THE CANADIAN BOTANICAL ASSOCIATION

BULLETIN

DE L'ASSOCIATION BOTANIQUE DU CANADA

November / novembre 1999 32(4) Montréal

Patron / Président d'honneur
Her Excellency the Right Honourable / Son excellence la très honorable
Adrienne Clarkson, C.C., C.M.M., C.D.
Governor General of Canada / Gouverneure générale du Canada

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President's Message

The past year has seen several exceptional events that are important for the future of the Association. I will only mention here our active participation at the XVI International Botanical Congress (IBC) held in St. Louis this past summer, and the inception of the Iain and Sylvia Taylor award for the best poster presentation by a student at our annual meeting.

While on the subject of the IBC, I would like to thank Dr. Carol Baskin, Past-President of the Botanical Society of America, who organized the social get-together of the CBA with the Botanical Society of America and the Sociedad Botanica de Mexico, as well as Dr. Peter Hoch, secretary of the IBC, who gave us helpful support in organizing the events which concerned our Association.

With this edition of the Bulletin, I would invite all members to begin planning for the next annual meeting of the CBA that will be held in London next June. This time around, it will be a joint meeting with the Canadian Society of Plant Physiologists and it should certainly be a stimulating one from a scientific standpoint. This meeting will allow members to present their work to a very broad segment of Canadian plant biologists, so I think it is very important to encourage students to participate at this meeting and to present their research.

I also remind you that it is time to propose candidates for the George Lawson medal and the Mary E. Elliot award. These awards are important for the development and the visibility of the CBA and reflect the vitality of our association. It is important that members get involved in proposing candidates in order to proclaim the value of scientific research done by Canadian botanists.

The George Lawson medal is awarded to a botanist who has made an exceptional lifetime contribution to the development of plant biology in Canada. This recognition may be based on the overall academic career of the nominee or on a particularly outstanding achievement such as the publication of a book. The Mary E. Elliot medal is awarded to an individual CBA member who has given particularly active service to the Association. For more imformation concerning these awards, please contact me.

I look forward to seeing you all in London, and I wish you all a happy and auspicious New Year.

Denis Barabé, President

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Information for submitting texts / Soumission des textes

Texts and illustrations for the Bulletin must be sent to the Editor preferably via the electronic mail (attached file) or on a diskette. Texts should be saved under "Word" and illustrations under the "TIFF" format.
If you have any question about text submission please contact the Editor.

Les textes et les illustrations pour le bulletin doivent de préférence être envoyés par courrier électronique (sous forme de fichier attaché) ou encore sur une disquette.
Les textes doivent être enregistrés sous « Word » et les illustrations sous le format « TIFF ».
N'hésitez pas à contacter le rédacteur pour toute information sur l'envoi de documents.

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CBA Bulletin / Bulletin de l'ABC

The CBA Bulletin is issued quarterly (February, May, August, November) and sent to all CBA members.
Le Bulletin de l'ABC paraît quatre fois par année (février, mai, août, novembre) et est envoyé à tous les membres de l'ABC.

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To ensure continuous delivery of the Bulletin please notify the Treasurer promptly of any change of address.
Veuillez communiquer tout changement d'adresse au trésorier afin de recevoir tous les numéros du bulletin.

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If you have any comments or suggestions about the Bulletin, please contact the Editor at the above address.
Si vous avez des commentaires ou suggestions concernant le bulletin, veuillez s'il vous plaît contacter le rédacteur à l'adresse mentionnée plus haut.

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Texts for the February issue must be received before February 1, 2000. Les textes pour le bulletin de février doivent arriver au plus tard le 1er février 2000.

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Le mot du président

L'année qui s'achève fut remplie d'événements exceptionnels pour l'avenir de l'Association. Qu'il me suffise de rappeler, ici, notre participation active au Congrès international de botanique (CIB) à St-Louis et la création du prix Iain et Sylvia Taylor pour le meilleur poster présenté par un étudiant lors du congrès annuel qui sera remis pour la première fois lors du congrès de London. En ce qui concerne le CIB, j'aimerais remercier le Dr. Carol Baskin, le président sortant de la Botanical Society of America, qui a organisé la rencontre sociale entre la Botanical Society of America, la Sociedad Botanica de Mexico et l'Association Botanique du Canada, de même que le Dr. Peter Hoch, secrétaire de l'CIB, qui nous a fourni un appui constant dans l'organisation d'événements relatifs à l'ABC.

J'invite tous les membre à commencer à planifier dès maintenant leur participation au prochain congrès annuel de l'ABC qui aura lieu à London. Ce congrès conjoint avec la Société canadienne de physiologie végétale sera certainement très stimulant d'un point de vue scientifique. Il permettra aux membres de faire connaître leurs travaux à une très grande partie des scientifiques canadiens oeuvrant en biologie végétale. Je crois qu'il est primordial d'inciter les étudiants à participer à ce congrès et à présenter leur travaux.

suite page 53

2000 CBA Annual Meeting / Congrès annuel de l'ABC 2000 - London, Ontario

Full details of CBA / CSPP 2000 in London, Ontario will be given in the February issue of the Bulletin, including detailed conference program, registration instructions, call for abstracts and information on how to reach the CBA / CSPP 2000 confe-rence website which will permit electronic registration and sending of abstracts.

