



# The Canadian Botanical Association Bulletin

## Bulletin de l'Association Botanique du Canada

Volume 56 Number 2 - September/septembre 2023

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### President's Message

Dear CBA Members,

First and foremost, I wanted to express my deepest gratitude to the Local Organizing Committee of the CBA-CSEE meeting in Winnipeg, and especially to our own John Markham and Bruce Ford who dedicated their time and efforts to make the Winnipeg conference a success. I must also acknowledge the contribution of student volunteers, Jacalyn Gray, Emily Klapprat, and Bronson Ramoutar. While we appreciate conferences for all the professional benefits and social interaction they provide us, we rarely accept the ordeal of organizing them, so a huge "thank you" to each one of you on behalf of the CBA.



To say that the Winnipeg conference was a great success would be an understatement. Meeting together with CSEE was one of those "why didn't we think about this before" ideas. For a few days, the boundaries between our organizations were blurred. Our participation increased the botanical content of the regular CSEE meetings, and their numerous workshops and symposia on methodology, as well as on a myriad of topics, enriched our CBA-only meetings. I had the opportunity to discuss with Jeannette Whitton, the President of the CSEE, the possibility of more regular meetings in the future, and I hope that we shall be able to hold similar "cross-pollination events" between our groups henceforth. As a member of the CBA, at this meeting I learned that we are privileged in many ways. Unlike CSEE, CBA sponsors symposia, and we boast a much larger number of awards aimed at all the educational and professional development stages, from students in grades 7-8 to accomplished botanists at the pinnacle of their careers (please refer to the Awards 2023 section in this *Bulletin*). Despite the unavoidable erosion of the financial support for the awards and symposia caused by inflation, we are fortunate

## **The Canadian Botanical Association Bulletin**

The CBA Bulletin is issued three times a year (March, September and December) and is freely available on the CBA website. Hardcopy subscriptions are available for a fee.

### **Information for Contributors**

All members are welcome to submit texts in the form of papers, reviews, comments, essays, requests, or anything related to botany or botanists. For detailed directives on text submission please contact the Editor (see below). For general information about the CBA, go to the website: [www.cba-abc.ca](http://www.cba-abc.ca)

### **Executive Editor**

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### **Next issue**

Texts for the next issue, 56(3), must be received by November 1, 2023

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## **Bulletin de l'Association Botanique du Canada**

Le Bulletin de l'ABC paraît trois fois par année, normalement en mars, septembre et décembre. Il est envoyé à tous les membres de l'ABC.

### **Soumission de textes**

Tous les membres de l'Association sont invités à envoyer des textes de toute nature concernant la botanique et les botanistes (articles, revues de publication, commentaires, requêtes, essais, etc.). Tous les supports de texte sont acceptés. Pour des renseignements détaillés sur la soumission de textes, veuillez consulter le rédacteur (voir ci-dessous). Infos générales sur l'ABC à l'url suivant: [www.cba-abc.ca](http://www.cba-abc.ca)

### **Rédactrice en chef**

Dr. Erin Zimmerman

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### **Prochain numéro**

La date de tombée des textes du prochain numéro, le no 56(3), est le 1 novembre 2023

to be part of a historical association that has managed to accumulate a reserve of funds on which we can rely when needed.

Speaking of Winnipeg, from discussions on the margins of the conference, I realized that many of you did not know, and perhaps still do not know, that our 2024 meeting will be... again in Winnipeg, this time with Plant Canada. This controversial situation was caused by a number of factors. Because of the pandemic, Plant Canada rescheduled its meeting from 2023 to 2024. The Canadian Phytopathological Society had accepted the role of organizer for Plant Canada, and their Local Organizing Committee, based in Winnipeg, had already explored options for venues in early 2022. Consequently, in April 2022, regardless of the CBA's plans, Plant Canada made the decision to proceed with a conference in Winnipeg. At that time, CBA had the option to accept or decline participating. The Board of Directors voted via email, and the vote was in favor of the participation. During the Annual General Meeting (AGM) held in Rouyn-Noranda in 2022, the notion of a second meeting in Winnipeg in 2024 was received as a "fait accompli," and discussions were minimal. In contrast, this year's AGM witnessed much livelier and conflicting conversations. Some even advocated for a simple, virtual AGM, and completely bypass Plant Canada 2024; others proposed organizing a virtual conference akin to CBA 2020. Finally, other members firmly supported an in-person meeting in Winnipeg in 2024. These diverging points of view cannot be reconciled, as no middle ground can be found between them. In view of the fact that in 2022 CBA had agreed to participate to Plant Canada 2024, and that at least a part of the membership is interested in being involved with the conference, it is now too late to change or develop alternative plans. Moreover, considering that next year marks the CBA's 60th anniversary, it is important that we commemorate this milestone with more than just a virtual AGM. Ultimately, the location of these meetings does not matter as they take place in an abstract, intellectual space, and besides, Winnipeg has a lot to offer as a city. However, there is one last aspect that I wanted to mention: the burden of responsibility will once again fall upon the same person as this year, John Markham. Although Sylvie Renault has also kindly offered to assist as part of the LOC, John's selfless consent to serve again in this role is incredibly generous and noble. To conclude this somewhat contentious topic on a slightly positive note, **the dates for the Plant Canada meeting are July 6-10**, thus before the general part of the [International Congress](#)

[of Botany](#), which **will be held in Madrid July, 21-27**. I hope that many of you will still be willing and able to participate in the Plant Canada conference next year.

I wish a gentle fall semester for those of you teaching or taking classes, and a most productive and brilliant autumn to all of you!

Sincerely,

Mihai

Chers membres de l'ABC,

D'abord et avant tout, je tiens à exprimer ma profonde gratitude au Comité Organisateur Local (COL) de la réunion de l'ABC-CSEE à Winnipeg, et en particulier à John Markham et Bruce Ford, des membres de l'ABC qui ont consacré leur temps et efforts pour faire de la conférence de Winnipeg un succès. Je dois également souligner la contribution des étudiants bénévoles, Jacalyn Gray, Emily Klapprat et Bronson Ramoutar. Bien que nous apprécions les conférences pour tous les avantages professionnels et les interactions sociales qu'elles nous procurent, nous acceptons rarement l'épreuve que représente leur organisation, alors un grand merci à chacun d'entre eux au nom de l'ABC.

