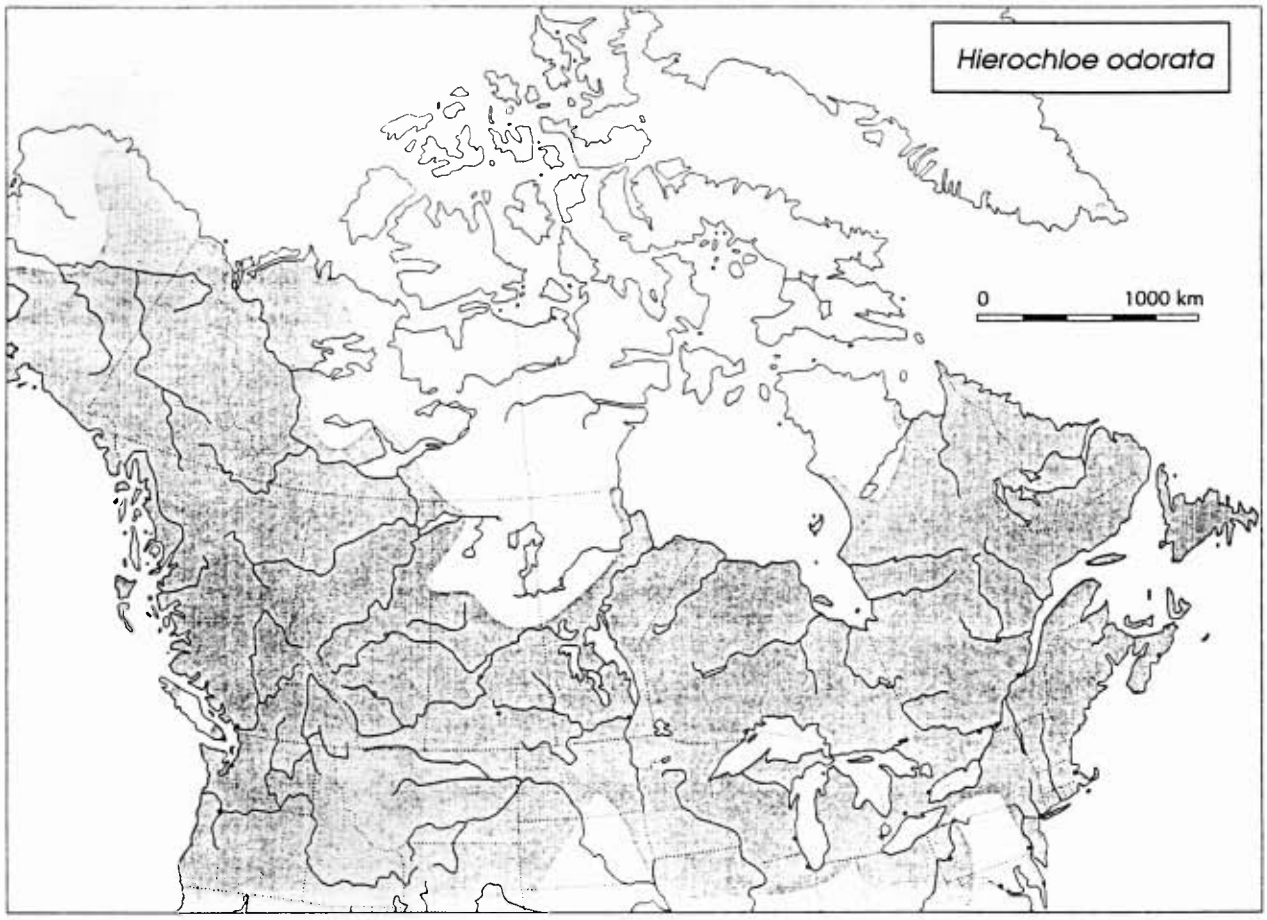
Recent taxonomic study suggests a separation of *H. odorata* ssp. *odorata* of eastern coastal North America (Labrador to New Jersey) from *H. hirta* (Schrank) Borbás ssp. *arctica* G. Weim of most of northern North America (north of 40° excepting eastern Northwest Territories and the arctic islands). However, the two taxa are difficult to separate and they are best placed together under the name *H. odorata*, pending additional study.

Sweet Grass is a semi-erect perennial, the open panicles reaching heights of (10-)25-60(-100) cm. The creeping rhizomes are slender, and numerous, shallow feeding roots arise from these as well as the base of the culm. Shiny green vegetative blades, (2)3-6(-8) mm wide, 20-80 cm long, arise individually from the rhizomes (a form named *H. nashii* Kaczmarek is reputed to produce especially long leaf blades). Sweet Grass is notable for its very early flowering, very shortly after spring growth begins. This is possible because the buds for the inflorescences were developed in the preceding autumn. Seeds are ripe in early summer, although as noted later, seed production may be very limited. Sweet Grass is typically found in prairies, moist meadows, or along shorelines, and also in salt marshes, mostly among other herbs and shrubs. In eastern Canada it is spreading along roadsides receiving runoff with deicing salt.

Sweet grass is a rather variable polyploid complex, with diploids ($2n = 14$), tetraploids, octoploids, and aneuploids and other cytological abnormalities. Some of the chromosome races have been recognized as separate species. Seed set is sometimes low or absent, and some colonies produce seeds through apomixis rather than sexually.