The Canadian Botanical Association will hold its annual meeting for the millenial year at the University of Western Ontario, London, Ontario in association with the Canadian Society of Plant Physiologists, 24-28 June, 2000. We hope to offer an interesting program with the Plenary Session on the topic 'Environment, Biodiversity and Ecosystem Health' and the CBA society symposium on 'Systematics and Bioconservation'. In addition, there will be a variety of sectional symposia. Field trips to Springbank Woods, a carolinian forest; The Pinery Provincial Park, a sand-dune-ecosystem; and Sifton Bog, a southern remnant kettle bog, will also be offered.

Saturday June 24

Arrivals, registration; all day field trip to the Pinery; Outgoing Executive Meeting; Canadian Journal of Botany Editorial Board Meeting; mixer / dinner

Sunday June 25

Registration; joint Society Plenary Session (Environment, Biodiversity and Ecosystem Health); contributed papers, joint Teaching Symposium; Plant Canada Meeting; Weresub Lecture

Monday June 26

Sand Dune Ecology Symposium; contributed papers; local field trips (Sifton Bog, Meadowlily Woods); BBQ

Tuesday June 27

Structure and Development Symposium; contributed papers; Annual General Meeting; Society Banquet

Wednesday June 28

CBA Symposium (Systematics and Bioconservation); local field trips (Indian camp); Incoming Executive Meeting

Jim Phipps, jphipps@julian.uwo.ca

Les détails complets du congrès annuel de l'ABC / SCPP qui aura lieu à London en Juin 2000 seront fournis dans le bulletin de février. Vous y trouverez donc plus d'information sur les conférences, l'inscription, la soumission des résumés et le site WEB du congrès, sur lequel il sera possible de vous inscrire et de soumettre votre résumé.

L'Association botanique du Canada tiendra son congrès annuel du 24 au 28 juin 2000 à l'Université Western Ontario (London, Ontario) en association avec la Société canadienne de physiologie végétale. Nous espérons offrir un programme très intéressant avec le séance plénière conjointe des deux sociétés (Environnement, biodiversité et santé des écosystèmes), le symposium de l'ABC sur la Systématique et la bioconservation, et les symposiums des différentes sections. Des sorties sont prévues à *Springbank Woods*, une forêt carolinienne, *The Pinery Provincial Park*, un écosystème de dunes de sable, et *Sifton Bog*, un vestige d'une tourbière de type kettle(marmitte).

Samedi le 24 juin

Inscription; visite à *Pinery*; réunion du comité exécutif sortant; réunion du comité éditorial du Journal canadien de botanique; réception de bienvenue / souper

Dimanche le 25 juin

Inscription; séance plénière conjointe ABC / SCPP (Environnement, biodiversité et santé des écosystèmes); conférences; symposium conjoint sur l'enseignement; rencontre *Plant Canada*; conférence Weresub

Lundi 26 juin

Symposium sur l'écologie des dunes de sable; conférences; visites à *Sifton Bog* et *Meadowlily Woods*; BBQ

Mardi le 27 juin

Symposium sur la structure et le développement; conférences; rencontre générale annuelle; banquet

Mercredi le 28 juin

Symposium de l'ABC (Systématique et la bioconservation); visite locale à *Indian Camp*; réunion du nouveau comité exécutif

Jim Phipps, jphipps@julian.uwo.ca

Special Vote / Scrutin spécial

We invite you to fill out the ballot included in this issue of the Bulletin and to send it back to the CBA secretary, Dr Liette Vasseur. This vote is held in order to carry out two resolutions adopted by the CBA Board of Directors during the 1999 Annual General Meeting. The first one concerns some modifications to the manual of By-Laws of the Association (for more information on this resolution please contact Dr. Vasseur) and the second one concerns the Iain and Sylvia Taylor Award for the best student poster presented at the CBA Annual Meeting. You will find more information about these two resolutions on pages 52 and 53. Please take a few moments of your time to fill out the ballot and to send it back to Dr. Vasseur.

Nous vous invitons à remplir le bulletin de vote inclus dans le présent bulletin et de le retourner à la secrétaire de l'ABC le Dr Liette Vasseur. Ce vote est tenu afin d'aprouver deux résolutions qui ont été adoptées par le bureau de direction de l'ABC lors de l'Assemblée générale annuelle de 1999 à St-Louis. La première concerne des modifications au texte du manuel des règlements de l'Association (pour plus d'information sur ce sujet veuillez contacter le Dr Vasseur) et la seconde concerne le Prix Iain et Sylvia Taylor qui récompense la meilleure affiche présentée par un étudiant au congrès annuel de l'ABC. Vous trouverez des informations sur ces résolutions en pages 52 et 53 . Veuillez donc prendre quelques instants pour remplir le bulletin de vote et le retourner au Dr. Vasseur.