Dire que la conférence de Winnipeg a été un grand succès serait un euphémisme. La rencontre avec la SCEE a été l'une de ces idées pour lesquelles on se demande pourquoi on n'y avait pas pensé plus tôt. Pendant quelques jours, les frontières entre nos organisations se sont estompées. Notre participation a augmenté le contenu botanique des sessions régulières de la SCEE, et leurs nombreux ateliers et symposiums, notamment sur la méthodologie ainsi que sur une myriade de sujets, ont enrichi les sessions réservées à l'ABC. J'ai eu l'occasion de discuter avec Jeannette Whitton, la présidente de la SCEE, de la possibilité d'organiser des réunions plus régulières à l'avenir, et j'espère que nous pourrions désormais organiser entre nos groupes des "événements de pollinisation croisée" similaires. En tant que membre de l'ABC, j'ai appris lors de cette réunion que nous sommes privilégiés à bien des égards. Contrairement à la SCEE, l'ABC parraine des symposiums; de plus, nous sommes fiers d'avoir un nombre beaucoup plus important de prix destinés à toutes les étapes de l'éducation et du développement professionnel, depuis les élèves de la 7<sup>e</sup> et 8<sup>e</sup> années

aux botanistes accomplis au sommet de leur carrière (veuillez vous référer à la section Prix 2023 dans ce *Bulletin*). Malgré l'érosion inévitable due à l'inflation du soutien financier pour les prix et les symposiums, nous avons la chance de faire partie d'une association historique qui a réussi à accumuler une réserve de fonds sur laquelle nous pouvons compter en cas de besoin.

En parlant de Winnipeg, j'ai réalisé, lors de discussions en marge de la conférence, que beaucoup d'entre vous ne savaient pas, et peut-être ne savent toujours pas, que notre réunion de 2024 se tiendra... de nouveau à Winnipeg, cette fois-ci avec Plant Canada. Cette situation controversée est due à un certain nombre de facteurs. En raison de la pandémie, Plant Canada a reporté sa réunion de 2023 à 2024. La Société canadienne de phytopathologie avait accepté le rôle d'organisateur de Plant Canada, et son comité organisateur local, basé à Winnipeg, avait déjà exploré des options de lieux au début de 2022. Par conséquent, en avril 2022, indépendamment des plans de l'ABC, Plant Canada a pris la décision d'organiser sa conférence à Winnipeg. À ce moment-là, l'ABC avait la possibilité d'accepter ou de refuser de participer, et après un vote par courriel le conseil d'administration s'était prononcé en faveur de la participation. Lors de l'assemblée générale annuelle (AGA) qui s'est tenue à Rouyn-Noranda en 2022, l'idée d'une deuxième réunion à Winnipeg en 2024 a été accueillie comme un "fait accompli" et les discussions ont été minimales. En revanche, l'AGA de cette année a donné lieu à des conversations beaucoup plus animées et conflictuelles. Certains ont même plaidé en faveur d'une AGA simple et virtuelle, et ont proposé d'ignorer complètement Plant Canada 2024 ; d'autres ont proposé d'organiser une conférence virtuelle semblable à CBA 2020. Enfin, d'autres membres ont fermement soutenu la tenue d'une réunion en personne à Winnipeg en 2024. Ces points de vue divergents ne sont pas conciliables, car aucun terrain d'entente ne peut être trouvé entre eux. Compte tenu du fait qu'en 2022, l'ABC a accepté de participer à Plant Canada 2024 et qu'au moins une partie des membres est intéressée par la conférence, il est maintenant trop tard pour changer ou développer d'autres plans. De plus, étant donné que l'année prochaine marquera le 60<sup>e</sup> anniversaire de l'ABC, il est important que nous commémorions cette étape importante avec plus qu'une simple AGA virtuelle. En fin de compte, le lieu de ces réunions n'a pas d'importance puisqu'elles se déroulent dans un espace abstrait et intellectuel; de plus, Winnipeg a

beaucoup à offrir aux visiteurs. Cependant, il y a un dernier aspect que je voulais mentionner : le fardeau de la responsabilité incombera une fois de plus à John Markham. Bien que Sylvie Renault ait gracieusement proposé d'apporter son aide au COL, le consentement désintéressé de John à remplir à nouveau ce rôle est incroyablement généreux et désintéressé. Pour conclure ce sujet quelque peu litigieux sur une note positive, **les dates de la réunion de Plant Canada sont du 6 au 10 juillet**, donc avant la partie générale du [Congrès International de Botanique](#), qui se tiendra à Madrid du 21 au 27 juillet. J'espère que vous serez nombreux à vouloir et à pouvoir participer à la conférence de Plant Canada l'année prochaine.

Je souhaite un doux semestre d'automne à ceux d'entre vous qui enseignent ou suivent des cours, et un automne des plus productifs et des plus brillants à tous !

Je vous prie de recevoir l'expression de mes salutations distinguées,

Mihai

[Translated in French by Frédérique Guinel]

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## CBA-ABC Special Project Fund 2023

The Special Project Fund was created in 2016 to support botanists, promote botanical research and education, and to raise the profile of the CBA/ABC. The recipient of the award in 2023 is **Dr. Diana Bizecki Robson**.

Dr. Bizecki Robson is [Curator of Botany at the Manitoba Museum](#) and a recipient of the Alliance of Natural History Museum's (ANHMC) [Bruce Naylor Award in 2018](#). The Special Project application requested funds for the publication of a new **Manitoba Flora**, which is intended to update and replace Scoggan's 1957 *Flora of Manitoba*. Considering the magnitude and laboriousness of the overall project, as well as the long road that still remains to publication, the adjudication committee decided to approve the award of \$1,500 conditional upon the acceptance of the complete first volume manuscript by a publisher. If the publication process will be delayed by more than two years, the award will also be conditional on the availability of CBA/ABC funds during that particular year. However, CBA/ABC is pleased to endorse Dr. Bizecki Robson's *Flora of Manitoba* project, and this conditional award can also be used to secure additional financial support from other sources.



The Special Project Fund Award is contingent upon the availability of funds in any given year. The funding level for the award will normally be recommended at the Incoming Board meeting, but ideally it will be a minimum of \$1,000 per year and ultimately decided by the CBA-ABC Board of Directors. Applicants must be CBA-ABC members in good standing.