Sweet Grass infusions were used by Plains Indians to treat various ailments, including coughs and sore throats, venereal infections, bleeding after childbirth, chapped or windburned skin, and eye irritations. However, the principal medical value of Sweet Grass is as a spiritually healing plant. Indigenous Peoples have long considered Sweet Grass to be one of the most important of sacred plants (others are the sages, cedar, alpine fir, juniper, tobacco, and corn). This was the most common sacred plant of Plains Indians, who occupied the region between the Mississippi and the Rockies in the U.S., and from the Rockies to Manitoba in southern Canada. Sweet Grass is a regular component of "medicine pouches", which are typically hung about the neck, the wearer symbolically asking for spiritual protection. Elders often have the responsibility of providing the plants for medicine pouches, and may be given Sweet Grass as a sign of respect. The plant is in fact symbolic of Native spirituality, a tribute to the Creator or Great Spirit, and an aid to alleviating or removing evil spirits. Sweet Grass is frequently braided and burned, customarily in the morning or evening, both in



individual and group ceremonies, particularly at pow wows and celebrations. The plant is also burned in an incense (alone or in a mixture) to produce a sacred smoke, the smouldering material passed from person to person as a purification rite and as a symbol of unity. Elders may also conduct a pipe ceremony, in which tobacco (commercial or other plants) is smoked while passing around a smouldering braid of Sweet Grass. The grass braid requires regular fanning to stay lit.

Aromatic herbs have been used for sacred objectives for millennia, so it is not surprising that Christians in Europe and Native Peoples of North America independently adopted Sweet Grass for religious purposes.

The leaves of the flowering stalk are too short to be of value. The vegetative leaves are individually harvested by Indians from the middle of July until September, mid-season considered as supplying the best material. The dried leaves are strong and flexible and are often used in weaving and basketwork, largely for the tourist trade. The pleasantly flavoured baskets, bowls, trays, and mats are a unique traditional product of Native Peoples, although it may be noted that Sweet Grass handiwork sold by Indian tribes outside of the distribution range of *H. odorata* may well have been manufactured from other species locally called Sweet Grass. In southern Quebec, another sweet grass, *Anthoxanthum odoratum*, has also been used by native peoples for basketwork. Cultivated *H. odorata* may produce larger, superior leaves for weaving than wild-growing plants. Some native handicrafts are threatened by recent urbanization and habitat destruction, since this eliminates or reduces the required plant materials.

On drying, the vanilla fragrance, due to coumarin, becomes more evident. The odour may not be apparent in fresh plants. When properly cured, sweet grass remains pleasantly scented for up to 3 years (some say the scent lasts indefinitely). The essential oil is used in perfumes. The dried leaves have been employed to scent pillows and clothing.

The coumarin content results in bitterness, which has been suspected of discouraging its use as a forage by cattle. Although Sweet Grass is not as palatable as most grasses, it will nevertheless be eaten fairly readily by cattle, and does not transmit its odour to milk. Certainly some humans seem to

like the taste. Leaves have been placed in bottles of vodka as a flavourant, and packets of grass have been sold in the U.S. for this purpose. Extract from the plant has been used in Europe to flavour candy, soft drinks, and tobacco.

The aggressively creeping rhizomes of Sweet Grass are very desirable for stabilizing soil. The tolerance of the species to wet areas make it especially valuable in controlling erosion by water. The limited height of the plant may be advantageous where appearance is important, since tall-growing herbs often need mowing. Propagating Sweet Grass as a soil stabilizer is difficult by seed, since so little is produced, and there has been experimentation to establish the plant by rhizomes (underground creeping stems) or stolons (above-ground creeping stems). Experience to date suggests that this species may be one of the best soil stabilizers of moist and moderately saline sites such as road verges. Advantages of vegetative propagation include avoidance of seed shattering and ease of establishment.

There is potential for increased cultivation of Sweet Grass in support of native culture and handicraft production, as well as for use in soil stabilization. The plant is best raised in a fertile soil enriched with humus, in a moist to wet site. It can be grown in full sun or partial shade. One authority recommended adding a little salt (NaCl) to the soil, since the species is found on the margins of saline as well as fresh water. Plantings may quickly develop into large patches by rhizome reproduction. A one inch plug can develop to a dense 10 square foot mass in 1 year and cover over 50 square feet in 2 years.

BOOK REVIEWS

The Identification of Flowering Plant Families. 4th Edition. by James Cullen. 1997. Cambridge University Press. Price: $US 21.95 (paperback).

This book aims to be a short pocket guide for students of Botany or Horticulture needing a user-friendly key to 258 flowering plant families normally found growing in the wild or in the horticulture industry of the Northern Hemisphere. It assumes some familiarity with plants, but explains the reproductive features used in the keys in a brief introduction, so that a rank amateur could probably utilize the book profitably to identify common plants in the field or around the home. The author even "walks" the user through the first 12 couplets of the key, which enable the keyer to get to a plant "Group" [e.g. Group A - "flowers unisexual, at least the males borne in catkins which are erect or pendulous"]. The keys to the various groups only occupy 41 pages of the book. The bulk of the book consists of a list of the families covered in the key, each of which has a brief description of not more than about a dozen lines. The book is easy to use and should be a very practical purchase for its intended audience.

Joe Gerrath, University of Guelph

A Guide to the Species Irises: Their Identification and Cultivation. by The Species Group of the British Iris Society. 1996. Cambridge University Press, Cambridge. Price: US$104.00.

The aim of this book is to gather together disparate information on this large genus so as to provide a"working handbook for a very wide and knowledgeable readership". To the reviewer who is the Iridaceae fanatic (John) this book provides a gold mine of information under one set of covers, but to the professional botanist (Joe) the book is somewhat disappointing because of the lack of identification keys (there is only one short key in the whole book!). The identification advice given in the book is: "when a guess has been made about the identity of a plant, it should be compared with the line drawings for that group". We envision a lot of frustration among growers trying to identify plants whose tags have long since fallen off.

