THE CANADIAN BOTANICAL ASSOCIATION

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BULLETIN

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PATRON
His Excellency the Right Honourable Ramon John Hnatyshyn P.C., C.C., C.M.M., C.D., Q.C.
Governor General of Canada

IN THIS ISSUE

INSERTS:
-Program and abstract form for Edmonton Meeting
-John Macoun Travel Bursary Poster

EDITORS' FORUM:

Apologies for the lateness of this issue. We had to wait for the results of the ballot regarding increase in dues and for the insert from Edmonton containing the program and abstract for for the CBA/ABC Annual Meeting.

The results of the vote on the increase in dues were 8:1 in favour. This was very encouraging to the executive who did an excellent job of informing the membership about the benefits to all botanists of joining with the CFBS. The crucial test now will be to see if the members of CBA/ABC continue their support by voting with their wallets and renewing their membership.

A reminder to all members that we need nominations to all of the awards listed in this issue, especially to the John Macoun Travel Bursary. If you know of any graduate student going to the Edmonton meeting who is eligible, please make sure that they are nominated (see insert). This year because of low interest earnings (we desparately need donations to this fund) we can only offer a single award of $350. Also, as of this year, the Cinq-Mars, the Weresub, the Macoun and the Porsild awards winners will all receive a one year free membership in CBA/ABC.

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GEORGE LAWSON AWARD FOR 1990-DR. R. BANDONI

Iain Taylor accepting the George Lawson Award from President Irwin M. Brodo on behalf of Dr. R. Bandoni -*photo by Erich Haber*

The George Lawson Medal is awarded by the Canadian Botanical Association this year to **Dr. Robert Bandoni** of the University of British Columbia for his outstanding cumulative contributions to the advancement of Canadian Botany, specifically in the field of mycology.

One of the most striking things about Dr. Bandoni's long list of publications is the breadth of his research interests. He has published significant papers in the fields of systematics, fungal physiology, genetics, evolution, and ecology, among others. If anyone is "the complete mycologist," he is. A world authority on the taxonomy of basidiomycetes, he has described numerous new species and revised many genera. Among his pioneering contributions is his completely new and convincing classification of the heterobasidiomycetes based on ultrastructure, biochemistry, cultural features, RNA hybridization data and morphology.

His observations on the aquatic dispersal of fungal spores on surface films, the monolayer theory, resulted in a significant expansion of our understanding of microbial dispersion on water. As Scott Redhead put it, "Most researchers would have considered the microscopic flotsam and jetsam as annoying debris . . .". It was Dr. Bandoni's keen perception and understanding that made the difference.

Bob Bandoni has shared his substantial mycological knowledge with many others. He has established a mycological laboratory at U.B.C. that is considered one of the most productive mycological centres in North America. His contribution to the texts *Nonvascular Plants: An Evolutionary Survey* and *Plant Diversity: An Evolutionary Survey* are authoritative, clearly written and well illustrated, taking the novice student right to a jumping off point for higher studies. His coauthored handbooks to the mushrooms of British Columbia were important contributions to popularizing mycology in western Canada.

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Over all, Bob Bandoni has helped raise the standards of research in mycology, increase awareness of fungi, and has helped draw international attention to studies in mycology in Canada. As his recent publications attest, he continues to do so today.

For all his accomplishments, therefore, the Canadian Botanical Association is pleased and proud to present him with the Association's most prestigious award, the George Lawson Medal.

THE MARY E. ELLIOTT SERVICE AWARD FOR 1990-DR. TAYLOR A. STEEVES

Taylor Steeves accepting the Mary Elliott award from President Irwin M. Brodo
-Photograph by Erich Haber

The Canadian Botanical Association honours the memory of one its most active early members, Mary Elliott, by making an award to individuals who have performed outstanding service to the Association. This year, it is our pleasure to present the Mary Elliott Award to **Dr. Taylor A. Steeves** of the University of Saskatchewan.

All those familiar with the CBA/ABC and its development over the past 25 years can attest to the commitment and activity of Taylor Steeves for the benefit of the Association and Canadian botanists in general. In the very first year of the Association's existence, Dr. Steeves served as Chairman of the "Provisional" (General) Section, and he has remained a key leader in that Section, as well as the Structure and Development Section, where he is a frequent contributor of excellent research papers. He served as a Director of the CBA/ABC from 1966-1968, and was elected Vice-President (equivalent to our present President-Elect) in 1971, serving in this office until 1972, and then as President of the Association from 1972-1973.

His activity in the Association hasn't ended with his presidency. Taylor has always been available to help whenever and wherever he is asked, whether to be a judge for the Cinq-Mars awards,

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which has has done for many years, or to represent the Association at a critical meeting of the Canadian Federation of Biological Societies, which he did only this past February.

It is difficult to separate his service to the Association from his service to the Canadian botanical community through his role as Editor of the Canadian Journal of Botany from 1980 to 1988, and in fact, these activities are strongly linked. In his eight years as Editor, Taylor established enduring ties between the CBA/ABC and the CJB, involving the Association in the recruitment of the current, effective body of working Associate Editors. The consultation processes he established with the professional societies have raised the profile of the Association, and provided a clear indication of its importance to the vitality of the Journal and to botanical publishing in general.

It therefore gives me particular pleasure to present the 1990 Mary Elliott Award to Taylor Steeves.

- I. Brodo

CBA/ABC SCIENCE FAIR AWARD FOR 1990

This year's winner of the CBA/ABC Special Award for the outstanding plant science exhibit was **Ms Susan O'Leary** of London. Susan was a grade 10 student at E. S. Mgr. Bruyere School when she did this project. In her study, she showed that the addition of Drytex polymer/paper (from disposable diapers), to tobacco sand improved soil condition both by reducing erosion and by allowing plants to better withstand drought.

President's Message:

Knowledge can lead to power, wealth and security, and it is the key to the future. Knowledge comes from research (both applied and non-applied) and it is maintained by teaching. Currently we are faced with several major problems, that I will refer to in the more positive way as "challenges". Some of these challenges relate in a direct way to botany. Botanical knowledge will be necessary to respond effectively. Since major plant groups make oxygen and produce carbon dioxide when they burn, it is obvious that plants fit prominently into the equation of global climate. The current destruction of biodiversity including plants is reducing our options to understand and utilize biological material. We are entering the sixth massive extinction event in the earth's history. It is currently being recognized that much of the Canadian economy has not taken long term sustainability of botanical resources into account, and there are important questions regarding our utilization of the Canadian landscape that involve primarily the management of plants. These challenges involve plants sensu lato i.e. fungi, algae, mosses and lichens, and these are only some of the challenges. New issues are arising at an alarming rate and these issues require botanical information. Without a reasonable information base, without botanists doing research, and without students being trained in botany, we (people generally) will be at a serious disadvantage.

A botanist may well look at the problems we face as a nation and as a world, and think, as many people do when they contemplate the enormity of the night sky, that one person is not much, especially given a recession and reduced funding. CBA/ABC membership may be a comfort in this respect, because the association is seeking to ensure that knowledge will increase to meet future needs through involvement with science policy including important issues relating to science funding (in connection with the Canadian Federation of Biological Societies/Federation Canadienne des Societies de Biologie), and through recognizing and promoting excellence (through awards and bursaries, especially to students, and through CBA annual meetings). CBA/ABC has, and continues to, extensively respond to issues of botanical resource protection and sustainability in Canada through the Conservation Committee, and the Science Policy Committee has recently become involved in natural resource protection through consideration of the "Green Plan". CBA/ABC is much more than a group of botanists getting together to talk shop once a year.