Proposed Revisions to the Manual of By-Laws

Prepared by:
Ian E. P. Taylor June 1987
Updated by:
Sylvia Taylor June 1992
Jean Gerrath June 1996
Liette Vasseur July 1999

Page	Action	Comments
3	Add under Updated	"August 1999 Liette Vasseur"
6	Delete Item 8	We do not have anymore a relationship with CFBS
6	Add in Item 9 (and should it be moved to page 7)	"CAB/ABC... usually includes the Past-President..."
7	Change Item 8	To Include that the Past President is part of the Science Policy committee (as explained in previous point)
9	Add in Item 4	"The materials for the meeting... mail, or electronic mail".
8	Typo mistake in Item 5	Remove a space in the word "inexperienced"
8	Remove Sunday in Item 5 a)	Our meetings are not all the time starting on a Sunday
8	Item 5 b)	Change "reading" to "read"
13	Item 2	Add: "in conjunction with an accounting firm hired to manage the assets of the Association".
14	Second reminder about CFBS	To omit
25	Typo mistake to correct	Identity instead of identify
39	**Add a section for the terms of reference for the Iain and Sylvia Taylor Award**	**See page 53**
46	Item 1, to modify	"Lionel Cinq Mars and Iain and Sylvia Taylor Competition".
51	Head Office, Item 12	At the present, we propose: Dr. Liette Vasseur, Department of Biology, Saint Mary's University, Halifax, NS B3H 3C3
53	Item 35	Just readjustment of the lines.
58	Item 65	
62	Item 79	Add Iain and Sylvia Taylor Award
63	Item 82	Add Iain and Sylvia Taylor Award
76	Item 1	Add Iain and Sylvia Taylor Award

Special Vote / Scrutin spécial

Terms of Reference for the Iain and Sylvia Taylor Award

The following regulations apply to the judging of the Competition.

1
The President-elect is the Chair of the Afjudication Panel, which is composed of one member from each Section of CBA/ABC (possibly 2 if a large meeting is anticipated), plus a francophone member if the proceeding are all English speaking. The President-elect should assemble the Adjudication Panel at the annual meeting preceeding that at which the Panel will work. The Section provides the names of a panel member and an alternate. The membership of the Adjudication Panel should be confirmed NO LATER THAN the Fall Conference Call by a vote of the Executive. The names of the Panel are then communicated to the Vice-President. The Vice-President or a designated member will be responsible to organize with the Panel the judging schedule and meetings to decide the winner.

2
The Iain and Sylvia Taylor Award shall be given for the best student poster presented at the annual meeting of the CBA/ABC.

3
Any bona fide student enrolled at a Canadian institution of higher learning or a Canadian student at a foreign university is eligible. This includes both graduate and undergraduate students.

4
Guidelines for competitions:

a)
The poster will be presented during the appropriate session as determined by the programme committee.

b)
Adjudication will be on the basis of:
Content
60%
(originality, technical expertise, and associated subject knowledge)
Presentation
40%
(lucidity and logical flow, value of visual aids if appropriate, and 'presence')

5
The value of the Award is determined by resolution of the Board of Directors. The winner also receives a plaque, certificate and one year's free membership. The Adjudication Panel may award Honorable Mentions, which carry a certificate but no cash award.

6
A student wishing to complete for the Award MUST SO INDICATE ON THE ABSTRACT FORM when submitting it to the organizing committee for inclusion in the programme of poster presentation. Failure to indicate the decision to enter the competition on the Abstract form cannot be corrected later.

7
The Vice-President or his designated should provide the Panel with judging sheets and a copy of each competitor's Abstract well in advance of the meeting. The Panel should meet in advance of the competition to establish operational details. Each panelist should provide the Vice-President or his designate with notes to use in providing feedback.

8
The Vice-President and the President-elect must ensure that all competitors are properly identifies.

9
The Vice-President or designate is obligated to provide each competitor with a letter that provides feedback on his poster.

Le mot du président (suite)

Je vous invite aussi à présenter des candidatures pour les Prix Georges Lawson et Mary E. Elliot. Ces prix sont deux éléments importants pour le développement et le rayonnement de l'Association botanique du Canada. Ils reflètent le dynamisme de notre association. Il est donc essentiel que les membres présentent des candidatures pour ces prix afin de mettre en valeur les activités scientifiques des botanistes canadiens.

Le prix Georges Lawson est remis à une personne qui a contribué de façon exceptionnelle au développement de la biologie végétale. Le prix peut-être décerné pour l'ensemble d'une carrière ou pour une réalisation particulière de grande envergure, par exemple un livre. Le prix Mary E. Elliot est décerné à un membre qui a participé activement au développement de l'Association botanique du Canada. Pour obtenir de plus amples informations concernant ces prix, veuillez me contacter.

En espérant vous rencontrer à London, je vous souhaite une bonne et heureuse année.

Denis Barabé, président

Poorly Known Economic Plants of Canada - 23. Ostrich Fern, *Matteuccia struthiopteris* (L.) Todaro.