The book begins with an all-too-brief (3 page) historical review, which points out the antiquity of *Iris* culture (the Egyptian pharoahs, 4,000 years ago), the use of *Iris* as an emblem (the fleur de lis) and the medicinal uses of several species. Another brief (3 page) chapter provides an overview of the cultivation of irises. A third brief chapter (again 3 pages) presents some data on chromosome numbers and known or proven hybridization in the genus. The "identification guide" gives brief descriptions, mostly of vegetative form, of each of the Subgenera and Sections.

The bulk of the book (pp. 17-293) contains the Section-by-Section enumeration of species and information about each species. At the beginning of each Section there is a discussion of general characters for the Section (ecology, general distribution, common morphological features and methods of cultivation). Under each Section the individual species are dealt with alphabetically. Each species usually has a listing of any synonyms, the geographical distribution of wild plants, a description of vegetative and floral morphology, notes on cultivation, a paragraph labelled "observations" which provides additional information, and some notes on subspecies or varieties which might exist in that species. The book ends with a series of 27 distribution maps, 27 pages of line drawings and 32 pages containing 128 colour photographs of various species.

Since the book is by a group of British enthusiasts, the cultivation advice, of course, applies to the British gardening environment. Any comments about hardiness apply only to the British Isles. It is also not too informative for North Americans to be told that a certain *Iris* does poorly in smoggy London. The book, however, is very valuable for listing the varied cultivation requirements of many species and for providing a great deal of information on those species not yet in cultivation.

John Gerrath and Joe Gerrath, University of Guelph

BOOK REVIEWS

Flore Laurentienne, Frère Marie-Victorin, 3ième edition, 1995, mise à jour et annotée par L. Brouillet et I. Goulet, Presses de L'Université de Montréal, 1083 pp (+ 120 planches en couleur).

Mes premières incursions dans la Flore Laurentienne furent au début des années 1970, sous le regard attentif et bienveillant de Samuel Brisson, un botaniste extraordinaire (et quelque peu légendaire) guidant les Jeunes Explos d'alors, un camp de jeunes scientifiques qui se regroupaient annuellement dans le décor enchanteur du Cap Jaseux, près de Chicoutimi, au Québec. C'est là que nous avons appris à travailler avec les différentes clés d'identification des plantes, à lire et comprendre l'incroyable richesse botanique de cet ouvrage et bien sur, à essayer d'émuler les illustrations du Frère Alexandre contenue dans la "Flore" lors de nos travaux au laboratoire.

Je me souviens aussi que Sam, plus d'une fois, prononçait avec un regard grave (et un peu malicieux!), qu'une section ou l'autre du "Grand Livre" avait besoin d'être ré-examinée et élargie, parce que ses observations personnelles indiquaient qu'il y avait sans doute de nouvelles expèces absentes de la Flore! Ce dernier commentaire nous semblait un peu étonnant pour nous les jeunes: il était impensable pour moi que le Frère Marie-Victorin ait oublié des espéces de plantes!

La flore, dans sa troisième édition, ne requiert plus d'introduction et témoigne toujours, comme le dit admirablement Pierre Dansereau dans son avant-propos, de l'envergure de la pensée de Marie-Victorin. On retrouve donc dans la troisième édition de la Flore Laurentienne les préface des 3 éditions. L'on y apprend, suivi de l'abrégé historique et bibliographique (7 pages) et de l'esquisse générale de l'ouvrage (pp. 19-78), la synopsis des groupes systématiques (pp. 79-83) et la clef artificielle (pp. 85-104). La portion majeure (pp. 105-856) décrit les espèces végétales appartenant aux 121 familles présentes au Québec. L'addition notable demeure bien sur les quelques 120 planches de couleur reproduisant 698 espèces (pour la plupart excellentes) classées selon l'ordre d'apparition dans la flore pour compléter les abundantes illustrations, ainsi qu'une carte couleur de la phytogéographie de la Belle Province pour accompagner l'esquisse de Marie-Victorin. J'ai rencontré une petit omission de noms dans ces planches en couleur (884) mais l'on peut reconnaitre *Euphorbia* er *Hamamelis*, puisque dans la portion majeure, on a ajouté la référence à ces planches. Finalement, l'on trouve un glossaire, une section de notes et références (pp. 997-1024), suivi des abbréviations des noms d'auteurs, de l'index alphabétique, et finalement d'un appendice qui liste les nouvelles expèces de plantes vasculaires et des nouvelles variétés rares reconnues pour le Québec, et la table des matières à la toute fin de cet ouvrage magistral.

La Flore Laurentienne continue d'être un ouvrage indispensable et en attendant une revision profonde de la Flore de la province, se doit d'être présente dans la bibliothèque du botaniste tant amateur que professionnel.

Hugues Massicotte, University of Northern B.C.

La symbiose Mycorhizienne, État des connaissances. Sous la direction de J.A. Fortin, C. Charest & Y. Piché. 1995. Éditions Orbis Publishing. 195 pages.

This is a compact book (ca. 16 cm x 24 cm), composed of 10 chapters, all written by different authors. The book is well laid out, mostly textual, with occasional tables, some diagrams and black and white photographs. As indicated in the preamble of this work, the book provides an updated document written in French (there are very few examples of documents written in Molière's tongue dealing with mycorrhizal symbioses). Given the proliferation of books on mycorrhizal symbioses these last few years, this somewhat limits the marketability of the work. Nevertheless, the book is quite informative and easy to consult. Six chapters deal with Arbulcular and/or Vesicular Mycorrhizae (VAM/AM: endomycorhizes à vésicules et arbuscules) and, in this respect, the title ofstate of the art knowledge on mycorrhizal symbiosis is somewhat optimistic. In essence, there would need to be several other chapters to appropriately cover the other classes of mycorrhizae and what is known about them, from the structure to physiology to ecology. However, the book is a good step toward the greater goal! With the exception of a few mishaps, such as in one chapter where the complete references are not spelled out, the book is well organized.