The satisfaction that I derive from knowing that I am contributing to some major issues through my CBA/ABC membership is very important, but it is not by any means the only value I have derived from my membership. As an undergraduate I attended the Lennoxville (Quebec) meetings in 1976, and since that time, through attending other annual meetings across Canada, I learned about Canada, and about Botany in Canada. I have a feeling for Canada that I cannot imagine having obtained any other way, and with botanist friends and colleagues across Canada that I met at those meetings, I have had the good feeling of being a part of an important, nationwide group.

Of course, there are many other ways that CBA/ABC membership has benefitted me, and no doubt most readers will understand these benefits. The point is that botanists who are not members of the CBA/ABC deserve an opportunity to benefit as we have. You could help to provide them with that opportunity.

Let me assure that despite a recent and rapid evolution, CBA/ABC is doing very well in all aspects. In fact I think we are steadily improving our ability to serve botany in Canada, but Canada is vast and we assemble only once a year. The FAX machine has improved our ability to communicate (and as I write this I realize that I am dependent upon it to reach the deadline for submission of this to Usher for the Bulletin!), but there is also the mail and the phone, so keep this in mind and let your executive know if you are aware of any issues that you think we should consider, and let us know if you think that there is a way in which we may be able to improve our service to botany. Communicate with the editors of the Bulletin and send in some news. Names and addresses of executive members always appear on the last page of the Bulletin, and my FAX number is (613) 943-0953. Remember that members of CBA/ABC make a lot of difference, but our influence must evolve and increase as times change.

I look forward to seeing you in Edmonton, and learning more about your work. I can tell you that as an "easterner" I am also looking forward to the prairies, the foothills and the mountains and to visiting one of Canada's great western cities.

Paul M. Catling

Message du président:

La connaissance peut mener au pouvoir, à la richesse et à la sécurité, elle est la clef du futur. La connaissance découle de la recherche, qu'elle soit appliquée, et elle se perpétue par l'enseignement. De nos jours, nous faisons face à plusieurs problèmes majers que je verrais plutôt comme de défis. Plusieurs de ces défis touchent directement la botanique et seule la connaissance de la botanique pourra y répondre efficacement. Puisque la majorité des plantes produisent de l'oxygène et libèrent du bioxyde de carbone
lorsqu'elles se consument, il est clair qu'elles sont une composante principale du climat global. La décroissance actuelle de la biodiversité, incluant celle des plantes, réduit considérablement nos possibilités de comprendre et d'utiliser ces ressources biologiques. Nous entrons présentement dans la sixième période d'extinctions majeures de l'histoire de la Terre. Il est maintenant reconnu que l'économie canadienne n'a pas considéré à très long terme la durabilité des ressources botaniques, aussie se pose-t-on de sérieuses questions sur notre façon d'utiliser adéquatement ces ressources et d'en régir les composantes végétales. Ces défis concernent les plantes au sens large, incluant les champignons, les alques, les mousses et les lichens, et ce ne sont là que quelques-uns des défis. De nouvelles questions nous assaillent de tous côtés et nécessitent des connaissances botaniques approfondies. Nous sommes sérieusement menacés si nous ne disposons pas d'informations de base acceptables et si nous n'avons pas la contribution essentielle des chercheurs botanistes profesionnels et étudiants.

En examinant ces problèmes d'envergure nationale et même planétaire auxquels nous faisons face, un botaniste peut être tenté de penser -- comme plusieurs le font quand ils regardent l'immensité d'un ciel étoilé -- combien petits et inefficaces nous sommes, surtout en cette période actuelle de récession et de restrictions budgétaires.

Cependant, l'appartenance à l'ABC/CBA est un réconfort sur ce point, parce que notre association veille à ce que la connaissance se développe en vue de rencontrer les besoins du futur, par son implication dans les politiques scientifiques, incluant la question du financement des sciences (par l'entremise de la FCSB), par la reconnaissance et la promotion de l'excellence (récompenses, bourses aux étudiants et rencontres annuelles de l'ABC). L'ABC/CBA répond et continue de répondre aux questions de protection des ressources botaniques canadiennes et de leur durabilité, par l'entremise du Comité de conservation; le Comité de la politique scientifique s'est quant à lui impliqué récemment dans la protection des ressources naturelles en examinant le "Plan Vert". L'ABC/CBA est beaucoup plus qu'un groupe de botanistes qui se réunissent une fois l'an pour parler de leur profession.

Le plaisir de contribuer aux discussion sur certaines questions majeures n'est pas la seule satisfaction que je puisse retirer en tant que membre de l'ABC/CBA. Quand j'étais étudiant, j'ai assisté en 1976 au Congrès annuel à Lennoxville (Québec), et depuis, ma participation assidue à plusierurs autres rencontres annuelles à travers le Canada m'a beaucoup appris sur mon pays et sur la botanique canadienne. Cette connaissance du Canada, je ne pourrais l'avoir obtenue autrement, et avec mes collègues et amis botanistes rencontrés lors des assemblées annuelles, j'ai lesentiment d'appartenir à un groupe d'importance nationale.

Bien sûr, mon appartenance à l'ABC/CBA m'a profité de bien d'autres manières, et la plupart des lecteurs savent bein ce que je veux dire. Nos collègues botanistes, qui ne font pas partie de l'ABC/CBA, auraient certainment avantage aussi à profiter de notre association. Invitons-les à se joindre à nous.

Permettez-moi de vous assurer que, face à ces changements récents et rapides, l'ABC/CBA s'en tire très bein à tous points de vue. Nous nous améliorons sans cesse en vue de bien servir la botanique canadienne, mais le Canada est vaste et nouse ne nous rencontrons qu'une fois l'an. Le télécopieur (FAX) a vraiment amélioré nos possibilités de communication (tout en préparant ce message, je réalise que je dépends de lui pour rencontrer les échéances de l'éditeur (Usher) du Bulletin!), et il y a également le courrier et le téléphone; gardez ceci en mémoire et faites savoir dès maintenant à votre Exécutif comment nous pourrions améliorer notre service à la botanique. Communiquez avec les éditeurs du Bulletin et envoyez-nous des nouvelles. Les coordonnées des membres de l'Exécutif apparaissent toujours à la derniére page du Bulletin; mon numéro de télécopieur (FAX) est le suivant: (613) 943-0953. Souvenez-vous que les membres de l'ABC/CBA peuvent apporter une contribution majeure, mais que notre influence doit évoluer et s'intensifier en fonction des changements actuels.

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J'espére vous rencontrer à Edmonton et en apprendre davantage sur ce que vous faites. Méme si je suis un "gars de l'Est", je m'intéresse vivement a ce qui s'appelle prairies, piedmonts et montagnes, et j'ai bein hàte de visiter l'une des grandes villes de l'Ouest du Canada.

Paul M. Catling

(traduction de Jacques Cayouette)

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Future meetings of CBA/ABC

1991 - Edmonton (June 23-27) see insert for details

1992 - Truro, N.S. (July 5-9)

1993 - Ames Iowa (with AIBS) (Aug 23 - Sept 3)

1994 - Calgary

International Organization of Plant Biosystematists Symposium

The next symposium of the IOPB will be held 15-18 June, 1992 at the Missouri Botanical Garden, St. Louis, hosted by Dr. Peter Raven. For further information, contact: Dr. Peter H. Raven, Missouri Botanical Garden, P. O. Box 299, St. Louis, MO 63166-0299, U.S.A. (Tel. (314) 577-5100.

Queen's University at Kingston Sesquicentennial Symposium

Planet Earth - Problems and Prospects.

A symposium on "Planet Earth - Problems and Prospects" will be held at Queen's University on June 7-8, 1991. It will be co-sponsored by the Queen's University Sesquicentennial Program, the Royal Society of Canada and the Canadian Federation of Biological Societies. The program includes: Digby J. McLaren, on "Humankind - The Agent and Victim of Global Change in the Geosphere-biosphere System", "Our Common Future - World Development and the Environment", Michael McElroy on "Climate Change", Susan George on "World Hunger", "Debt and the Environment", Geoffry Scudder speaking on "Species Impoverishment", Rex Fendall discussing "World Health" , "The Interface of Health and Population: An Overview" Gabriel Plaa on "Environmental Toxicology" and Marlene J. Brant on "Aboriginal Peoples - The Canadian Experience".