# Message from the future: Your work and documents REALLY matter!

Frédérique Guinel<sup>1</sup>, CBA Archivist, and Jennifer Doubt<sup>2</sup>, CBA Board Archives Liaison

1. Professor Emerita, Biology Department, Wilfrid Laurier University

2. Curator, Botany, Canadian Museum of Nature

The CBA archives are rich. We are lucky that past conscientious archivists collected documents highlighting the impacts of the Association on the Canadian botanical scene. In the fonds located at Library and Archives Canada, there are many letters written by Presidents, Treasurers, *Bulletin* Editors, and others, recounting the joys and sorrows of life on the Executive of the CBA. These letters help us see the behind-the-scenes effort, energy, and sometimes frustration that make the CBA what it is today. The care and friendship expressed by these letter-writers also remind us of their humanity.

The time of hand-written letters, carbon and Xerox copies, telegrams and Fax is gone. Welcome to the paperless digital world! And BEWARE: this change can easily lead to an unintended paucity of archival fonds. We must continue to deposit documents even if these are in a digital form. For botanists and historians to benefit as we have, we must be diligent in keeping these records and this despite our busy schedules. This is a plea from your archivist who, to her disappointment and dismay, has not received much from you, the membership, since she took up the task in 2016. We will all be affected by this colossal potential loss of information.

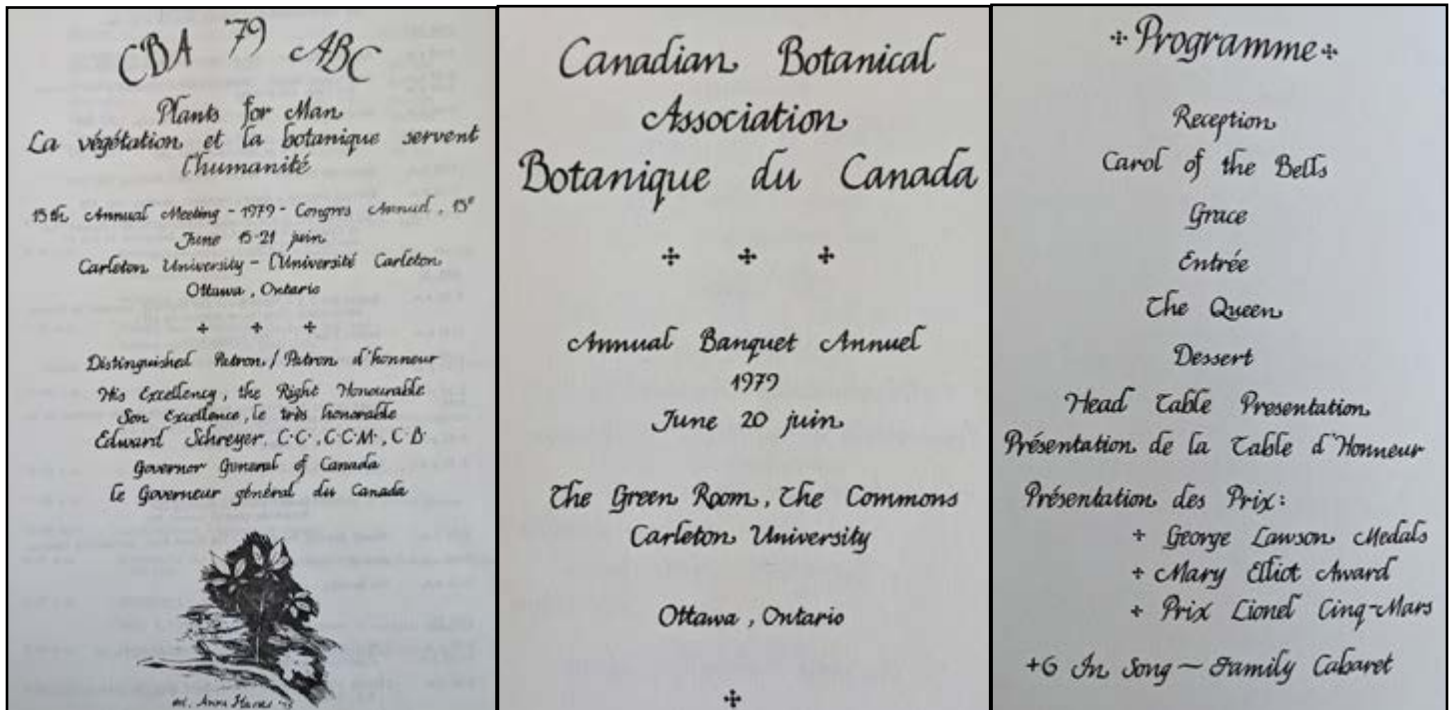
True, the *Bulletin* has been a reliable source for information on important events within the Association, for the Section news, for details about annual conferences, etc ... but it is not sufficient if we want to understand the past and plan the future. Without archives, we would not have been able to piece together the story of the Lawson Medal in this issue of the *Bulletin*, for example – invaluable information for those who will manage CBA awards in the future. Without archives, we cannot move confidently forward and learn from our mistakes so that they are not repeated *ad vitam eternam*...

## **Wondering if your document belongs in the archive? Consider these questions:**

- Does it describe the content or organization of an association meeting, field trip, or other such activity? Event posters, programs, participant information packs, speaker invitations...all are pure gold!
- Does it relate to a decision or logistics connected to a CBA award? The association logo?
- Does it capture legalities governing the CBA, or relate CBA responses to them?
- Does it document an aspect of the development of CBA bylaws, purpose, vision, mission, or other guiding resources?
- Does it express support or concern on behalf of the organization, or relate to the development of such a document? Was it received from an organization expressing concern to the CBA?
- Does it record Executive, special committee (e.g., local organizing committees, IDEA) or Section meeting notes?
- Does it capture consequential conversation among Executive members between meetings?
- Does it provide a snapshot of membership, or the demographics thereof?
- Does it document a first, final, or exceptional instance of *anything* within the CBA?