The first chapter, written by Y. Dalpé, provides a good review of the biosystematics of the Glomales, from micropaleontology to biochemistry. Chapter 2, by L. Simon, brings another dimension to the phylogenetic debate by supporting, using a combination of PCR technology, AM-specific primer, and sequencing of the nuclear small sub-unit ribosomal genes, the erection of 3 families within the Glomales and theri appearance (between 353-462 million years ago) to seemingly coincide with the event of early plants colonizing the land. Capter3, by D. Tagu and F. Martin, is devoted to the ectomycorrhizal symbiosis within the framework of changes in gene expression during the establishment of the symbiosis between the fungal and the plant partner. The authors ultimately aim at characterizing fungal and root genetic programs following mycorrhization, and have chosen *Eucalyptus-Pisolithus* as experimental systems and explain their latest methodological procedures and findings. Chapter 4, by M. St-Arnaud, C. Hamel, M. Caron and J.A. Fortin, is an informative literature review and analysis on VAM-pathogen interactions, where 236 host plant-VAM fungus-pathogen interactions are scrutinized. We learn that VAM plants appear to favor nematode-induced damages, the possible mechanisms for which are discussed.

Chapter 5, by N. Benhamou, expands on physiological and morphological events associated with the response of VAM tissues to pathogen infection, using transformed carrot roots inoculated with VAM spores and a *Fusarium* species. Interestingly, mycorrhizal infection sensibilizes root tissues to respond more rapidly to fungal attack and to repress pathogen spread. Chapter 6, by H. Vierheilig and Y. Piché, uses non-mycotrophic plants (yes, some plants do not subscribe!, mostly Brassicaceae, Chenopodiaceae and Urticaceae) as a model to study biochemically this incompatibility phenomenon. Chapter 7, by C. Plenchette and D.G. Strullu, provides a discussion on the problematics of intensive agriculture (high pesticide and fertilization inputs) and the use (or lack) of VAM, and which approaches to take if more integration between VAM fungi and crops is desired. The following chapter, by C. Hamel, is complementary and expands on VAM use in agriculture. Chapter 9, by J. Gagnon and C.G. Langlois, offers a discussion on the use of selected ectomycorrhizal fungi and bacteria for tree seedling production. The final chapter, by L.C. Duschesne and K.A. Rigal, gives a more general review and discussion on the effect of fire on microbial populations (bacteria, fungi, including VAM and ectomycorrhizal fungi), a poorly understood field of enquiry.

Overall the book provides an interesting mosaic and a stimulating account for those interested in symbiosis and more specifically VA mycorrhizae.

Hugues Massicotte, University of Northern B.C.

Algae. An Introduction to Phycology. by C. van den Hoek, D.G. Mann & H.M. Jahns. 1995. Cambridge University Press, Cambridge.

It is said that the proof of the pudding is in the eating. This is also true for a textbook, which should be judged on how well it serves the student and instructor in a course. I have had a chance of using this text for two sets of students and I find that, in general, it serves them well as a text. This book is an updated and translated version of a German language text published several years ago. It summarizes the most modern information available on the algae and presents it in a standard "survey" type of format, discussing the characteristics of the various groups, one by one.

The text begins with a brief introductory chapter which tries to define what algae are and to fit them into the hierarchy of systematics and evolutionary theory. A table of algal pigments and storage products is the most valuable study aid in the chapter. The main part of the text (chapters 2-31) deals with each Division (and individual Classes of some Divisions such as the greens), starting with the prokaryotic algae (cyanobacteria and prochlorophytes) and ending with a perhaps overly split (11 Classes) set of chapters on the green algae.

The treatment of each group begins with a summary of the principle characteristics of that group. This is very valuable as a study aid for the student and is also valuable to the instructor, since it lays out the various topics which should be emphasized in lectures. The authors then go on to describe the size and distribution of the group, the biochemical characters and cytological features of the group, and reproductive features (asexual and sexual life histories). In the larger groups (e.g. reds, browns, greens) characters of various Orders are discussed. In all groups a number of genera are briefly described as examples representing the diversity of that group. Most chapters are well illustrated, mostly with line drawings, but sometimes with several photographs. The last chapter (32), entitled "*Phylogenetic reflections on the algae*", discusses algal phylogeny as worked out using the techniques of molecular biology (18S and 28S rRNA sequences), presents what is known about the symbiotic origin of chloroplasts, and lays out a possible plan (event by event) for the evolution of the various groups of algae. The book ends with a 19-page glossary and an extensive reference list (1937 publications listed).

This text is remarkably free of obvious errors, although Fig. 6.10 incorrectly repeats Fig. 7.1. The coverage of most groups is excellent, although the Euglenophyta receive a somewhat cursory treatment. All things considered, I think that this text is probably the best current "survey type" introductory phycology text available in the English language.

Joe Gerrath, University of Guelph

The Plant Book. A Portable Dictionary of the Vascular Plants. 2nd Edition. by D.J. Mabberley. 1997. Cambridge University Press, Cambridge.