Because the symposium is sponsored by CFBS, it is **free of charge** to CBA/ABC members. For further information, contact :

Dr. John H. Spencer,
Department of Biochemistry
Queen's University
Kingston, Ont. K7L 3N6
Tel. (613) 545-2494, FAX: (613) 545-6612

Dr. R. A. Price
Department of Geological Sciences
Queen's University
Kingston, Ont. K7L 3N6

Tel. (613) 545-6542, FAX: (613) 545-6592

Prospects for Lupins in North America – A Symposium

On March 21-22 a Symposium will be held at the Ramada Hotel, St. Paul, Minnesota, to provide an opportunity for producers, researchers, instructors, extension specialists, agri-business personnel, and others interested in lupins to share results and information on all aspects of lupins, from production to marketing and utilization. It is sponsored by the University of Minnesota. For further information, contact:

Lynn Field
135 Crops Research
1903 Hendon Ave
University of Minnesota
St. Paul, MN 55108.
Tel: (612) 625-9765.

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Erratum

In the last issue of the *Bulletin*, we inadvertently omitted the credit for the write-up of the Porsild Award. The contributor was Erich Haber. Our apologies.

Also, we would like to acknowledge the excellent translation work by Richard Côté in the last two issues of the Bulletin.

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Ernest Rouleau (1916-1991)

Décès d'Ernest Rouleau, important collaborateur du frère Marie-Victorin.

Le botaniste québecois de réputation mondiale, Ernest Rouleau, est décédé des suites d'une pneumonie, dans un hôpital de Montréal, le 5 janvier 1991, à l'âge de 74 ans. Il était né le 21 août 1916. Il laisse dans le deuil son épouse; sa fille, ses trois fils et leurs conjoint(e)s; quatre petits-enfants; son frère de même que la communauté botaniste internationale, plus particulièrement le groupe Fleurbec, dernier organisme au sein duquel il oeuvra.

Ce spécialiste de la flore de l'est du Canada connaissait tous les recoins de Terre-Neuve et savait très exactement où y trouver telle ou tell petite plant, ce qui lui valut un doctorat *honoris causa* de l'université de cette province, reconnaissant son immense contribution à la connaissance de la flore terre-neuvienne. Mais cela n'a pas commencé ainsi.

Agé de 14 ans, le premier mai 1931, Ernest Rouleau récolte sa première plante. Il avait répondu à un convocation du genre: "Toutes les personnes intéressées aux sciences son priées d'apporter leurs bottes et de venir au laboratoire de chimie et physique". Croyant devoir participer à des expériences sur l'électricité, les bottes servant d'isolant, il se retrouve plutôt parmi les plantes, en compagnie du frère Rolland-Germain, alors professeur au Collège de Longueuil et camarade de Marie-Victorin; le premier Cercle des Jeunes Naturalistes venait de naître.

Ce fut le début d'une longue carrière d'explorateur, en patins à roulettes dans les rues de Montréal, en auto dans les Laurentides, en canot au lac Mistassini, en hydravion au Labrador, en hélicoptère et à pied à Terre-Neuve. Sa première expédition importante date de 1944: il explore alors le lac Mistassini. Voyage peu commune pour l'époque, qui exige des déplacements en hydravion, en petit avion et en canot, avec des guides amérindiens, et sans contact radio. Cette exploration sera déterminante dans la carriére d'Ernest Rouleau: soumis à Fernald, un botaniste de grande réputation, les résultats le satisfont au point qu'il incite fortement Ernest Rouleau à poursuivre les travaux de floristique qu'il avait lui-même entrepris à Terre-Neuve. Dans cette province, en 22 étés, Ernest Rouleau a cueilli, pressé et séché près de 13,000 récoltes totalisant peut-être 150,000 spécimens.

Le rôle du professeur Fernald fut marquant: il influença non seulement le choix d'Ernest Rouleau pour Terre-Neuve mais aussi sa manière d'organiser et d'assurer le fonctionnement de l'Herbier Marie-Victorin dont il fut longtemps le directeur. La révision du manuscrit et la correction des épreuves de la 8e édition du *Gray's Manual of Botany* de Fernald (1700 pages de termes techniques en caractéres fins) constitue de la part d'Ernest Rouleau, un tribut de reconnaissance au grand botaniste alors à sa retraite et sans assistance.

Ernest Rouleau était un homme de terrain: autant il était réservé et discret dans un salon, autant son enthousiasme sur le terrain mettait en évidence sa connaissance pratique de la flore et de son habitat, sa générosité et son parti pris pour la simplicité et la camaraderie. Son amour pour les plantes, il a su le communiquer, plus particulièrement en dirigeant seize thèse: une monographie sur la famille du rubanier et quinze études floristiques: six de ces travaux portent sur l'archipel d'Hochelaga (Montréal) dont l'étude devenait urgente, à son avis, la riche flore de la région s'appauvrissant à la suite de la création de banlieues, entraînant la disparition des habitats naturels. Un de ses importants travaux fut la révision et la mise à jour de la *Flore laurentienne* de Marie-Victorin, permettant la parution de la deuxième édition,

celle qui a cours aujourd'hui.

Durant les dernières années de sa carrière, il se rendit peu sur le terrain, se consacrant à des tâches auxquelles son esprit méthodique de classificateur le prédisposait particulièrement bien: il préparait des index de revues et des répertoires botaniques. Ce goût date de bien longtemps, la publication de son premier index remontant à 1944, mais c'est à partir des années 70 qu'il se consacre à cet aspect de sa carrière. Citons ses travaux de grande envergure: le *Répertoire des noms génériques mentionnés dans l'Index Kewensis et ses quinze premiers suppléments* (édité en 1981) et le *Répertoire des épithètes spécifiques des phanérogames* (1753-1975) déposé au Kew Garden mais non encore publié, qui a requis un million de fiches pour 135,000 noms d'espèces. Ces index et répertoires son utilisés internationalement et facilitent le travail de bien des botanistes qui s'intéressent aux noms et à la classification des plantes; ils permettent, entre autres, de connaître la liste de tous les noms de plantes de la terre.

Bien des "mauvaises herbes" ont poussé dans les champs depuis l'époque où Marie-Victorin octroyait, affectueusement, le nom d'*Achalantus canadensis* au jeune étudient qui le harcelait de ses questions sur la flore. D'assistant conservateur de l'herbier et collaborateur de Marie-Victorin, il devint, en 1940, professeur de floristique à l'Université de Montréal, puis internationalement reconnu pour sa connaissance et pour sa contribution à la connaissance de la flore de l'est du Canada, pour son érudition dans le domaine de la nomenclature des plantes vasculaires et pour sa préparation d'index et de répertoires éminemment utiles à la communauté internationale des botanistes. Certains ont su reconnaître ses mérites; signalons, en plus du doctorat en sciences *honoris causa* de l'université Memorial, l'obtention de trois médailles: en 1975, celle du Congrès international de botanique de Léningrad (URSS), médaille pour services rendus à l'*International Association for Plant Taxonomy*; en 1975, la médaille Marie-Victorin pour travaux ayant aidé à la connaissance de la flore du Québec et en 1977, la médaille du gouverneur-général. En 1983, le groupe Fleurbec lui dédiait son volume *Plantes sauvages des villes et des champs, volume 2* et l'Association des Biologistes du Québec, en 1984, reconnaissait aussi l'importance de son oeuvre, en lui octroyant le titre de *membre émérite*.