E. Small and **P.M. Catling**, Eastern Cereal and Oilseed Research Centre, Research Branch, Agriculture and Agri-food Canada, Saunders Bldg., Central Experimental Farm, Ottawa K1A OC6

Common names: Ostrich Fern, Fiddlehead, Shuttlecock Fern. The word "fiddlehead" can be used in three ways: 1) to designate the Ostrich Fern; 2) to refer to the young curled leaf of the Ostrich Fern used as a vegetable; and 3) the young curled leaf of any fern. French: tête de violon, crosse de fougère, fougère de l'autruche (some authorities recommend avoiding tête de violon or restricting this phrase to the edible young uncurled leaves, while calling the plant la matteucie fougère-à-l'autruche).

The genus was named after Carlo Matteucci (1800-1868), an Italian physicist and politician. The large leaves resemble ostrich plumes, hence the common name. The specific epithet derives from struthion (ostrich) and pteris (feather).

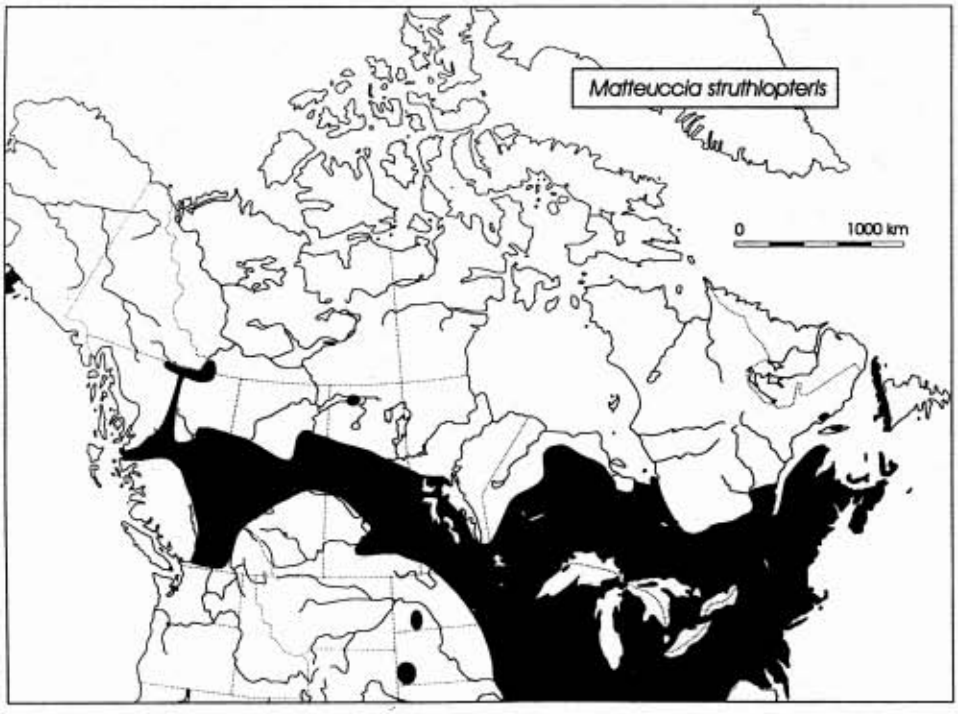
Matteuccia has three species of herbaceous perennials, found in various parts of Eurasia and North America. In much of the older literature *Matteuccia* is placed in the Polypodiaceae, whereas the modern consensus is that it belongs to the Aspidiaceae (Onocleaceae). The Ostrich Fern has been called Canada's "most renamed fern." It has been variously placed in the genera *Onoclea*, *Struthiopteris*, *Pteretis*, and *Matteuccia*. The closest relative of Ostrich Fern is the Sensitive Fern, *Onoclea sensibilis*, and an intergeneric hybrid has been reported from Europe.

The circumpolar Ostrich Fern is native to many north temperate and sub-boreal parts of the northern hemisphere. In Canada, it occurs in parts of all provinces and territories. The species is relatively common in parts of eastern Canada but less common west of Manitoba and in the Yukon and the southwestern corner of the former district of Mackenzie. In the US it is found in Alaska, and extends south to Virginia, Ohio, Indiana, Illinois, Missouri and South Dakota. It is also occurs in Japan, China, Siberia west to Scandinavia, Belgium, France and parts of the Alps.

Most recent authors recognize two varieties of Ostrich Fern:

- var. *struthiopteris*, the most widespread form of Eurasia, with a conspicuous blackish central band on scales of the rhizome and stipe bases.
- var. *pensylvanica* (Willd.) Morton, of North America, with uniformly pale brown scales (generally the only variety recognized in North America).

Variety *pubescens* (Terry) Clute from Matane Co., Gaspé Peninsula in Quebec, with small hairs on the central leaf stalk (instead of normally hairless), is generally placed within var. *pensylvanica*.