How does one review a dictionary? Certainly one does not read the book from cover to cover. I decided to look up all the genera presented in our University's plant diversity course. This dictionary came through with flying colours. Most of the genera have a brief (2-10 lines) description using abbreviations (which are explained at the end of the book) of distribution, general characters and mention of some species. A few genera (e.g. *Ficus* - more than one page) have quite long descriptions which include the economic uses of several of the species. Definitions of common names (both British and American usage) are included. This dictionary, as with most dictionaries, is a gold-mine of information, both practical and esoteric. Where else could one find out that the spathe of *Manicaria* (a palm) is used as a hat in the Amazon region, that cowslips are different genera in the U.K., the U.S.A. and South Africa, that *Triphyophyllum*, a carnivorous African liane, has the most elaborate of all known angiosperm glands, and that *Tilia* bark is used for making "Archangel" mats (whatever those are). Now that I come to think about it, I may end up reading this excellent pocket dictionary from cover to cover after all.

Joe Gerrath, University of Guelph

Minutes - CBA/ABC Ecology Section
Annual Business Meeting
Palais des Congrès, Montreal
5 August 1997

Editor's note: This is an abridged version of the minutes submitted to me. Contact the secretary of the section to obtain the complete version of the minutes of the section.

1. Minutes of 1996 meeting (Charlottetown, PEI) were approved.

2. Rowe Prize: Fewer nominations were received this year (4); all were excellent. The judges agreed on a clear winner as well as one deserving honourable mention. P. Cavers requested that members watch for suitable papers and nominate them. It was agreed that we must promote the nomination process. The nominator need not be a member of the CBA, but should be encouraged to join. In the discussion that followed, the following regulations were clarified:
• Any Canadian student is eligible.
• K Winterhalder pointed out that the guidelines for CBA student awards state that the paper must be published within 2 years of graduation; we will revise this to "*submitted* within 2 years of graduation" to allow for delays in publication after submission.
•Evaluations will be based on the paper and its accompanying letter of submission; any additional unsolicited material will not be considered in judging.
•Although late submissions have been accepted in the first two years of the award, in future, late submissions will be included in the following year's competition. This is necessary to allow the judging committee to meet CBA deadlines.
• The student must be first author.

3. Directors: Isobel Waters is retiring this year; Paul Cavers thanked her for her hard work, particularly in the establishment and judging of the Rowe Award. The terms of P. Cavers and Kate Frego also ended, but both agreed to allow their names to stand for re-election. An election followed in which Elisabeth Beaubien, Paul Cavers and Kate Frego were declared elected.

4. Lionel Cinq-Mars Award (Saskatoon 1998): For the next meeting, the following judges were nominated: Ed Reekie, with Liette Vasseur as alternate.

5. Section Symposia for future meetings (plan 2 years ahead):
• Saskatoon. Theme: Plant Biotechnology. Our Section is represented by Gordon Thomas. Ecology Section proposals:
(a) Weed Ecology. Organizer: P. Cavers. (Cavers reported that we need applied subjects to maintain the interest of some of our members)
(b) Ecological implications of biotechnology (e.g. hybridization with weeds). Organizer E. Reekie. P. Cavers pointed out that several papers at this conference have concerned these issues; however, many were not Canadian researchers. All were requested to suggest possible speakers.

•1999. St. Louis, with International Botanical Congress. Contacts: John McNeill and Spencer Barrett. This meeting will be completely composed of symposia, both keynote and those suggested by participating groups. The latter should include Canadian and international content. Peter Nosko reported that the guidelines require 2 conveners for each symposium, of which one may be from North America. The proposals, which are due very soon, require the proposed topic, names of two conveners, and a list of proposed participants (although they need not be finalized). Suggested topics:
(a) Purple loosestrife. Convener: Peter Nosko.
(b) Phenology. Convener: Elisabeth Beaubien, assisted by Ed Reekie.
(c) Seed demography and population studies. Conveners: Gilles Houle and Paul Cavers. (One overseas participant, Ken Thompson, has been secured)
(d) Rare and endangered species. Perhaps Andrée Nault?

• 2000 London, Ontario. Anwar Maun has volunteered to organize a symposium on sand dune ecology, to include participants from Mexico, the Netherlands, U.S., etc. This will be a Conference symposium, rather than a Section symposium.

6. NRC Monographs Board report (Paul Cavers): The NRC published several books in 1997, including **The Biology of *Populus*** and **Flora of the Yukon**. Manuscripts are sought; a range of styles, colour, and formats are available.

7. Other Business:
• Plantwatch. E. Beaubien reported that the phenologies of 8 species are currently monitored at a national level. Using the 10 years' data to date, plus other datasets, it appears that bloom time is approx. 1 week earlier over the past 40 years. The programme would like to link with other botanists in Canada to raise funds and to exchange data. Handouts on the programme were filed with the secretary. (*A version of this handout appears elsewhere in this issue of the Bulletin. - Editor*)
•Membership: The continuing problem: many Canadian plant ecologists are not members of CBA; some feel that their needs are better served through e.g. the ESA, perhaps because of its role in lobbying. It was suggested that some may simply forget to renew memberships; however, the CBA sends at least two reminders. Student membership could be increased by (a) encouraging supervisors to pay for their students' first year of membership, (b) providing information to students in the Bulletin (e.g. some think that they are not eligible to take part), (c) initiating a student-organized mixer or other activity at the annual meeting.
•Directory of Canadian plant ecologists: The process was discussed, in order to compile a directory using the membership lists of the CBA, ESA and ?BBS. We should inquire to see if the CBA ecologists could be extracted easily from the overall membership directory.

Respectfully submitted
Kate Frego, Secretary, Ecology Section
University of New Brunswick, Saint John

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.



Green Tea vs Cancer

The drinking of green tea may explain the significantly lower number of cancer deaths in China and Japan compared to European and North American countries. In a recent *Nature* article Jerzy Jankun of the Medical College of Ohio reports that a chemical in green tea called epigallocathechin-3 gallate (EGCG) can inhibit the action of urokinase, an enzyme believed to be responsible for the malignant properties of cancer. EGCG can actually shrink cancers, probably by limiting access of the cancer cells to nutrients and oxygen. Jankun will be continuing his research to develop more potent inhibiors of urokinase.