Depuis ses tout débuts, le groupe Fleurbec a bénéficié de sa collaboration: Ernest Rouleau signa la préface de son premier volume, *Plantes sauvages printanières*; il continuait d'être l'un de ses principaux conseillers scientifiques, ce qui constitua sa dernière activité professionnelle depuis sa mise à la retraite en 1982. Le professeur Rouleau s'apprêtait également à signer une oeuvre magistrale qui sera incessamment éditée par Fleurbec: l'*Atlas des plantes vasculaires de l'île de Terre-Neuve et de Saint-Pierre-et-Miquelon*.

Au Québec, son influence dans le domaine de la botanique aura été importante. Plusieurs de ses étudiants continuent son oeuvre tant en recherche qu'en enseignement: ils sont devenus professeurs d'université ou de cégep, botanistes-chercheurs au Jardin botanique de Montréal, à l'Institut de recherches en biologie végétale ou au gouvernement du Québec; certains continuent son travail d'exploration de la flore de Terre-Neuve, d'autres son oeuvre de vulgarisation en publiant les guides d'identification Fleurbec.

Ernest Rouleau (1916-1991)

CBA/ABC members will be saddened to learn of the death of former Association President Ernest Rouleau, who died of pneumonia in hospital in Montreal, on January 5, 1991 at the age of 74. He was born on August 21, 1916. He is mourned by his wife, his daughter, his three sons and their spouses; four grandchildren, his brother as well as the international botanical community, and most especially the group Fleurbec, the last organization with which he worked.

This specialist in the flora of Eastern Canada, who knew every inch of Newfoundland and the exact location of this or that little plant, was awarded an honorary doctorate from the university of the province, in recognition of his immense contribution to the knowledge of the Newfoundland flora.

He collected his first plant on May 1 1931, at the age of 14. He had responded to a general notice "All persons interested in the sciences are asked to bring their boots to the chemistry and physics laboratory". Expecting to be able to participate in some experiments on electricity, the boots serving as insulators, he found himself instead among plants, in the company of father Rolland-Germain, then a teacher at the Collège de Longueuil and a comrade of Marie-Victorin. The first Cercle des Jeunes Naturalistes was born.

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This marked the beginning of a long career as an explorer; on rollerskates on the streets of Montreal, by car in the Laurentides, by canoe on Lake Mistassini, by waterplane in Labrador, by helicopter and on foot in Newfoundland. His first important expedition was in 1944, when he explored Lake Mistassini. An uncommon trip at that time, it necessitated travel by waterplane, bushplane and canoe, with Indian guides and without radio contact. This trip would become a pivotal point in the career of Ernest Rouleau. When the results were submitted to Fernald, a botanist of great reputation, Fernald was satisfied to the point that he strongly urged Rouleau to continue the floristic studies which he himself had undertaken in Newfoundland. In this province, over 22 years, Ernest Rouleau collected, pressed and dried close to 13,000 collections, totalling perhaps 150,000 specimens.

The role of professor Fernald made its mark. He influenced not only Rouleau's choice of Newfoundland, but also the manner of organization and smooth operation of the Marie-Victorin Herbarium, of which he was the Director for some time. Rouleau's revision of the manuscript and the correction of the proofs of the eighth edition of *Gray's Manual of Botany* by Fernald (1700 pages of technical terms in fine print) was made as a tribute of recognition to the great botanist who was at that time retired and without assistance.

Ernest Rouleau was an outdoorsman. To the extent that he was quiet and reserved in a salon, he was equally enthusiastic in the field. There he could display his practical knowledge of the flora and its habitat, his generosity and his partiality for simplicity and friendship. He knew how to communicate his love of plants, most especially when directing sixteen theses: a monograph on the family Sparganiaceae and fifteen floristic studies. Six of these works were carried out on the archipelago of Hochelaga (Montreal), where, in his estimation, study became more urgent as the rich flora of the region continued to diminish following the creation of suburbs, with the resultant disappearance of natural habitats. One of his important works was the revision and updating of Marie-Victorin's *Flore laurentienne* permitting the publication of the second edition, which is still in print.

During the last years of his career he spent less time in the field. Dedicating himself to those works which his methodical mind predisposed him particularly well, he prepared lists of reviews and botanical descriptions. This had been a longtime interest. The publication of his first index dated from 1944, but it was not until the '70's that he concentrated on this aspect of his career. These works of major importance, *Répertoire des noms génériques mentionnés dans l'Index Kewensis et ses quinze premiers suppléments* (edited 1981) and *Répertoire des épithètes spécifiques des phanérogames* (1753-1975), deposited at Kew Gardens, but not yet published, required a million sheets for 135,000 species names. These lists and descriptions are heavily used internationally by botanists who are interested in the names and the classification of plants, allowing them to know, among other things, the list of all of the plant names.

Much time has passed since Marie-Victorin affectionately nicknamed the young student who pestered him with questions about the flora, "*Achalantus canadensis*". Assistant curator of the herbarium, and collaborator of Marie-Victorin, he became professor of floristics at the University of Montreal in 1940. While there, he gained international recognition for his knowledge and erudition in the field of vascular plant nomenclature and for his preparation of the index and lists which are so widely used by the international botanical community. Among the formal recognition of his achievements are most especially the honorary doctorate awarded by Memorial University, and three medals. In 1975 he was awarded a Medal of the International Botanical Congress at Leningrad (USSR) for services rendered to the International Association for Plant Taxonomy as well as the Marie-Victorin Medal for improving the knowledge of the flora of Quebec. In 1977 he was awarded the Governor-General's Medal. In 1983 Fleurbec dedicated its volume *Plantes sauvages des villes et des champs, volume 2* to him, and in 1984, the Association des Biologistes du Québec named him *membre émérite* in recognition of his work.

Since its inception, Fleurbec benefitted from his collaboration: Ernest Rouleau wrote the Preface of its first volume, *Plantes sauvages printanières*. He continued to be one of its principal scientific advisors, and that constituted his last professional activity following his retirement in 1982. Professor Rouleau was also preparing a monumental work which will be continuously edited by Fleurbec: l'*Atlas des plantes vasculaires l'île de Terre-Neuve et de Saint-Pierre-et-Miquelon.*

In Quebec, his influence in the field of botany

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will continue to be important. Many of his students are carrying on his work, both in research and teaching. They have become professors at University and CEJEP, botanical researchers at the Montreal Botanical Garden, at the Institute of Research in Plant Biology, or in the Quebec government. Some continue his exploration of the flora of Newfoundland, and others his work of popularizing the Fleurbec identification guides.

-reprinted from the organization Fleurbec

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CBA/ABC SCIENCE POLICY COMMITTEE ACTIVITIES AND THE CFBS

Now that the Canadian Botanical Association has affiliated with the Canadian Federation of Biological Societies (CFBS), the CBA has found itself with new opportunities for making its opinions known and effective in governmental offices. Much of the responsibility for expressing policy and/or complaints to those with the power to do something about it falls to the Science Policy Committee (SPC). This article is to give CBA members an idea of what we have accomplished so far, less than a year into the new affiliation.

The SPC met briefly at the Windsor meetings last June to map out a strategy and underline certain issues that should receive our main attention. The committee membership includes: myself as chairperson, Taylor Steeves, Paul Catling, Michael Weis and Larry Peterson. Four priorities were identified: (1) the lack of adequate science funding by government must be addressed (with special attention being given to the elimination of the University Research Fellowship program by NSERC due to government cuts), (2) research-related environmental issues have to be raised, (3) education in botanical fields should be encouraged at all levels including high schools and the lay public, and (4) the cutting back of governmental and university support for whole-organism research, especially in systematics and ecology, should be countered by some initiatives.