If in doubt, do not hesitate to contact the Archivist at [fguinel@wlu.ca](mailto:fguinel@wlu.ca)

## A bit of history ....



For the 15<sup>th</sup> anniversary of the Association, members met at Carleton University. The meeting was as success as can be read in *Bulletin* 12(4). As for the banquet, there was a 3-page programme for it, as seen above (LAC CBA Archival fonds, R14600 – Vol 10 – File 1).

As described by Luc Brouillet, “*Le banquet annuel couronna cette journée bien remplie. Comme apéritif? Un pétillant concert de cloches interprété par le “Adult Hand-Bell Choir of Rideau Park United Church”, dont fait d’ailleurs partie notre hôte du congrès, le Dr. W. Illman. Celui-ci mérite d’ailleurs d’être remercié pour tout le travail qu’il y a fait. Au cours du banquet, on présenta deux médailles Lawson, et les prix Mary Elliott et Lionel Cinq-Mars. Un groupe de professionnels du spectacle, dont le style rappelait les années d’avant la guerre et qui en rendit plusieurs nostalgiques, nous servit enfin de digestif.*”

## Paul Brethen Cavers

January 18, 1938 – April 18, 2023

Paul Brethen Cavers, Professor Emeritus, Western University Department of Biology, died peacefully on April 18, 2023 at Manor Village in London, Ontario at the age of 85. He is survived by his loving wife of almost 62 years, Joan. He will be forever loved by his daughters Glenys, Brenda (Richard Campbell), Alison (Pierre Morin) and son Bruce (Nadira) and nine grandchildren, Matthew, Rachel, Aaron, Thomas, Sarah, Emilie, Benoit, Alina and Nora. Paul will be missed by his brother Pete and wife Cindy and sister-in-law Enid and husband Maurice Corbett as well as several nieces, nephews and their children.

[From the [announcement](#) in the *London Free Press*. An obituary will follow in an upcoming issue of the *Bulletin*.]

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### A Message from the IDEA Committee

How well is the CBA fostering and upholding an environment of Inclusion, Diversity, Equity and Accessibility (IDEA), in line with the commitments we made when the [IDEA committee was set up in 2021](#)?

We need your help to find out! In autumn 2023, the IDEA committee will run a member survey. Designed to fulfill our mandate to complete a quantitative and qualitative IDEA portrait of the CBA, your responses will help to characterize the present demographics of our organization, and the experiences and priorities of our present members. Participation is crucial, and your time is much appreciated.

The information you contribute will enable the CBA to more confidently target IDEA goals, to focus resources on activities that support those objectives, and to monitor progress. The snapshot you help to capture in 2023 can be compared with the results of future surveys, monitor our actions as we work through time to support a diverse, engaged, and strong CBA.

We are still working on the survey content, but we plan to address representation in CBA with respect to career stage and roles in the botanical community, ethnicity, gender, sexual identity, ability, family, and religion. Respondents will be invited to share their experiences, concerns, and suggestions for IDEA within the CBA, based on their interaction with CBA events, resources and members. Despite this list we will keep the survey short to not take up too much of your time!

If you have any questions, concerns, or ideas about the upcoming survey – or about anything related to IDEA - please contact any member of the IDEA committee. We are:

Student members: Samuel Livingston, Colin Bonner, Laura Super, Nina Obiar

Faculty/professional members: Liette Vasseur, Santokh Singh, Jennifer Doubt, Jana Vamosi, Nicole Fenton

We look forward to speaking with you any time, and to sharing the survey results with CBA members next year. THANK YOU!

## **NEW INITIATIVE: CBA Student Council**

Students represent ca. 30% of the CBA/ABC membership and we thought to give them a stronger voice and broader participation in the life of the Association. The Council will function within the framework of the Bylaw as any other Association Committee and it will consist of a number of volunteers represented on the Board by the two Student/Postdoc Directors. The main objective of the Council is to advocate on behalf of the students, and to increase their engagement and leadership in all the activities of CBA/ABC. The current members are:

- Cassandra Bradshaw, Student Director East, University of Ottawa; email: cbrad084@uottawa.ca
- Jaxon Reiter, Student Director West, University of Lethbridge; email: jaxon.reiter@uleth.ca
- Colin Bonner, University of Guelph
- Mia Courville-Todorov, Université de Moncton
- Maria Jose Gomez Quijano, Queen's University
- Shelby Gibson, York University
- Nina Obiar, McGill University
- Claire O'Brien, Wilfrid Laurier University
- Claire Schon, University of Waterloo
- Liam Baron-Preston, University of Manitoba

Please contact the Student Directors if you have recommendations for the Council. More to follow in the next *Bulletin* issues.

## **NOUVELLE INITIATIVE : Conseil des étudiants de l'ABC**

Les étudiants représentent environ 30 % des membres de l'ABC/ABC, et nous avons pensé leur donner une voix plus forte et une participation plus large dans la vie de l'Association. Le Conseil fonctionnera dans le cadre du Règlement comme n'importe quel autre comité de l'Association ; il sera composé d'un certain nombre de bénévoles représentés au Conseil d'administration par les deux directeurs étudiants/postdocs. L'objectif principal du Conseil est de défendre les intérêts des étudiants et d'accroître leur engagement et leur leadership dans toutes les activités de l'ACB/ABC. Les membres actuels sont

- Cassandra Bradshaw, Directeur étudiant East Université d'Ottawa ; courriel : cbrad084@uottawa.ca
- Jaxon Reiter, Directeur étudiant Ouest, Université de Lethbridge ; courriel : jaxon.reiter@uleth.ca
- Colin Bonner, University of Guelph
- Mia Courville-Todorov, Université de Moncton
- Maria Jose Gomez Quijano, Queen's University
- Shelby Gibson, York University
- Nina Obiar, McGill University
- Claire O'Brien, Wilfrid Laurier University
- Claire Schon, University of Waterloo
- Liam Baron-Preston, University of Manitoba

Veuillez contacter les directeurs représentant les étudiants si vous avez des recommandations à faire au Conseil. De plus amples informations suivront dans les prochains numéros du *Bulletin*.