In its native habitat Ostrich Fern grows in low open ground, alluvial thickets, and rich woodlands. Typically it occurs along floodplains and the margins of rivers and streams where rich alluvial soil is deposited. It characteristically occupies moist but well drained eutrophic soils with the water table within 1.5 m of the soil surface. In the Maritime Provinces, soil pH averages 5.8, although Fiddleheads have been observed on soils with a pH range of 4 to 7.5. A pH range of 5.1 to 5.4 gives best growth. Fiddleheads planted as ornamentals have proven to tolerate a variety of soil conditions, and thrive in moist soil. Although Ostrich Fern generally grows naturally in half or full shade of alder, ash, elm, and cedar, in field trials it has been successfully grown in full sunlight.

Overharvesting of Fiddleheads has resulted in their decline in some areas. Destruction of wetlands has also claimed traditionally harvested stands. Even in New Brunswick where the value of Fiddlehead is most appreciated, the construction of hydro dams has eliminated Fiddleheads along periodically flooded rivershores. Sometimes it is assumed that the fern grows everywhere in moist woods, but in New Brunswick where it is best known, the species is almost entirely confined to rich alluvial floodplains of major rivers, and thriving populations may be confined to as little as 1000 ha of the province.

Ostrich fern is gathered from wild stands for consumption, although some experimental cultivation of clones is discussed below. The edible plant part is the short (up to 15 cm), curled-up young leaf that emerges and uncurls in the spring (May and June). As with other ferns, these are called "crosiers" (for their similarity to a bishop's staff), or more familiarly "fiddleheads," and the latter name is generally used to refer to the crop. Mature fern leaves are usually called fronds. The Ostrich Fern produces horizontal underground rhizomes with new crowns developing along their length. Crowns of Fiddlehead, surrounded by papery scales, overwinter in a dormant state. This dormant crown may have as many as 40 leaves (i.e., fiddleheads) at different stages, from primordial to fully developed, ready to emerge the following spring. The root system is dense and fibrous, and occurs in the top 30 cm of soil. This elegant fern grows to a height of about a metre (occasionally 2 m), in vase-shaped clumps sometimes exceeding a metre in width. The leaves are dimorphic, with the larger and conspicuous sterile (non-spore-bearing) fronds (30-130 cm H 12-25 cm) produced early in the season. The blades are divided horizontally into a series of leaflets (pinnae), and each of these is more or less divided into smaller segments (pinnules). As with many ferns, the extent of dissection of the leaf is important for identification, and sterile leaves of Ostrich Fern are "pinnate-pinnatifid." Much smaller fertile fronds (25-65 cm H 2.5 - 6.5 cm) begin developing in July and persist through the winter, releasing spores in winter and early spring, when the large sterile leaves are not present to obstruct wind dispersal. Fertile fronds are not developed until the third year, and can produce a million spores. Plants with leaves intermediate between the sterile and fertile leaves are occasionally observed.



Native Americans were using the Ostrich Fern when European colonists arrived. American Indians often ate fiddleheads in the belief that, when hunting, this would mask their scent. The entire crown was dug up and roasted before eating. The Malecite Indians of the Saint John River valley in New Brunswick have traditionally harvested fiddleheads as a spring tonic and have sold them at local markets. In 1783 in New Brunswick, United Empire Loyalists were poorly prepared for their first winter and had to resort to eating Ostrich Fern. Fiddleheads were served at a feast hosted by the Indian Chief Chkondum, to honor Samuel de Champlain when he reached the mouth of the Saint John River. Not surprisingly, fiddleheads have symbolic importance in New Brunswick. The provincial Coat of Arms includes the Fiddlehead. The literary publication of the University of New Brunswick is called "The Fiddlehead." Malecite Indians once marked their belongings and property with a symbol in the shape of the fiddlehead, and each spring they stage a "Fiddlehead Festival" on the banks of the St. John River. Fiddleheads are also important in New England, and the fiddlehead is the state vegetable of Vermont.

Other ferns are currently eaten, but the Ostrich Fern is the most economically important edible fern in the world. Its major area of use is the Maritime Provinces of Canada and neighboring Maine. About 450 tonnes/year are harvested in New

Brunswick from wild areas totalling about 1200 ha, and some is also harvested from the Matapédia Valley in Gaspé Peninsula, Quebec. Fiddleheads are generally considered a gourmet item. They are a good source of vitamins A and C, niacin, and riboflavin, and are nutritionally comparable to asparagus and other common green vegetables. They are high in potassium and low in sodium, making them suitable for people on low-sodium diets. In Europe, Norwegians have used Ostrich Fern as fodder for goats and have made a fern beer. In Russia it has been served as a remedy for intestinal parasites.

Fiddleheads are harvested by hand by cutting or breaking the fronds before they are 15 cm tall. Repeated harvesting of all fiddleheads will kill the plants. It is advisable to remove only a few fiddleheads from a given plant, allowing some leaves on each crown to develop. One recent study indicated that removal of 4 croziers per crown has no negative effect on productivity, but removal of 12 resulted in 40% mortality.