So far, almost all of the work of the CBA's SPC has been linked closely to that of the CFBS. The CFBS, through its Science Policy Officer, Dr. Clément Gauthier, or its Presidents, has asked the CBA to comment on numerous documents of potential interest, to serve on committees, and to suggest symposia, speakers or experts in various fields. We have been able to act on many of these requests, and, in this way, have had a direct voice in many CFBS initiatives, which in turn go directly to policy makers in government. Some of the action requests from the CFBS that have already been followed through are listed below.

1. A workshop on sustainable agriculture is being organized and funded by the Canadian Science Council, and will take place some time this year. The Council asked the CFBS for help in planning the workshop, and the CFBS, in turn, asked their constituent societies (including the CBA) for help in finding appropriate and effective speakers and participants. Paul Catling took on the job and found an excellent representative in the person of Mr. Brad Fraleigh, National Program Leader with Plant Gene Resources Canada.

2. The CFBS informed the SPC of a potential $90 million diversion of NSERC's funds by the federal government to provide financing for the Kaon Factory in British Columbia. The president responded to this with a letter to the Prime Minister to support a brief already sent by the CFBS.

3. The CFBS sent us a 35 page draft of the Position Paper prepared by the National Consortium of Scientific Societies (NCSS) for comment and additions. This vital document forms the basis for the lobby of members of Parliament which the NCSS organizes and runs (with the support and financial help of the CFBS) each February. This year, for the first time, the CBA will have a direct voice in the Consortium's activities. Although the document was an excellent one, addressing many issues of vital concern to botanists, we were able to suggest several additions and changes. Our response was based on last June's meeting, and the priorities stated above. These modifications were accepted by the CFBS and incorporated into the final draft, or, where appropriate, our suggestions were passed on to the NSERC liason committee, which deals directly with NSERC on issues under their control such as the URF program. I am told that the Consortium's Position Paper is widely circulated and is constantly consulted by MP's in Ottawa.

4. As part of the NCSS activities, the CBA was asked to nominate a representative to participate in this year's lobby. The CBA's representative will be Dr. André Fortin, Directeur de

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l'Institut de recherche en biologie végétale in Montreal. This will give Canadian botanists, for the first time, direct representation in discussing science policy with members of parliament.

5. The Biological Council of Canada (BCC), as one of their last projects before merging with the CFBS, prepared a report on "The Status and Management of Federal Research Scientists: The Scientists' Perspective." I was given an opportunity to comment on the drafts of this report and did so. The final report was presented to the Prime Minister of Canada last July, and generated a (weak) reply by the Minister of Science, Mr. W.C. Winegard.

6. The CFBS, deeply committed to improving "public awareness of science," secured funding for a Media Relations Workshop to be held at their Kingston meeting in June. The CBA was asked to send a delegate to receive this valuable media relations training at no cost to the Association. The trainee would then serve two years on the CFBS Media Relations Network to help ensure that botanical information covered in the media is of high quality. The CBA will be represented by Dr. Erich Haber of the Canadian Museum of Nature.

7. With the appearance of the federal government's "Green Plan...," new possibilities of funding environmental research were opened. The CFBS responded to this opportunity by asking Dr. Ian M. Smith, an entomologist with Agriculture Canada, to prepare a proposal for specific research ideas relevant to the Green Plan. An interesting proposal was written and is now being circulated to the constituent societies concerned with environmental research including the CBA. Copies have been sent to members of the SPC, Ecology Section and Conservation Committee for comments and additions.

The committee now needs grass-roots ideas and issues of importance to Canadian botanists that can be brought forward to the CFBS Science Policy Office and directly to other policy-making governmental bodies. It is really up the the CBA members themselves to tell its Science Policy Committee what is important to them. We will then be able to make initiatives instead of simply responding to the initiatives of the CFBS, as timely and worthwhile as they have been. Contact me or any other member of the committee.

- Irwin M. Brodo,
Chairman, Science Policy Committee

NEW BOOKS:

Hilliard, O. M. & B. L. Burtt. 1991. Dierama. The Hairbells of Africa.

This book gives a comprehensive treatment of this member of the Iridaceae. As well as providing descriptions of each of the species found in this genus, the book includes botanical and horticultural history, discussions of the morphology, systematics and geography of the genus, and keys. The illustrator is Auriol Batten. This is a large format book consisting of 152 pages and 46 colour plates plus several pencil sketches. To order this book, write to Acorn Books CC, PO Box 4845, Randburg 2125, South Africa. Cost: R120, plus R10.00 for shipping and handling. GST not included.

Argus, G. W. & Kathleen M. Pryer. 1990. Rare Vascular Plants in Canada. - Our Natural Heritage. Canadian Museum of Nature, Ottawa. 191 pp + maps.

This publication on the status of rare vascular plants in Canada is the culmination of 17 years of research supported and encouraged by the Rare and Endangered Plants Project of the Canadian Museum of Nature. It is based largely on previously published rare plants lists, but additions and deletions have been made. This annotated list treats 1010 rare Canadian species, comprising 25-30% of the Canadian flora. Documentation for treating each species as rare in Canada is given. In addition, each species is placed into an international context by its Nature Conservancy rank, given at global, national, and subnational levels, and its Canadian conservation priority. A range map for each species, plotted at the province, territory, and state level, indicates its general North American range. As well as the main annotated list there are sublists arranged by family, province and territory, and priority class, and a list of rare Canadian endemics.

This publication is available in English or in French from:
The Museum Boutique,
Canadian Museum of Nature,
P. O. Box 3443, Sta. "D"
Ottawa, Ontario, Canada. K1P 6P4

Price in Canada $16.96 (Can) Incl. postage, handling and GST.
Price in U.S.A. $ 18.95 (Can) Incl. postage and handling.

REDUCED PRICE: Grass Genera of Western Canadian Cattle Rangelands. Agriculture Canada Publication. GCPC Code: 021501, ISBN: 0-660-11386-4. This publication, with detailed generic descriptions of the grasses of Western Canada, is now on sale for Cdn$4.50, US$5.40.

Roger Corbaz 1990. Principes de la phytopathologie et lutte contre les maladies des plantes. 284 pages, 214 fig., Presses polytechniques et universitaires romandes. SFr. 59-

Cet ouvrage est une synthèse des connaissances théoretiques et pratiques ainsi que des principes fondamentaux de la pathologie végétale. L'auteur analyse quelques épidémies spectaculaires et décrit les armes biochimiques élaborées tant par l'agresseur que par l'agressé, les altérations du métabolisme de la plante malade, l'évolution et l'adaptation des agents infectieux.

Il expose ensuite les méthodes utilisées pour éviter ou enrayer les maladies des plantes, allant du renforcement de la résistance des végétaux à la protection intégrée, en passant par la lutte chimique, dont les succeès comme l'impact sur l'environment sont discutés, et la lutte biologique avec ses espoirs et ses difficultés.

Bien illustré, et pourvu d'idées originales, cet ouvrage s'adresse aux étudiants en biologie et en agronomie, et à tous ceux que la santé des plantes intéresse.

Diffuseur canadien DPIU
Bureau 115
4823 Sherbrooke ouest
Westmount, Que

BOOK REVIEW:

Isozymes in Plant Biology, Eds. Douglas E. Soltis and Pamela S. Soltis. 268pp. 1990. ISBN 0-931146-13-5. Price: $35.95. Dioscorides Press, Portland, OR. 503.292.0745.