## Postdoctoral Fellowship Available

- Brock University
- 35 h/week, one year contract (renewal possible depending on funding)

The UNESCO Chair and its Ecology lab invites applications for a postdoctoral fellow position. The successful candidate will work on two interdisciplinary research projects. The first one aims to examine the responses of vineyard ecosystem to cover crops and changes in vegetation and management practices. The project involves surveying and studying the ecosystem including vegetation within and in the perimeter of the vineyards, soil impacts, and invertebrate communities that are associated with these different components. The second project is looking further at sustainability and system thinking for transformation. In the next year, the project will focus on theoretical and practical development of solutions through the publication of peer review and public articles. The candidate will also help organize a think tank meeting to develop a manifesto on the topic. The UNESCO Chair and the Ecology lab houses space and field equipment as well as computer facility for the research.

More information about these projects and other research interests can be found here: [www.brocku.ca/unesco-chair/](http://www.brocku.ca/unesco-chair/).

### Position Requirements

Candidates with a Ph.D. in environmental sciences, ecology or related areas who have demonstrated academic achievement and research skills in their area of specialization, while capable of undertaking interdisciplinary research, including peer-reviewed publications, are encouraged to apply.

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. Brock University is actively committed to diversity and the principles of Employment Equity and invites applications from all qualified candidates. Women, Aboriginal peoples, members of visible minorities, and people with disabilities are especially encouraged to apply and to voluntarily self-identify as a member of a designated group as part of their application.

Please submit a letter of application with a summary of research accomplishments, a CV, reprints of 2-3 recent publications, and contact information for three academic references to: Liette Vasseur, UNESCO Chair on Community Sustainability, email: [lvasseur@brocku.ca](mailto:lvasseur@brocku.ca).

## Development Section Update

The Development Section organized a successful symposium on Plant Development and Environmental Interactions as part of the annual meeting in Winnipeg (June 11 to 14, 2023). The symposium brought together three different perspectives on the topic. Linda Gorim talked about incorporating the response of root systems into crop selection programs aimed at improving abiotic stress resilience; Jocelyn Hall discussed the evolution of nectary development and how it affects pollination success; and Marco Todesco presented on genetic mechanisms underlying adaptive diversity of flower and seed colour in sunflower and their significance to phenotypic distribution and success.

A section meeting was held on Monday June 12th. The meeting was chaired by Elizabeth Schultz and attended by students and faculty from across Canada. Thank you to everyone who attended. Highlights are as follows:

The co-chairs completed the expansion of a nation-wide database of plant developmental biologists initiated by Frédérique Guinel in 2021. Our regional directors will be utilized to help to keep track of new hires working in the area to keep the database current. We envision a yearly mailing to non-members to invite them join the CBA-ABC and to raise awareness about our society activities and opportunities for students. Our first mailing was March 2023.

Four strong submissions were received for the Taylor A. Steeves Award for best student paper in plant development, structure, or morphology. This year's winner was Liyong Zhang from the University of Saskatchewan. [Here is a link](#) to the winning paper. While all four submissions were excellent, the judges were especially impressed with Zhang's paper on the role of CLASP1 in controlling cell division planes and intracellular space formation during *Arabidopsis* leaf development. The story was chosen as the cover image for Nature Plants. Thank you to Christian Lacroix and Carol Wenzel for evaluating the awards and selecting the winner.

A poll, circulated in spring 2022, indicated strong support for updating the name of our section to reflect the broad nature of the research expertise we represent. Based on this survey and discussion from last year's section meeting, a motion to change our section name to "Plant Development: Molecules, Cells, and Systems" was carried.

The co-chairs plan to update the website. In particular, we will remove date specific information and add a profile of the Taylor Steeves winner. A longer-term goal is to create an archive of past Taylor Steeves winners. Further suggestions are welcome, please get in touch with your ideas.

In 2024, the CBA-ABC will meet in Winnipeg as part of Plant Canada. It was proposed to collaborate with the Canadian Society of Plant Biologists in putting together a joint symposium that would be attended by members of both societies. The section will discuss the symposium further in early October.

# News from the Ecology & Conservation Section

By Jenny McCune

(1) We enjoyed a fascinating full-day Symposium on “**The State of Plant Conservation in Canada**” during the **CSEE/CBA joint meeting in Winnipeg** this June. We heard about a wide-range of research, programs, and issues related to plant conservation, including:

- **The impact of taxonomic uncertainty on plant conservation in Canada**, by Jeannette Whitton
- **Plant conservation initiatives in Saskatchewan**, by Sarah Vinge-Mazer
- **Ontario bryophyte diversity and abundance**, by Jennifer Doubt
- **Recovery progress for SARA-listed plants of Garry oak ecosystems**, by James Miskelly
- **The role of *in vitro* technology in plant conservation**, by Mukund Shukla
- **The role of botanical gardens in plant conservation**, by David Galbraith
- **The impacts of climate change on rare plants in Nova Scotia**, by Nick Hill
- **Are range edge plant populations important?**, by Chris Eckert
- **Traditional ecological knowledge systems and plant conservation**, by Nancy Turner

Thanks to all of our speakers and attendees!

(2) During the symposium it became clear that translocation as a potential recovery tool for plant species at risk has been under-used/studied in Canada, and holds potential for true recovery of some species. In this sense I am talking about translocation as a means to INCREASE the total number of populations (NOT as mitigation to allow destruction of existing populations). Some have asked the CBA’s position on this. There is a position paper from 2014 here: <https://www.cba-abc.ca/resources/position-papers/>. I am interested in members’ opinions on this, whether it should be updated, and if so, HOW it should be updated. Please send me your comments and suggestions at [jl.mccune@uleth.ca](mailto:jl.mccune@uleth.ca)

(3) Congratulations to Dr. Allison Dennert, winner of this year’s J. Stan Rowe award for the best student paper in plant ecology. Dr. Dennert’s paper is:

Dennert, A. M., Elle, E., & Reynolds, J. D. (2023). Experimental addition of marine-derived nutrients affects wildflower traits in a coastal meta-ecosystem. *Royal Society Open Science* 10(1): 221008.

You can read it online here: <https://royalsocietypublishing.org/doi/full/10.1098/rsos.221008>

(4) If you are a University research lab, non-governmental organization, consulting firm or other organization that **does plant ecology in Canada**, please contact me ([jl.mccune@uleth.ca](mailto:jl.mccune@uleth.ca)) with a brief description of your plant ecology or conservation-related work, and the link to your webpage so I can include it in the Ecology and Conservation Section CBA webpage.

(5) Our members are out all over the country this summer collecting data to learn more about Canada’s plants and their ecosystems. Here are a few great photos...