Fiddleheads can be eaten raw but generally they are served cooked. The preferred method is to steam them until tender (about 10 minutes) and flavor them with seasonings and lemon or sour cream. Fiddleheads can be frozen after slight blanching. In commercial processing, the scales protecting the young fiddleheads are removed by a rotary washer, the fiddleheads are boiled for a few minutes, and then packaged. Processed fiddleheads are packed frozen in New Brunswick and in cans in Maine. Recently the proportion of the crop pickled has substantially increased.

Ostrich Fern is also used as an ornamental plant in gardens. It is particularly attractive at the back of flower beds and serves as a excellent foundation planting beside houses. Some Canadian garden catalogues sell Ostrich Fern as a dual purpose plant, not only for display but also for its edible young leaves. Note that Ostrich Fern spreads aggressively and may prove difficult to confine. It is one of the most easily cultivated ferns, provided moist soil is available.

Statements appearing in the press that Ostrich Fern is carcinogenic resulted from a confusion of Fiddleheads with croziers of Bracken Fern (*Pteridium aquilinum* (L.) Kuhn). Studies have shown that eastern Bracken, which has been widely consumed in Japan and elsewhere, is carcinogenic whereas Ostrich Fern is not. A number of other ferns are collected from the wild and eaten in Canada, despite the fact that some of these are also considered poisonous. Those who collect wild ferns for their fiddleheads need to be certain of the identity of the material collected before consuming it. Bracken and Ostrich Ferns are easily distinguished when mature, but croziers can be more challenging. Bracken Fern leaves arise individually from the rhizomes (i.e. the croziers are solitary), while Ostrich Fern produces a large crown with numerous croziers. Other ferns with clumped croziers could be confused with Ostrich Fern, but the very distinctive and persistent fertile fronds usually serve to identify Ostrich Fern, so that harvesters should be able to distinguish it. Occasionally, Bracken Fern croziers are sold in markets as "Fiddleheads." To distinguish these, unfurl the crozier. Ostrich Fern should show a club-like leaf outline and a gradient of smaller pinnules towards the base of the crozier, while Bracken Fern is deltoid in leaf outline and tri-pinnate (i.e. the leaf branches basally into three segments).

The Ostrich Fern has been considered to be nontoxic. However, in May 1994, a few cases of gastrointestinal illness were associated with eating raw or lightly cooked Fiddlehead



Poorly Known Economic Plants of Canada

Ferns in New York and western Canada. In the American outbreaks, the implicated ferns were eaten either raw or lightly cooked (sauteed, parboiled, or microwaved). In a similar outbreak in British Columbia in 1994, eating lightly cooked fiddleheads was also associated with gastrointestinal illness. Health Canada conducted studies and found no toxicity problems. Although a toxin has not been identified, because of concerns that the ferns might contain a heat-labile poison, Health Canada issued a warning advising that fiddleheads be boiled for 15 minutes or steamed for 10-12 minutes before eating. Generally, cookbooks recommend a shorter time in boiling water, often 5-7 minutes. The illnesses reported could have been due to harvesting from a polluted area or contamination during restaurant preparation.

Ostrich Fern is the only native Canadian plant that has reached some commercial success as a vegetable. Some experimental work has been done on Ostrich Fern to test it as a farm crop grown in fields. In New Brunswick, Fiddlehead plants, after 3 years of establishment and during the first year of crop production, yielded 310-927 kg/ha. During the second crop year, the yield doubled, and another study showed a yield of up to 2130 kg/ ha (by comparison, productive wild stands typically yield about 1300 kg/ha). Major limitations are the short season of availability, along with ineffective harvesting because the plants are inaccessible, and difficulty in attracting labor. Among the potential crop pests that have been reported is the larva of a gall-forming fly (*Chirosia betuleti*), which feeds on the leaves, and is sometimes found in harvested and marketed material. The fly is naturally controlled by a bracionid wasp and apparently does not do extensive damage to the plants under natural conditions. Various fungal diseases have also been reported on Ostrich Fern.

There is considerable opportunity for increasing quality and other desired characteristics, both by selection and development of management techniques. Cultivars are not yet available, and the commercial supply is obtained from the wild. Transplants from nature into a field setting have been very slow to establish, and of course seeds aren't available. (Indeed, is there any spore-bearing terrestrial plant that is currently grown as a field crop?) A necessary step toward improving the fiddlehead industry is the development of mass propagation, perhaps by tissue culture. Recent studies have demonstrated a rapid and efficient regeneration technique for Ostrich Fern using suspension culture, but plants established from *in vitro* cultures have remained small for a long period.

There is potential for increased use of fiddleheads as more consumers become familiar with the vegetable. Already demand exceeds supply of the frozen product, and the market has expanded beyond the Maritime Provinces in Canada.

Acknowledgments: W.J. Cody (review), A. Currey (information), B. Brookes (artwork).

Faculty Position

Department of Plant Sciences
University of Saskatchewan
Positions in Horticulture and Plant Ecology/Rangeland Management

The University of Saskatchewan is a publicly funded institution, established in 1907. It has over 17,000 degree students, 4,500 employees, an operating budget of approximately $175 million and receives research funds in excess of $60 million. It offers a full range of curricula, both academic and professional, in thirteen colleges, including the full range of health sciences. The city of Saskatoon, with a population of about 200,000, offers an abundance of parks, recreational and cultural facilities on the banks of the South Saskatchewan river and in close proximity to pristine lakes, forests and a national park.