Isozyme technology offers a simple, inexpensive, and reliable technique to resolve differences among enzymes coded by different alleles. For more than thirty years researchers have used those differences to make important discoveries in plant biology. In *Isozymes in Plant Biology*, some of the most innovative researchers using isozyme technology illustrate how isozymes have been successfully incorporated into specific research programs:

- plant mating systems and inbreeding (Brown, Burdon, & Jarosz),
- the relationship of life history characteristics, plant breeding system, seed dispersal mechanisms, and morphological characters to major evolutionary processes (Hamrick),
- the genetics and ecology of colonizing plant species (Barrett & Shore),
- the relationship between heterozygosity and physiology (Mitton),
- the use of isozymes in plant systematics, speciation and species divergence, hybridization, polyploidy (Crawford),
- evolution of crop plants (Doebley) and tree fruits (Torres),
- the use of markers for manipulating quantitative traits (Stuber),
- the contribution of isozymes to bryopyhte systematics, evolution, and mating systems (Wyatt, Stoneburner, & Odrzykoski), and
- the systematics, evolution, and mating systems of homosporous pteridophytes (Soltis & Soltis).

Isozymes in Plant Biology is also an excellent reference of isozyme bench technique. The discussion of alternative extraction buffers, gel buffers, tray buffers, and stain recipes is especially useful because decades of experience inform the writing, and because problematic issues of the correct genetic interpretation of isozyme expression are handled with clarity and completeness (Wendel & Weeden). *Isozymes in Plant Biology* is a particularly valuable guide and reference because it contains both the forest and the trees of isozyme technique.

Steven C. Stewart, Department of Botany, University of Guelph, Guelph, ONT, N1G 2W1, CANADA. eMail: botsteve@vm.uoguelph.ca

Lionel Cinq-Mars Competition for 1991

Each year, the Canadian Botanical Association makes an award for the best student paper presented at the annual CBA/ABC meeting. The award is made in memory of Lionel Cinq-Mars, one of the founding members of the association and a widely admired teacher.

The rules and criteria for the award are quite simple. Any bona fide student enrolled at any Canadian institution of higher learning is eligi-

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ble. The paper can be given at any session of the meeting. Every effort will be made to ensure that each student wishing to be included in the competition has a fair adjudication and an equal chance at the award.

Adjudication will be made by a panel of judges selected by the various CBA/ABC sections (at least one from each). It is chaired by the President-elect. The merit of the paper will be judged on the basis of content (60%) (originality, technical expertise, and associated subject knowledge); and presentation (40%) (lucidity, organization, use of visual aids, audibility and "presence").

The Cinq-Mars award has always been a very important part of the annual meeting. We hope that there will be many participants and that the students will benefit both from the experience of giving an oral presentation, and from the comments each will receive on their talk from the panel of judges.

Please remember that **only those students who specifically indicate on their abstract form** that they wish to be included in the Cinq-Mars competition **will be listed for judging**.

Good luck!
- *Usher Posluszny, President-Elect*

Compétition Lionel Cinq-Mars 1991

Chaque année, l'association canadienne de botanique décerne un prix pour la meilleure communication orale présentée par un étudiant lors de la rencontre annuelle de l'ABC/ABC. La récompense est remise à la mémoire de Lionel Cinq-Mars, un des membres fondateurs de l'association et un professeur fort admiré.

Les critères d'admissibilité à ce prix sont fort simples. Tout étudiant inscrit à une institution canadienne d'études supérieures est éligible. Étant donnée que la communication peut être présentée à n'importe quelle session de la rencontre. Cependant un effort sera fait afin d'assurer à chaque étudiant qui exprime le désir d'être inclus dans cette compétition, de pouvoir compter sur une chance égale pour l'obtention de ce prix.

La décision finale sera rendue par jury de membres sélectionnés parmi les différentes sections de l'ABC/CBA (au moins un membre de chaque section). Le jury est dirigé par le président élu. La qualité de la communication est jugée selon le contenu (60%) (originalité, techniques et connaissance du sujet) et la présentation (40%) (lucidité, organisation, utilisation de l'audiovisuel et clarté du texte).

Le prix Cinq-Mars a toujours constitué une partie fort importante des rencontres annuelles. Nous comptons sur une forte participation et nous espèrons que les étudiants bénéficieront autant de l'expérience acquise à communiquer oralement que des commentaires qu'ils recevront de la part des membres du jury.

Veuillez prendre note que **seuls les étudiants qui ont clairement indiqué sur le formulaire des résumés leur intentions de participer** au concours Cinq-Mars **seront inscrits sur la liste des participants** à la compétition.

Bon Chance!
- *Usher Posluszny, Président-élect*

John Macoun Travel Bursary

Graduate student members of CBA/ABC who present papers in the Lionel Cinq-Mars competition are eligible for the **John Macoun Travel Bursary.** In past years there have been few graduate student applications, which seems odd, given the size of our country. This year, graduate students are strongly urged to apply, and supervisors are asked to remind their students about the Bursary. Details about the Bursary are outlined in a separate insert, and we ask that the insert be posted.

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COURSES OFFERED:

Microinjections Techniques in Cell Biology - Marine Biological Laboratory, Woods Hole. May 26-June 1, 1991

This research-oriented course is intended for graduate students, postdoctoral researchers, and investigators. Limited to 24 students.

Microinjection techniques have developed to a state that permits investigators to bridge the gap between *in vivo* physiology and *in vivo* biochemistry. The combination of microinjection with analytical light microscopic methodologies, electrophysiological and photometric approaches offers an unparalleled view of cellular function and mechanisms of action within the cytoplasm of intact, living cells. This short course will provide an opportunity to learn techniques of microinjection into a variety of living cells from leading practitioners. The course will consist of lectures, demonstrations, and extensive hands-on laboratory exercises. The student will learn to microinject single

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cells, including, but not limited to: cultured mammalian cells, amphibian oocytes, echinoderm blastomeres, and various plant cells. In addition, many of the latest methods of light microscopy, including the use of fluorescence and video techniques, will be used in conjunction with microinjection. The faculty is drawn from the academic and industrial communities.

Director: Robert B. Silver, Cornell University.

Faculty: Douglas Kline, University of Puerto Rico; Katherine Luby-Phelps, the University of Texas Southwestern Medical Center, and others to be announced.

Tuition: US$1450 (includes room/board)

Application Deadline: March 20, 1991.

For further information and applications, contact:
Ms. Florence Dwane, Admissions Coordinator,
Marine Biological Laboratory
Woods Hole, MA 02543, U.S.A.
Tel: (508) 548-3705, ext. 216.

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THE CANADIAN SOCIETY OF PLANT PHYSIOLOGISTS

LA SOCIÉTÉ CANADIENNE DE PHYSIOLOGIE VÉGÉTALE

C. S. P. P. award in tree physiology

Following the National Forest Awareness Campaign in 1987, a proposition was presented to the executive of our Society to establish an Award in Tree Physiology. In that same year a survey of members interested indicated that twenty-one registered plant physiologists were actively engaged in research with forest material in Canada. However, this number does not take into consideration other professionals who are non-members, but who are pursuing forestry research using principles of plant physiology. A more realistic figure would probably indicate fifty or more professionals in addition to probably as many graduate students, dealing with different aspects of tree physiology in our country.

The purpose of this letter is to inform you of the existence of the Award and invite you to collaborate, if possible by identifying candidates for nomination.

The C.S.P.P. Award in Tree Physiology is awarded for outstanding research contributions in tree physiology, primarily in Canada. Special consideration will be given to originality and independence of thought. Nominees need not be Canadian citizens nor members of our Society but they must be engaged at the time of the nomination in a research program in Canada. The Award consists of a certificate and a cash prize of $250 and will be announced and presented at the Annual Meeting of the Society. Nominations for the Award must be supported by three full members of the society and should be documented with a list of publications and a citation. Nominations should be sent to the Chairperson:
Dr. A. L. D'Aoust,
Forestry Canada - Quebec Region
1055 du PEPS
Sainte-Foy
Quebec G1V 4C7
Nominations should be received by March 1, 1991.