Field work on the threatened Haller's Apple Moss (*Bartramia halleriana*) in early June 2023. The species is restricted in Canada to the Rocky Mountains of Alberta (Jasper National Park) and adjacent British Columbia, where it grows in humid microsites on non-calcareous rock outcrops. Richard Caners (Royal Alberta Museum / University of Alberta) and René Belland (University of Alberta) are preparing an updated status report on the species for COSEWIC (Committee on the Status of Endangered Wildlife in Canada) and were joined in the field by University of Alberta students Brooklyn Bolstad, Celina Waldron, and Ash Davidson, who helped to gather population data.

From left to right: René Belland, Ash Davidson, Celina Waldron (furthest back), Brooklyn Bolstad, Haller's Apple Moss, Richard Caners. Photos by Richard Caners.



Members of the McCune lab are out in the jungles of southern Ontario for another field season. Emma Neigel (left) is assessing survival of wood-poppy plants translocated last summer. Amy Wiedenfeld (right) is conducting detailed censuses of populations of spotted wintergreen, green dragon, wood-poppy, and goldenseal. You never know what you'll find in the forest!

Photos by Rowan Fehr and Jessenia Buzunis-Delagneau.



*Teloschistes chrysophthalmus* (L.) Th. Fr grows in the sand dunes in Spruce Woods provincial Park in Manitoba. This lichen reaches its northern distribution in Manitoba and has an interesting habitat duality – open woody habitat in southwestern Manitoba and along lakes and rivers to the north and east of Manitoba and northwestern Ontario. This species is listed as “special concern” by COSEWIC. Dr. Nicole Fenton took advantage of her trip to Manitoba to check on the population.

Photos by Pierre Cartier.

## Canada-Wide Science Fair, Edmonton 2023

Canada-Wide Science Fair (CWSF) is largest national annual youth science, technology, engineering, and mathematics (STEM) event, bringing together the students selected by a national network of over [100 regional STEM fairs in every province and territory](#). This year, over 800 finalists gathered in [Edmonton](#) to celebrate the creativity and ingenuity of the youngest Canadian scientists. Next year, CWSF will take place in Ottawa.

CBA/ABC sponsored a **Special Junior Award in Botany** (grades 7 and 8) valued at \$500 together with a contribution of another \$500 to the organization of the meeting in Edmonton. Judging took place in two stages. A panel of judges consisting of Ellen MacDonald, Uwe Hacke, Santokh Singh and Mihai Costea determined which of the nominated projects met the award's criteria, and then 18 finalists presented their research in Edmonton, where Ellen MacDonald and Uwe Hacke from University of Alberta selected the winner. The recipient of the award was **Sebastian Audet** with a project about invasive plants in British Columbia.



The slide features a purple header with the CWSF and ESPC logos. The main content area is white with a blue border. On the left, it lists the award name in English and French, followed by a red maple leaf logo. The winner's name, 'Sebastian Audet', is in large blue text. Below it, the project title 'Seymour Lake is having a Floating Heart attack (*Nymphoides peltata*)' and location 'Pacific Northwest – British Columbia' are listed. A small photo shows a hand holding a yellow flower. On the right, a larger photo shows Sebastian Audet, a young boy in a white shirt and blue tie, smiling. The bottom right corner has the Youth Science Canada logo.

**CWSF**  **ESPC**  
Canada Wide Science Fair Experiences personnalisées

Canadian Botanical Association Award  
Prix de l'Association Botanique du Canada



**Sebastian Audet**

Seymour Lake is having a Floating Heart attack (*Nymphoides peltata*)  
Pacific Northwest – British Columbia



 Youth Science Canada  
Sciences jeunesse Canada

# Undergraduate Botany Awards 2023

*Organized and prepared by Mihai Costea*

CBA/ABC also supports and promotes botany at an undergraduate level. Each year prizes are awarded to the best poster and best talk at undergraduate science events held in different regions of Canada. Each award is worth \$100, and two awards are available for each of the following regions:

- Atlantic Canada (Newfoundland and Labrador, Nova Scotia, Prince Edward Island, New Brunswick)
- Québec
- Ontario
- Prairies (Manitoba, Saskatchewan and Alberta)
- British Columbia

Regional undergraduate events in 2023 took place in the Maritimes and in Ontario. [Science Atlantic](#) has managed to maintain an uninterrupted tradition of its high-quality conference for students even during the pandemic. It is organized as a charitable organization devoted to encouraging and helping undergraduate students to pursue science in ten disciplines: Aquaculture & Fisheries, Biology, Chemistry, Computer Science, Earth Science, Environment, Mathematics & Statistics, Nutrition & Foods, Physics & Astronomy, and Psychology. Their organization model and efforts are commendable and would be worthwhile to emulate in other regions of Canada as well.

Ontario Biology Day has been “resurrected” in 2023 by Brock University after last year’s interruption. Liette Vasseur kindly presented the awards on behalf of CBA.

At the university level, this year we selected the University of British Columbia to represent western Canada, and Santokh Singh was the local CBA/ABC ambassador. Their MURC (Multidisciplinary Undergraduate Research Conference) event reunited several dozen undergraduate students who competed for the botany two awards.

We could not find a similar undergraduate event in the Prairies or Quebec. If your university organizes a Science/Biology undergraduate conference, please consider the CBA/ABC awards and contact us. They are an excellent means of encouragement for the students who want to pursue botany-related graduate studies. Students or their supervisors do not need to be members of CBA/ABC.

Here are the winners for 2023, each with a short self-written note.

## **Science Atlantic Conference (March 12, 2023)**

Best talk: Benjamin Caron

University: University of Prince Edward Island

Title: The temporal and physiological dynamics of the heterophyllous transition in *Myriophyllum aquaticum*

Supervisor: Dr. Christian Lacroix

Ben’s words: “Hi CBA/ABC *Bulletin* readers, I’m a fifth-year undergraduate Honours student from the Lacroix lab at the University of Prince Edward Island. I’ve been fortunate to have the opportunity to explore my interest in botany by completing multiple research projects over the last three years with funding from NSERC

Undergraduate Research Awards. This has led me to my Honours thesis, which investigates Water Milfoil (*Myriophyllum aquaticum*) and its heterophylly, a trait that is characterized by the presence of differing leaf forms depending on whether the plant's leaves are submerged in water or not. My project has focused on understanding the developmental timing and the physiological mechanisms of the transition between the aquatic and aerial leaf forms. This research experience has reinforced my passion for botany and I intend to pursue graduate studies after working toward publishing my data from my Honours thesis. Thank you to everyone who has supported me during my research, to Science Atlantic for providing the opportunity to present my findings to my peers, and to the Canadian Botanical Association for supporting undergraduate botanical research at the conference.”