Kitchener-Waterloo Record, June 6, 1997



Plant Sources of Folic Acid

Folic acid (folate), a B-complex vitamin, plays an important role in the synthesis of DNA precursors and in the formation of red blood cells. Folate deficiency can result in anemia, depression and increased risk of bowel cancer. The recommended daily intake of folate for adults is 400 µg, but during pregnancy women should take in 800 µg to prevent increased risk of cleft palate and neural tube defects in their babies. The best dietary plant sources of folate are broccoli, brussels sprouts, romaine lettuce, spinach, black-eyed peas, beets and wheat bran.

Toronto Star, May 31, 1997



"Strawboard" - Soon in Canada

An Alberta entrepreneur is building a small factory southeast of Edmonton which will use a British system for making particleboard out of waste wheat straw instead of wood fiber. Tests at the Alberta Research Council indicate that strawboard quality compares favourably with that of wood particleboard. Strawboard would be used mainly in furniture making and as flooring in new houses. About 18 km^2 of harvested wheat would supply the factory with enough straw for a year. Farmers will be paid about $40 a tonne for their straw, proving a valuable secondary cash crop from their wheat fields. The factory is expected to become operational during the summer of 1998. Strawboard factories are already in operation in several countries, including the U.S.A., Britain, Australia, Indonesia, the Philippines, India and Pakistan.

Edmonton Journal (reprinted in K.-W. Record, July 5, 1997)



Greener Boreal Regions

Between 1981 and 1991 global warming has resulted in a longer growing season (about 12 days longer) and a 10% increase in photosynthetic activity in the region between latitudes 45° and 75° north, according to a recent article in *Nature*. Increased atmospheric carbon dioxide levels are probably responsible for at least part of the global warming causing the longer growing season and for the increased productivity of the vegetation. Analyses of satellite data indicate that the observed increases continued through 1994.

Globe & Mail, May 17, 1997



O.J. Fights Cancer and Cholesterol

Cancer researchers at the University of Western Ontario report that laboratory mice given orange juice (or grapefruit juice) in place of drinking water had 50% fewer tumors and metastases. Another effect observed was a dramatic reduction in cholesterol levels (43% for orange juice and 32% for grapefruit juice). The researchers will now try to identify the active components in the juices.

Marilyn Dunlop, Toronto Star, August 9, 1997



Monster Potatoes

Genetic engineers in Germany transferred a yeast gene for making invertase, which breaks down sucrose, into potato, which possesses a less efficient enzyme, sucrose synthase, for sucrose breakdown. A surprising result was the production of huge potatoes, averaging more than 2 kilograms. Researchers believe that the added invertase diverts more of the plant's sucrose into the production of starch in the tubers.

Kitchener-Waterloo Record, August 2, 1997



Baby-killing Fungus

Stachybotrys atra, a slimy black mould that grows on water-soaked paper and wood products, is thought to be responsible for the deaths of 10 babies in the U.S., and for causing serious illness in many others. The fungal spores contain a toxin and can cause a condition called pulmonary hemosiderosis (the lungs hemorrhage and the babies cough up blood). Mouldy surfaces should be cleaned with a mixture of soapy water and bleach to eliminate the problem.

Globe & Mail, August 16, 1997

Garlic helps Arteries stay Elastic

A garlic pill a day may help to keep the cardiologist away. A study of 101 Germans who took a daily dose of 300 mg of garlic for two years showed that they had more elastic aortal walls that a control group that did not consume the garlic. Hardening of the arteries (loss of elasticity), a major cause of cardiovascular disease, appears to be prevented by some component in the garlic. On the down side concerning garlic, a British study reports that taking garlic tablets had no effect on blood levels of cholesterol and fat.

Kitchener-Waterloo Record, August 23, 1997

Toronto's Geriatric Trees

According to Richard Ubbens, Toronto's city arborist, more than half of the city's large trees are "geriatric" and most of these will die within the next decade. These trees were planted 70 to 80 years ago when new subdivisions were built. Because of less ideal conditions (e.g. air pollution, compacted soil, wayward lawnmowers) city trees live only 60 to 90 years, compared to a life span of about 150 years for trees in the forest. Ubbens is campaigning to get more trees planted now in order to avoid barren-looking streets in 10 to 15 years.

Cameron Smith, Toronto Star, October 4, 1997

Europe's Trees Suffer

A European Commission report on a study of 430,000 trees in 29 countries concludes that pollution and bad weather conditions have caused damage to a quarter of Europe's trees. Nearly half of all oak trees over 60 years old have suffered extensive damage. The worst area is the Czech Republic, in which 72% of the trees were found to have significant damage.

Steve Newman, Toronto Star, September 13, 1997

Echinacea Downgraded

Herbalists' claims that echinacea is an effective cold remedy are unfounded. A controlled study of 400 students at Dalhousie University concluded that echinacea had no effect on the frequency, severity or duration of colds in the students.

Kitchener-Waterloo Record, September 19, 1997

Broccoli Sprouts are Better

The Plant Press previously reported on a 1994 study which found that sulphoraphane extracted from broccoli was very effective in reducing the incidence of cancer in lab animals. Now there is a report (in *Proc. Nat. Acad. Sci.*) that broccoli sprouts are better than the ordinary broccoli florets we eat (three-day-old sprouts contain up to 50 times more sulphoraphane). The best thing about the sprouts, for those who hate the taste of broccoli, is that they don't taste like broccoli. The problem now is to convince someone to produce commercial quantities of broccoli sprouts so that we can all get their anti-cancer effect.