- *André L. D'Aoust*

Prix de la S.C.P.V. en physiologie de l'arbre

Pour faire suite à la campagne nationale de sensibilisation du public au secteur forestier en 1987, une proposition a été soumise à l'exécutif de notre société pour établir un prix en physiologie de l'arbre. Dans la même année, une enquête sur l'intérêt des membres indiquait que vingt-et-un phytologistes canadiens avaient des activités de recherche utilisant un matériel forestier. Par contre, ce chiffre ne tient pas compte de professionnels non membres, mais engagés dans des recherches avec un matériel d'origine forestière et utilisant les principes de la physiologie végétale. Un nombre plus réaliste serait sans doute de cinquante professionnels ou plus et possiblement autant d'étudiants gradués activement impliqués en physiologie de l'arbre au Canada.

Le but de cette lettre est de vous informer de l'existence de ce prix et de vous inviter, si possible, à collaborer en soumettant le nom du candidat de votre choix pour cette nomination.

Le Prix de la S.C.P.V. en physiologie de l'arbre est adjugé pour des contributions éminentes en physiologie de l'arbre, principalement au Canada. On considérera tout particulièrement l'indépendance d'esprit et l'originalité. Le can-

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didat en nomination n'est pas obligatoirement citoyen canadien, ni membre de la Société, mais doit être actif dans un programme de recherche au Canada au moment de sa candidature. Le prix comprend un certificat et un montant en argent de 250$ et sera annoncé et présenté à l'occasion de la réunion annuelle de la Société. La candidature pour le prix doit être approuvée par trois membres réguliers de la Société et doit être accompagnée d'une liste de publications et de la raison que justifierait cette reconnaissance. Les nomination doivent être adressées au président du comité de la S.C.P.V. en physiologie de l'arbre:

Dr. André L. D'Aoust
Fôrets Canada - Région du Québec
1055 rue du PEPS
Sainte-Foy (Québec) G1V 4C7

Les candidatures doivent être reçues pour le premier mars 1991.

-André L. D'Aoust

News from British Columbia:

The North East Pacific Culture Collection (NEPCC)

The North East Pacific Culture Collection (NEPCC) is housed at the University of British Columbia, Department of Oceanography and contains approximately 350 isolates (220 species) of marine phytoplankton, of which 72% are from local waters. It was born approximately 20 years ago and has been under the direction of F.J.R. Taylor ever since. Dr. Taylor is the current chairman of the advisory panel for the Center for the Culture of Marine Phytoplankton (CCMP), the chief U.S. culture collection. The collection is important in that it has representatives from all the major algal groups, containing a large number of flagellate species and diatoms, including those harmful to the aquaculture industry. It is the only collection of its kind in Canada.

The NEPCC is a non-profit operation, receiving partial support from the Natural Sciences and Engineering Research Council of Canada and is registered with the World Federation for Culture Collections. Cultures for research, teaching and commercial applications are available for a fee or on an exchange basis. Funds received from distributing cultures help to cover running costs but a yearly deficit is still incurred and other sources of funding are being sought.

Charges per culture are currently $30 for non-profit institutions and $80 for commercial organizations. Orders and/or requests for species lists are accepted by letter, purchase order, telephone, FAX and computer mail. For further information please contact:

Elaine P. Simons
Curator, NEPCC
Dept. of Oceanography
6270 University Blvd.
Vancouver, B.C. V6T 1W8
Phone: 604-228-4378
FAX: 604-228-6091
Email:Elaine Simons@mtsg.ubc.ca

Successfully defended "Plant" Theses in British Columbia, since October 1989.

SIMON FRASER UNIVERSITY

Biological Sciences

Dube, S. L. Apparatuses and methods for enhancement and detection of phytosynthetic competence in tissue culture plantlets. Ph.D. (Supervisor W. E. Vidaver).

Meng, J. Floridosides in *Porphyra perforata* Ph.D. (Supervisor L. M. Srivastava).

Mohammed, G. H. The importance of morphological properties for the acclimatization of tissue-cultured Douglas-fir (*Pseudotsuga menziesii* (Mirbel) Franco).Ph.D. (Supervisor W. E. Vidaver).

Murphy, K. The development of chlorophyll and fluorescence techniques and their applicatin to problems in conifer seedling production. M.Sc. (Supervisor G. R. Lister).

Smith, S. L. A simple HPLC method for the determination of 2,4-dinitrophenyl derivatives of glyphosate and aminomethylphosphonic acid applicable to plant studies. M. Sc. (Supervisor J. E. Rahe).

Soulodre, D. V. M. A comparison of three explant sources in the micropropagation of white spruce (*Picea glauca* (Moench) Voss) M. Sc. (Supervisor W. E. Vidaver).

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Geography Department

Jelinski, D. Clonal diversity patterns in trembling aspen (*Populus tremuloides*, Salicaceae) in Waterton Lakes National Park, Alberta: a biogeographic approach. Ph.D. (Supervisor Ian Hutchinson).

UNIVERSITY OF BRITISH COLUMBIA

Botany Department

Banerjee, M. S. The ontogeny of morphological variation: an example from yellow-cedar *Chamaecyparis nootkantensis* [(D. Don) Spach]. M.Sc. (Supervisor J. R. Maze).

Champagne, D. E. Insect antifeedant and growth regulating activity of phytochemicals and extracts from the plant family Meliaceae. Ph.D. (Supervisor G. H. N. Towers).

Falls, R. W. Photosynthetic and cambial activity relations in untreated and stressed white spruce [*Picea glauca* (Moench.) Voss] seedlings during and following the wood formation season. Ph.D. (Supervisor I. E. P. Taylor).

Mehrhoff, L. A. The evolutionary consequences of interactions between plants in permanent pastures. Ph.D. (Supervisor, R. Turkington).

Nomme, K. M. Interactive biology to two seagrasses, *Zostera marina* L. and *Zostera japonica* Aschers, & Graebn. M.Sc. (Supervisor P. G. Harrison).

Samuels, A. L. Endocytosis in elongating root tip cells of *Lobelia erinus*. Ph.D. (Supervisor T. Bisalputra).

Wong, D. C. K. Toxic effects of selenite and selenate on marine microalgae: a physiological and ultrastructural study. M.Sc. (Supervisor L. Oliveira).

Department of Forest Sciences

Davidson, R. Patterns of variation in Pacific silver fir (*Abies amabilis* (Dougl.) Forbes) on Vancouver Island. Ph.D. (Supervisor O. Sziklai).

Harper, G. The effect of cold storage duration and soil temperature on the photosynthetic ability of *Picea glauca* seedlings. M.Sc. (Supervisor E. Camm).

Jull, M. Long-term stand dynamics in high-elevation Englemann spruce-subalpine fir forests. Ph.D. (Supervisor G. Weetman).

Kojwang, H. Western gall rust (*Endocronartium harknessii* (Moore) Hirat.) on lodgepole pine (*Pinus contorta* Dougl.) in British Columbia - A study of variation and inheritance of resistance in a natural pathosystem. Ph.D. (Supervisor B. van der Kamp).

Kurtz, W. Net primary production, production allocation, and foliar efficiency in second growth Douglas-fir stands with differing site quality. Ph.D. (Supervisor J. P. Kimmins).

Macdonald, G. B. Comparative responses of black spruce and jack pine seedlings to interspecific competition. Ph.D. (Supervisor G. F. Weetman).

Major, J. Ecophysiological assessment of western hemlock and western red cedar greenhouse stocktypes. M.Sc. (Supervisor D. P. Lavender).

Nault, J. Differentiation of some Canadian coniferous woods by combined diffuse and specular reflectance fourier transform infrared spectrometry. Ph.D. (Supervisor J. Wilson).

Neumann, J. Variability in the relationship between leaf area and selected stem measures in Douglas fir. M.Sc. (Supervisor K. Klinka).

Quinde, A. Behaviour of the major resin-and fatty acids of slash pine (*Pinus Elliottii*) during organosolv pulping. Ph.D. (Supervisor L. Paszner).