Best poster: Courtney Strugnell

University: Mount Saint Vincent University

Title: Does methane regulate growth and physiological processes of heat-stressed canola plants?

Supervisor: Dr. Mirwais Qaderi

Courtney's words: “I am a fourth-year Biology honours student under the supervision of Dr. Mirwais Qaderi at Mount Saint Vincent University. For my honours thesis, I am investigating methane as a regulator of heat stress in canola (*Brassica napus* L.). In the past twenty years, it has been discovered that methane is emitted by plants under aerobic conditions. The environmental conditions under which methane is produced have been the subject of extensive study, but the role of methane in plants remains poorly understood. As methane has recently been shown to have a role in the mitigation of certain abiotic stresses, we wanted to examine its potential role in the mitigation of heat stress. We hope that our research will better illustrate the regulatory role of methane in the crop plant canola. My research experience has defined much of my undergraduate experience, and has helped me grow both on an academic and personal level. I look forward to continuing on in research as I pursue graduate studies following my undergraduate graduation this spring.”



**Ontario Biology Day** (March 25-26, Brock University)

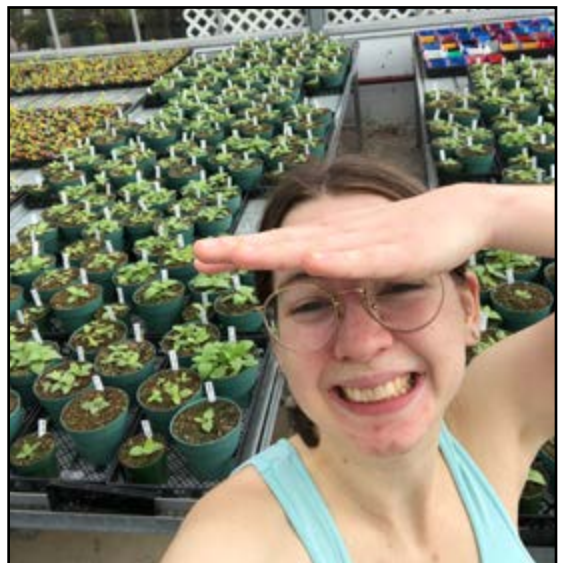
Best Talk: Isabeau Lewis

Title: Sex phase, flower colour, and pollination in the invasive weed *Saponaria officinalis*

University: Queen's University

Supervisor: Dr. Jannice Friedman

Isabeau's words: “I am a fourth-year Biology student at Queen's University. Currently, I'm completing my honours thesis with Dr. Jannice Friedman studying how sex phase and flower colour change in the invasive weed *Saponaria officinalis* respond to variable



pollination. Flowers vary extensively in morphological and sexual traits, reflecting the diverse strategies resulting from selection to increase reproductive success. For hermaphroditic, animal-pollinated species, flowers have to mediate investment in male fitness, female fitness, and pollinator attraction. My project looks at how investment in each of these functions changes with pollination to inform how species respond to shifting pollinator abundance across their distribution. My next steps are a follow-up project on my honour's thesis work this summer and a master's degree in plant evolutionary ecology. Outside of my work, I love to run, bike, and listen to records."

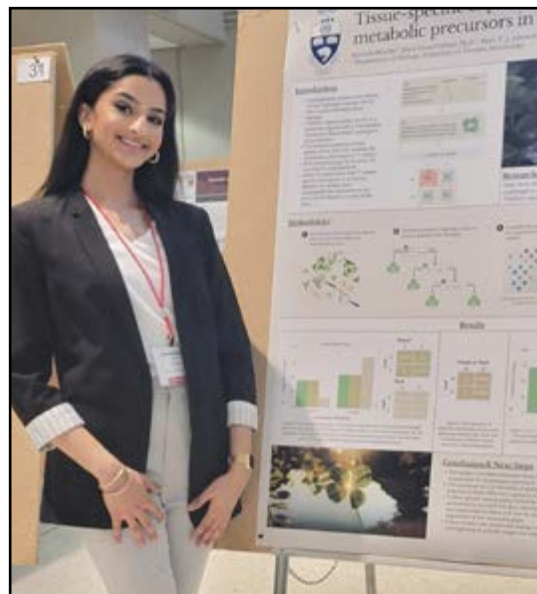
**Best poster:** Keerath Bhachu

**Title:** Tissue-specific expression of HCN and its metabolic precursors in *Trifolium repens*

**University:** University of Toronto, Mississauga

**Supervisors:** Dr. Marc T. J. Johnson and Dr. Hind Emad Fadoul

**Keerath's words:** "I am a third-year student at the University of Toronto studying Molecular Biology and Chemistry. My research is the first-ever tissue-specific study of cyanogenesis in a perennial legume, *Trifolium repens* (white clover). Cyanogenesis involves the release of a potent toxin, hydrogen cyanide (HCN), from a plant upon damage to its tissues. In *T. repens*, the cyanogenic phenotype is mediated by the presence/absence of two metabolic precursors, cyanogenic glycosides (i.e., linamarin or lotaustralin) and their hydrolyzing enzyme (i.e., linamarase). While the first observations of cyanogenesis in *T. repens* date back to the 1800s, this phenomenon has only been examined in the leaf tissue of the herbaceous plant. During my study, I discovered a very rare form of *T. repens* that is capable of floral cyanogenesis with a prevalence of 1.8% across the GTA. My supervisors and I are performing transcriptomic analysis and qPCR to investigate the genotypic basis of the tissue-specific expression of these metabolic precursors in *T. repens*. Throughout my research experience in phytochemistry, I have gained a greater appreciation for the mosaic of cellular pathways that maintain the fitness of complex organisms and the mechanisms by which these pathways are subject to high regulation to support their immediate needs. I hope to explore these complex interactions further through molecular biology and biochemistry research at a graduate level upon the completion of my undergraduate degree! I am honored to have received the Canadian Botanical Association award this year, and I look forward to decoding many more mysteries about our natural world!"