The University of Saskatchewan is committed to Employment Equity. Members of designated groups (women, aboriginal people, people with disabilities and visible minorities) are encouraged to self-identify on their applications. These positions have been cleared for advertising at the two-tier level. Applications are invited from qualified individuals, regardless of their immigration status. Applications are invited for two tenure-track positions at the rank of Assistant Professor, effective July 1, 2000. The Department currently offers undergraduate programs in Agronomy, Crop Science, Horticulture, Plant Ecology and Rangeland Resources. It also has responsibility for courses in the Diploma program and also has a strong graduate program.

Position 1:

Horticulture. Teaching duties may include instruction in areas such as greenhouse management, ornamentals, turfgrass and landscaping and in other courses offered by the Department depending on the candidate's area of expertise.

Position 2:

Rangeland Resources/Plant Ecology. Teaching duties may include instruction in areas such as introductory plant ecology, plant physiology, community ecology, shrub lands/forests and in other courses offered by the Department depending on the candidate's area of expertise.

In addition to teaching, the successful applicants will be expected to initiate vigorous nationally funded research programs and perform extension duties as required. Preference will be given to applicants with expertise in a discipline that complements others in the Department. Applicants should have a Ph.D. in an appropriate discipline and demonstrated research ability. Relevant post-doctoral experience would be an asset. Potential applicants are invited to visit the Department's website
[http://www.usask.ca/agriculture/plantsci/index.html]

Send curriculum vitae, a statement of teaching and research interests, as well as the names, addresses and telephone/fax numbers and e-mail addresses of at least three referees by March 1, 2000 to: **Dr. Graham J. Scoles**, Head, Department of Plant Sciences, University of Saskatchewan, 51 Campus Drive, Saskatoon SK, Canada S7N 5A8.

Faculty Position / Poste de professeur

UNIVERSITÉ DU QUÉBEC À TROIS-RIVIÈRES
Département de Chimie-Biologie

Poste de professeur(e) en physiologie végétale

Le Département de chimie-biologie de l'Université du Québec à Trois-Rivières prévoit combler un poste de professeur(e) conduisant à la permanence dans le domaine de la physiologie végétale à compter du 1er août 2000. Les exigences et aptitudes liées au poste sont les suivantes:

Exigence: Doctorat (Ph.D. ou diplôme équivalent) en biologie ou dans une discipline connexe, avec spécialisation en physiologie végétale ou en écophysiologie végétale.

Expériences et aptitudes: Expérience postdoctorale dans le domaine de la physiologie végétale en lien avec l'écologie et les questions environnementales; expérience souhaitable en enseignement au premier cycle et aux cycles supérieurs; capacité d'encadrement des étudiants aux trois cycles; démontrer du leadership en recherche. La personne choisie devra développer un programme de recherche dans le domaine de la physiologie végétale ou de l'écophysiologie végétale et pourrait être appelée à collaborer avec les autres professeurs de la Section biologie/écologie.

Traitement: Selon la convention collective des professeurs et des professeures.

Présentation du dossier: Faire parvenir **deux** copies du dossier, comprenant: curriculum vitae, publications récentes, deux lettres de référence ainsi qu'un texte de deux pages décrivant le programme de recherche proposé dans le domaine de la physiologie végétale ou de l'écophysiologie végétale, qui pourrait faire l'objet des premières demandes de subvention, le tout adressé à:

M. Michel Jacob
Doyen de la gestion des ressources
Université du Québec à Trois-Rivières
C. P. 500, Trois-Rivières, Québec
Canada, G9A 5H7

SITE WEB: http://www.uqtr.uquebec.ca/DGR

La date de clôture du dépôt des candidatures est fixée au 17 mars 2000, avant 17 h.

Conformément aux exigences relatives à l'immigration au Canada, ce poste est offert aux citoyen(ne)s canadien(ne)s et aux résidant(e)s permanent(e)s.

UNIVERSITÉ DU QUÉBEC À TROIS-RIVIÈRES
Department of Chemistry-Biology

Tenure-track faculty position in plant physiology

The Department of Chemistry-Biology of the Université du Québec à Trois-Rivières invites applications for a tenure-track faculty position in plant physiology. The position is available August 1st, 2000. The qualifications and requirements for this position are as follows:

Qualifications: Ph.D. (or equivalent diploma) in biology or in a related field with specialization in plant physiology or in plant ecophysiology.

Experience and skills: Post-doctoral experience in plant physiology related to ecology or environmental questions; teaching experience at the undergraduate as well as graduate levels will be an asset. The candidate should also demonstrate skills to supervise students at the three levels of studies, together with a strong leadership in research. He/she will have to develop an independent research program and to collaborate with other faculty members of the biology/ecology Section.

For this position, a functional knowledge of French is mandatory.

Salary: According to the collective agreement.