Reich, R. Causes of dieback of Douglas-fir in the interior of British Columbia. M.Sc. (Supervisor B. van der Kamp).

Robertson, D. Relationship of cone production to wood traits of lodgepole pine. M.Sc. (Supervisor D. T. Lister).

Therien, G. Growth prediction of recent permanent sample plots for forest inventory projection. Ph.D. (Supervisor A. Kozak).

Thomas, B. Regional provenance, and family variation in cold tolerance of western white pine. M.Sc. (Supervisor D. Lister).

Thomson, S. The initial response of several forage species to prescribed burning in southeastern British Columbia. M.Sc. (Supervisor M. Feller).

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Trowbridge, R. Effects of *Trifolium-Rhizobium* symbiosis on *Pinus contorta* regeneration, forest soil, and selected native plant species. M.Sc. (Supervisor M. Feller).

Whynot, T. Effects of repeated fertilization on nitrogen fluxes in a young lodgepole pine stand as measured by an *in situ* sequential coring technique. M.Sc. (Supervisor G. F. Weetman).

Yang, K-c. The aging process of sapwood ray parenchyma cells in four woody species. Ph.D. (Supervisor R. Kennedy).

Department of Plant Science

Bitterlich, I. Weed interference and weed control in cole crops and onion. M.Sc. (Supervisor M. Upadhyaya).

DeYoung, R. M. Gall formation in *Erwinia* species on Douglas-fir. M.Sc. (Supervisor R. Copeman).

Gay, M. M. The influence of row covers and plant population density on the growth and productivity of bell peppers (*Capsicum annuum* L.) M.Sc. (Supervisor P. Jolliffe).

Herrington, E. Light quality effects on *In vitro* shoot proliferation of *Spireaea nipponica.* M.Sc. (Supervisor J. McPherson).

Nolan, D. G. Seed germination characteristics of *Centaurea diffusa* and *C. maculosa* (Supervisor M. Upadhyaya).

Powell, R. D. Diffuse knapweed (*Centaurea diffusa*): reproductive thresholds, population ecology and responses to the introduction of the buprestid beetle *Sphenoptera jugoslavica.* Ph.D. (Supervisor J. Myers).

Radley, R. A. The effect of foliar applications of sprays made from kelp (*Macrocystis integrifolia*) on growth of *Phaseolus vulgaris*: the possible role of algal phytohormone-like substances. M.Sc. (Supervisor F. B. Holl).

Smith, R. B. Plant quality, resource concentration and natural enemies: a comparison of four herbivores in monocultures of Brussels sprouts and dicultures of Brussels sprouts/peppermint. Ph.D. (Supervisor J. Myers).

UNIVERSITY OF VICTORIA

Department of Biology

Grob, J. Techniques to study the cell cycle in the shoot apex of conifers. M.Sc. (Supervisor J. Owens).

MacDonald, J. Dormancy induction in coastal Douglas-fir seedlings: bud development, dormancy, development, and dry-matter allocation. Ph.D. (Supervisor J. Owens).

Quesnel, H. Plant competition and the growth of western hemlock in the Eve River watershed. Ph.D. (Supervisor G. Allen).

- Roy Turkington, Department of Botany, University of British Columbia, Vancouver, B. C.

Positions Open

TITLE: Assistant Professor, Department of Botany, University of Kansas

DESCRIPTION: We seek applications for a tenure-track position in the area of plant development to 1) develop and maintain an active research program, 2) participate in teaching graduate/undergraduate courses in plant anatomy and plant development, and 3) interface with the research activities of current faculty. The position is a tenure-track, 9-month appointment, to start on 16 August 1991. Salary $33,000-$36,000, depending on experience.

REQUIRED QUALIFICATIONS: A Ph.D. and training in whole plant structure and anatomy; an active research program focusing on any current aspect of plant development; ability to teach a course covering basic and contemporary aspects of plant anatomy and contribute to an undergraduate majors course in developmental biology.

PREFERRED QUALIFICATIONS: Candidates having postdoctoral experience, demonstrated ability to attract external funding for research activities, and teaching experience will rank higher than those with required qualifications only.

(continued on next page)

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APPLICATION MATERIALS should include 1) a curriculum vitae, 2) a statement of research interests, goals and current research activities, 3) copies of recent publications, grant applications, and/or manuscripts, 4) a description of teaching philosophy and experience, 5) letters of reference from at least three persons to be submitted by the closing date.

APPLICATION DEADLINE: 15 January 1991 (postmarked). Note: this may be extended.

CONTACT PERSON: Craig E. Martin, Department of Botany, University of Kansas, Lawrence, KS 66045-2106. Telephone: (913) 864-3645.

INTERVIEWS to be held on campus at KU

The University of Kansas is an equal opportunity/affirmative action employer. Applications are sought from all qualified persons regardless of race, religion, color, sex, disability, veteran status, sexual orientation, national origin, age, or ancestry.

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Mycology/Plant Pathology. The Department of Biology, University of Victoria, is seeking as a tenure-track Assistant/Associate Professor, a person with expertise in Mycology and/or Plant Pathology, with preference given a candidate carrying out research in the area of Molecular/Cellular Biology of Fungi. The successful applicant will be expected to teach mycology in our lower-level core botany course and to provide more specialized instruction related to the candidate's area of expertise in our upper-level program. The deadline for application is 31 January 1991. Applicants must send their curriculum vitae, at least one copy of two recent publications, a description of research interests, and names of at least three referees that can be contacted to: Dr. Louis A. Hobson, Chair, Department of Biology, **University of Victoria**, P.O. Box 3045, Victoria, B.C. V8W 2Y2. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents. The University of Victoria is committed to an employment equity program. Women are particularly encourage to apply.

❀

Graduate Research Assistantships:

We have assistantships available for M.Sc. or Ph.D. students to conduct research in the area of forest ecology/conifer ecophysiology. The research is part of a collaborative project investigating growh and yield and competitive interactions in boreal mixedwood forests, and the response of white spruce to mechanical removal of aspen. Motivated and enthusiastic students with a background in forestry, botany, or ecology will be considered. Stipends start at $1028 per month. Send resume and the names of three references to Dr. Victor Lieffers or Dr. Ellen Macdonald. Department of Forest Science, University of Alberta, Edomonton, Alberta, Canada, T6G 2H1.

❀

ANNOUNCEMENT

ROYAL BRITISH COLUMBIA MUSEUM

During 1991 and 1992 we will be packing and moving our anthropological, biological and historical collections to allow for removal of asbestos in our collections building. During this time some of our artifacts and specimens will be inaccessible.

We will meet all our existing commitments regarding loans and reseach access and will endeavour to meet any additional requests.

Our exhibits building will remain open to the public.

Loans and research contact:
Grant W. Hughes
Assistant Director
Collection Program
(604) 387-5706

For further details contact:
Tom Palfrey
Promotions Coordinator
(604) 387-2134

Royal British Columbia Museum
675 Belleville Street
Victoria, B.C.
V8V 1X4

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THE LAST WORD: (Jean M. Gerrath)

When we began as editors two years ago, we were concerned that we might not receive many contributions from members. In this issue we have some thought-provoking articles, regional news, book reviews and general news from members. Thank you very much to all of you contributors for making our job easier, and for making the Bulletin longer with each issue.

NOTE: The deadline for the April issue is March 31.

The Bulletin of the Canadian Botanical Association:
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To ensure prompt delivery of the Bulletin please notify the Treasurer **(Dr. Tim Dickinson, Botany Department, Royal Ontario Museum, 100 Queen's Park, Toronto, ON M5S 2C6, Tel. (416) 586-8032, FAX (416) 586-5863, BITNET: TIM@UTSTAT.UTORONTO)** of any change of address as soon as possible.