Kitchener-Waterloo Record, September 16, 1997

Sage aids memory

English herbalists have long claimed that sage was good for improving memory. Now a study by researchers at King's College in London has provided evidence to support this claim. They found that a compound extracted from the essential oils of sage blocks the activity of an enzyme that breaks down acetylcholine, an important chemical messenger in the brain. Low levels of acetylcholine are associated with the loss of short-term memory, one of the first signs of Alzheimer's disease. Eating sage could be a means of delaying the onset of the disease.

Globe and Mail, September 20, 1997

Ancient Bamboo Find Provides Historical Data

In October 1996 Chinese archaeologists made what may be regarded in future as one of the greatest discoveries of the century. They found more than 170,000 bamboo strips and wooden tablets in an abandoned well in downtown Changsha, in Hunan Province of Central China. The bamboo strips are thought to have been used to record the affairs of local governments from 232-237 A.D. In another old well nearby there are more bamboo strips containing records as far back as 25 A.D. When fully deciphered, the records may provide a detailed account of political, economic, military and administrative affairs of the local government 1700-2000 years ago.

China Daily, September 4, 1997

Saving the Butternut

Another fungal scourge is sweeping the forests of North America. A canker thought to have been introduced from Asia is slowly killing the butternut, a fine shade tree and a source of medicines for early settlers and aboriginals. A buttery oil which can be extracted from the oily seeds by boiling is the reason for the tree's name. It is thought that 90% of Ontario's butternut trees are infected and will eventually die. A search is now being carried out to find resistant trees, which will be cloned to provide breeding stock of trees which are genetically resistant to the fungus. The resistant clones will be planted in gene banks in Canada near Guelph, Cornwall and Ottawa, and at five sites in the United States. Much more work will have to be done to test the canker resistance of the clones and to produce a better butternut which can be used to repopulate the forests and farmyards of eastern North America.

Ray Ford, Globe & Mail, September 20, 1997

Irish Beets "Liberated"

An Irish group which calls itself the "Gaelic Earth Liberation Front" has dug up and destroyed Ireland's first planting of a genetically engineered crop. The crop was a sugar beet which had a gene added by Monsanto researchers for resistance to the company's herbicide, Roundup. Monsanto will plant the crop again, with increased security measures.

New Scientist, October 11, 1997

The Plant Press is continued on Page 71, column 2

Certification for Canadian Environmental Practitioners

Editor's note: The following press release was received by the President of CBA/ABC and is printed in this issue of the Bulletin to inform CBA/ABC members about this initiative.

The environment industry is one of Canada's most dynamic emerging sectors, contributing 14 billion dollars to the economy. To ensure the continued growth of this sector, and because it is still new, there is a need to develop a mechanism which can provide recognition of an individual practitioner's skills, knowledge and competency to perform environmental work. In response to this need, the Canadian Council for Human Resources in the Environment Industry (CCHREI) recently initiated the formation of the Canadian Environmental Certification Approvals Board (CECAB). Once established, CECAB will develop, implement and administer a voluntary national certification for environmental practitioners.

A recent survey conducted in May 1997 determined that Canadian environmental practitioners strongly supported (by 73%) the development of a national environmental certification and that Canadian employers (67%) were also supportive. Practitioners felt that certification would provide a formal, Canada-wide recognition of their competence to perform environmental work. Employers felt that hiring certified employees would enhance their corporate image and marketability, and help them implement and maintain their environmental management system.

Certification will be tied to functional areas of employment. It will recognize the continuum of skills, experience and formal training possessed by practitioners who perform environmental work. The certification will not only apply to university graduates from a broad range of media and disciplines including the sciences, engineering, social sciences and the arts, but also college graduates, such as technicians and technologists.

Certification will incorporate mechanisms for grandparenting and prior learning assessment, and will include a maintenance requirement, a code of ethics, and mechanisms to address discipline. It will not compete with the activities of associations that represent licenced professions (such as engineering, law, accounting and medicine), that administer other existing discipline-related certifications, or that certify specific environmental activities, such as environmental auditing.

The certification of environmental practitioners in Canada would increase the competitiveness of Canadian environmental companies, facilitate better communication among all environmental industry stakeholders, and would bring consistency and rigorous standards to the industry on a national basis.

The development of certification for environmental practitioners is now under way, and the following activities have been initiated:

- CECAB's founding document is available at: **http://www.chatsubo.com/cchrei/**
- An implementation plan is in place
- A Certification issues question-and-answer document is available
- A series of Town Hall meetings is being held at various centres across Canada
- The Certification Approvals Board will be convened in early 1998
- The grandparenting process will occur in 1998

For more information on certification for environmental practitioners, visit CCHREI's website or contact CCHREI directly at: **Tel: (403) 233-0748; FAX: (403) 269-9544; E-mail: cchrei@netway.ab.ca**



NEW PUBLICATION

Plants of Kananaskis Country in the Rocky Mountains of Alberta. by Beryl Hallworth and C.C. Chinnappa. 1997. University of Alberta Press.

This is the first book devoted solely to the flora of this unique wilderness area (4,156 square kilometers) just east of Banff National Park. The Kananaskis region covers 5 vegetation zones (foothills, montaine forest, lower subalpine, upper subalpine and alpine) and attracts more than 2.4 million visitors each year. This comprehensive field guide describes in detail over 400 of the most significant plant species of the region and includes 1500 detailed illustrations, 89 habitat photographs, simplified diagnostic keys and 6 area maps. The result is a useful reference for botanists or ecologists, or a helpful field guide for hikers and visitors to the Kananaskis area.