Application: The candidates should send **two** copies of their application package, including a *curriculum vitae*, two letters of recommendation, recent publications in their field of experience, together with a text of about two pages describing the research proposal to:

M. Michel Jacob
Doyen de la gestion des ressources
Université du Québec à Trois-Rivières
C. P. 500 , Trois-Rivières (QC)
Canada, G9A 5h7

WEB SITE: http://www.uqtr.uquebec.ca/DGR

Closing date: before 5 PM, March 17, 2000.

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

In the next issue of the Bulletin

Full details of the 2000 CBA / CSPP Joint Meeting in London
CANQUA's W.A. Johnston Medal to Professor James C. Ritchie
Protecting the Belanger and Quarry Bay Alvars on Manitoulin Island

The following publications have not yet been spoken for. If you are willing to review one of these books please contact the editor at the address indicated at the beginning of the bulletin (page 34). On request, the book you wish to review will be sent to you.

Les publications suivantes n'ont pas encore été réclamées. Si vous voulez faire la critique d'un de ces ouvrages, veuillez contacter le rédacteur du bulletin à l'adresse indiquée à la page 34.

Symmetry in Plants
by R.V. Jean and D. Barabé (Editors)
World Scientific, 1998
(Series in Mathematical Biology and Medecine, Vol. 4)

Cultiver des plantes sauvages... sans leur nuire
par G. Lamoureux et P. Nantel
Fleurbec éditeur, 1999

Molecular Genetics of Plant Development
by S.H. Howell
Cambridge University Press, 1998

Canadian Medicinal Crops
by E. Small and P.M. Catling
NRC Reseach Press, 1999

Special Places
The Changing Ecosystems of the Toronto Region
Edited by B.I. Roots, D.A. Chant and C. Heidenreich
UBC Press, 1999

North American Boreal and Western Temperate Forest Vegetation
(Syntaxonomical synopsis of the potential natural plant communities of North America, II)
by S. Rivas-Martinez, D. Sanchez-Maia and M. Costa
Itinera Geobotanica 12 : 5-316, 1999

British Plant Communities,
Volume 1:**Woodlands and scrub**
[(US $ 160.00, US $54.95 (paperback)]
Volume 3:**Grasslands and montane communities**
[US $195.00, US $54.95 (paperback)]
by J.S.Rodwell (editor)
Cambridge University Press, New York, 1998

All five volumes of this major work on the British Plant Communities have now been published, consisting of woodlands and scrub; mires and heaths; grasslands and montane vegetation; aquatic communities, swamps and tall-herb fens; maritime and weed communities. Volumes 1 and 3 were published in paperback in 1998, and are reviewed briefly here. I reviewed the hardback edition of Volume 3 in the Bulletin (28,1, page 9) in 1995, so I give primary attention here to volume 1.

The five-volume compendium is the result of the British National Vegetation Classification project, begun in 1975 under the sponsorship of the Nature Conservancy , and carried out by an eight-person research team that also enlisted contributions and collaboration from a large number of plant ecologists with specialist knowledge of particular communities and regions. The outcome is a superb, detailed description with interpretive discussion of the whole range of terrestrial plant communities of Great Britain (excluding Northern Ireland), as well as freshwater, swamp and fen communities, and disturbed and weedy communities associated with intense cultural impact. Each volume stands on its own, including an introductory chapter that sets out the essentially pragmatic approach to vegetation classification and description, the scope and methods of data collection and analysis, and the style of presentation. The volumes have quickly secured an important place in the working libraries of British plant ecologists, conservationists, workers in landscape management, environmental impact assessment and related domains. They provide a workable classification system that enables the field worker to identify the communities of his immediate interest with a standard but functionally flexible set of categories, aided by practical and thoroughly tested keys.

Canadian botanists working in Canada will, of course, have marginal use for these books as tools for fieldwork, but they provide rich repositories of basic plant ecological information that will be of interest in general ways, particularly to those presenting university courses in ecology and conservation. Volume 1 provides a fascinating perspective on the woodlands and scrub communities in Britain, and readers conditioned by the scale and variety of North American woodlands will be surprised at the range of types and environmental conditions, particularly climate and soils, described here. The variation is also a function of the long history of cultural impact, and that influence is also accounted for in the classification and interpretation. After a balanced and detailed account of the range of woodland and scrub types and the range of associated climatic and edaphic conditions, each of the twenty five community types is described in detail, with supporting tabular summaries and references to literature. The index to species recorded is complete and is therefore an important tool when searching for the appropriate category with which to identify any community under study, and the volume concludes with a bibliography of all citations mentioned in the text.

The standard of presentation and style of the texts are of the highest quality. These volumes are fine examples of highly effective collaborative endeavour, at all stages from initial planning, fieldwork and data compilation, to final editorial input.

J.C.Ritchie, University of Toronto

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Future Annual Meetings / Prochains congrès annuels

2000
University of Western Ontario, London, ON, with CSPP, June 24-28
2001
Okanagan University College, Kelowna, BC
2002
Meeting with BSA