The authors are both associated with the Dept. of Biology, University of Calgary. Beryl Hallworth has authored or co-authored several papers and book chapters about plants and natural history. C.C. Chinnappa (currently President of CBA/ABC) has published papers on biosystematics, cytogenetics, palynology and embryology of plants. Proceeds from the book will be used to fund a graduate scholarship in Botany/Plant Ecology at the University of Calgary.

The book attractively priced at $19.95 + $5.00 S&H (plus GST, of course) and is distributed by:

UBC Press
6344 Memorial Drive, Vancouver, BC V6G 1Z2.
Tel.: 604-822-5959
FAX (toll free): 800-668-0821
E-mail: orders@ubcpress.ubc.ca

MEETINGS / CONGRÈS

Conservation Conference

The Prairie Conservation and Endangered Species Conference, integrating conservation, society, ethics and the economy, will be held at the Saskatoon Inn, Saskatoon, SK, **February 19-22, 1998**. Information: phone 306-966-5539, E-mail **pcaes.conference@usask.ca** or visit the website **http://www.extension.usask.ca/conferences/pcaes.html**

Calreticulin / Molecular Biology Meetings

A **Workshop on Calreticulin** will be held at the Banff Conference Centre, Banff, Alberta, **March 31 to April 2, 1998**. For those of you who have never heard of calreticulin, meeting organizers say that it plays a role in almost every aspect of cell biology. The workshop will be followed by the **8th Winternational Symposium on Cellular and Molecular Biology**, also at the Banff Centre, **April 2-5, 1998**. For information on either meeting, contact: **Dr. Carol E. Gross, Dept. of Oncology, University of Alberta, Edmonton, AB T6G 1Z2** or visit the website: **http://www.csbmcb.ca**

Tomato Congress

The **3rd Worldwide Congress on the Processing Tomato** will take place in Pamplona, Spain (without the charging bulls, I hope!), **May 25-28, 1998**. Obtain information from: **AMITOM, B.P. 235, 84010 Avignon, Cedex 1, France** [or contact via E-mail: **tomato@interlog.fr**]

Chlamydomonas Conference

The **8th International Conference on the Cell and Molecular Biology of *Chlamydomonas*** will be held in Lake Tahoe, California, **June 2-7, 1998**. All aspects of the biology of this unicellular green alga will be discussed. Information on the conference may be found at the following website:

http://www.swmed.edu/home_pages/chlamy/1998chlamy.html

ASLO / ESA Joint Meeting

The American Society of Limnology and Oceanography and the Ecological Society of America are holding a joint meeting in St. Louis, Missouri, **June 7-12, 1998**. The meeting bears the title: **The Land-Water Interface: Science for a Sustainable Biosphere**. Contributions ranging from the effects of toxic algal blooms to management strategies for water bodies are expected. For information, contact **Faith Kearns [E-mail: faith@esa.org]**

Soybean Biology

The **7th Biennial Conference on the Molecular and Cellular Biology of the Soybean** will take place at the University of Tennessee (Knoxville), July 26-29, 1998. For information, contact **P.M. Gresshoff.**

E-mail: pgresshoff@soybean.ag.utk.edu
FAX: 423-974-2765

The Plant Press (Continued from page 69)

More *Amanita* in B.C.

Amanita phalloides, the "death cap" mushroom, appears to be expanding its range, possibly as a result of climate change, according to a spokesperson for the Vancouver Mycological Society. Discovered in B.C. for the first time last year and thought to have been imported on the roots of young chestnut trees, the mushroom has now been found abundantly in a 100-year-old chestnut grove near Mission. The mushroom is responsible for about 90% of serious mushroom poisonings in the world. The toxin acts slowly, taking a few days to destroy the liver. There is no known treatment. Mycological Society members fear that recent immigrants from Asia may mistakenly collect and eat the death cap because it resembles an edible mushroom that grows in Asia.

Margaret Munro, Vancouver Sun, October 15, 1997

Ginseng Caution

The Chinese have used ginseng for centuries as an energy booster. Moderate use seems to improve memory and immune function. However, taking too much ginseng can produce headaches, insomnia and even heart palpitations. Ginseng is not recommended for anyone with high blood pressure.

Globe & Mail, September 27, 1997

Amazon Forests Ablaze

It is reported by an environmental agency in the U.S.A. that 24,516 fires are now burning in the forests of the Amazon River basin, an increase of 28% during the past year. This suggests that the rate of Amazon deforestation continues to rise. Incidentally, although the Amazon fires have received less press coverage than the seemingly catastrophic fire and smoke problems of Indonesia and Malaysia, the Amazon basin's smoke clouds are thicker and extend over a much wider area than those of Indonesia.

Steve Newman, Vancouver Sun, October 4, 1997

"Transplanting" Peanut Allergy

For many people the eating of anything containing peanut products is life-threatening. Now there is evidence of the possible transmission of the allergy through donated organs. The case which shows this involves a 22-year-old man in France, who apparently died after eating a peanut-based sauce. The man's liver and one kidney were transplanted into a male recipient, who developed an allergy to peanuts a few weeks later. The peanut allergy is still present in this recipient, seven years after the transplant. However, a female recipient of the dead man's other kidney and his spleen did not develop a peanut allergy. Doctors speculate that the liver contains cells which transferred the allergy, and that kidneys and spleen do not contain such cells.

Marilyn Dunlop, Toronto Star, August 9, 1997

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Les soumissions pour le bulletin de janvier doivent arriver au plus tard le 31 decembre 1997.

Advertisements for **Positions Available** and **Classified** categories may be placed at a cost of Can$5.00 per published column centimeter. Individual members of the Association may place free advertisements of **Positions Wanted** and **Post-doctoral Opportunities.**

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