**University of British Columbia Multidisciplinary Undergraduate Research Conference (March 18, 2023)**

**Best Talk:** Ruby Burns

**Title:** Don't settle for less: the influence of coralline algal identity and morphology as substrate for intertidal kelp recruitment.

**University:** University of British Columbia

**Supervisor:** Dr. Chris Harley

**Ruby's words:** "I'm a biology major at UBC doing an Honours in marine biology. For my thesis, I focused on the interactions between intertidal kelps and coralline algae. In the intertidal, it seems like kelps tend to grow more often on articulated coralline algae than coralline crusts or bare rock, but we don't really know why! My thesis focuses



on whether or not these corallines actively reduce kelp epiphytism or facilitate it. After my undergrad, I plan on continuing to do phycological research for a Master's degree, and this summer I will be doing more intertidal ecology research with Dr. Chris Harley. One fun fact about me: I have a home-made, life-sized crochet bull kelp hanging up in my room!"

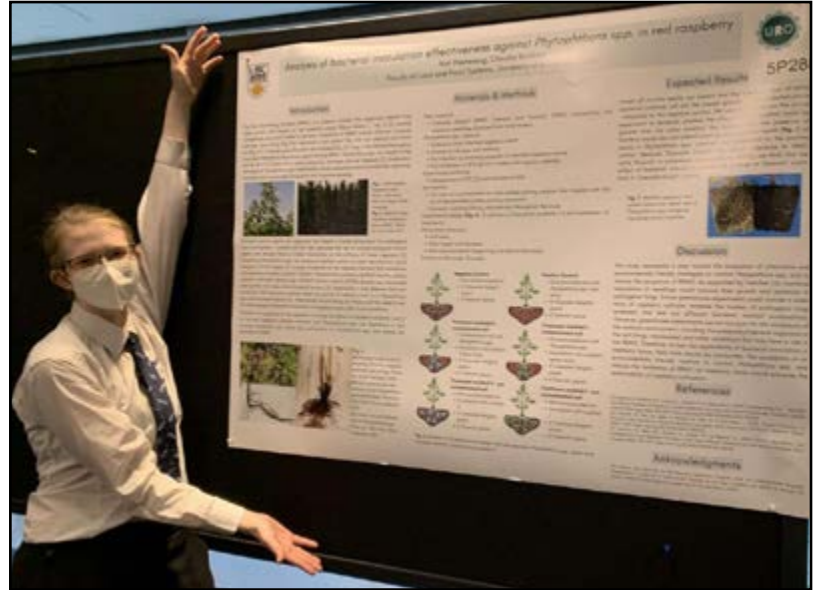
Best Poster: Natalie Westereng

Title: Analysis of bacterial inoculation effectiveness against *Phytophthora spp.* in red raspberries

University: University of British Columbia

Supervisor: Dr. Claudia Baldassi

Natalie's words: "Hi, I am Nat Westereng! I am a first year at University of British Columbia in the department of Lands and Foods System transferring to the department of Sciences. Me and my mentor, Claudia Baldassi, conducted an analysis of the potential use of bacterial inoculation to combat *Phytophthora spp.* We developed methods to assess the effectiveness of bacterial inoculation against *Phytophthora spp.* contaminated soil. In our proposed experiment, we identified limits to the study and developed a hypothesis and prediction. We would love the opportunity to carry out the experiment. I want to go into biochemistry to investigate the chemical interactions within organisms. I enjoy working on projects and outside of school I do archery. After completing my B.Sc., I want to pursue my master's and PhD to lead research projects on the biochemical interactions in plants or humans."



# CBA/ABC Student Presentation & Poster Awards, Winnipeg, 2023

By Santokh Singh

We had a total of 25 (6 posters and 19 oral) presentations for the best poster and best oral presentation awards at the CBA/ABC annual meeting (jointly with CSEE) this year. On behalf of CBA/ABC, I would like to congratulate all the students for their excellent presentations. I would also like to thank all the judges (see details below) for their time and dedication in evaluating these amazing poster and oral presentations.

Here are the winners of the Iain and Sylvia Taylor award for the best poster and Lionel Cinq-Mars award for the best oral presentation.

## IAIN AND SYLVIA TAYLOR AWARD, BEST POSTER

*Named in honour of Iain and Sylvia Taylor, recognizes the best poster presented by a student at the annual meeting.*

Proposal Stage: Geoffrey Zanin, Institut de recherche sur les forêts (IRF), Université du Québec en Abitibi-Témiscamingue.

Title: Afforestation of abandoned agricultural land by hybrid poplar and its repercussion on plant communities.

Directors (Supervisors): Annie DesRochers, Nicole Fenton.

Geoffrey's words: I am a French PhD student living in the Quebec region of Abitibi Témiscamingue. The aim of my project is to assess the effects of reforesting abandoned farmland with a fast-growing species: the hybrid poplar. In this study, I am focusing on the vascular plant and bryophyte communities that inhabit the understory of the plantations. But for the other chapters of my thesis, I will be looking at the effect of reforestation on the microbiome and the organic carbon present in the soil. While making progress on my thesis project, I'm taking advantage of my free time to explore the wide-open spaces of the boreal forest.



Results Stage: Jacalyn Grey, Department of Biological Sciences, University of Manitoba.

Title: Reproductive consequences of interspecific pollen transfer in a subalpine plant community.

Supervisor: Anne Worley

Jacalyn's words: I am a M.Sc. student at the University of Manitoba, studying pollination biology under Dr. Anne Worley. My master's research is exploring interspecific pollen transfer in the community of *Polemonium brandegeei*, a sub-alpine herb with a generalist pollination system, and how it affects recipient fitness. My primary research interests include plant ecology, taxonomy, and conservation, which I have explored through completing an undergraduate thesis on the ecology of a threatened orchid species and working in the U of M



Vascular Plant Herbarium (WIN). I am currently working as a conservation intern at the Nature Conservancy of Canada and hope to continue work in conservation biology after graduating.

### LIONEL CINQ-MARS AWARD, BEST PRESENTATION

*Named in memory of Lionel Cinq-Mars, recognizes the best oral presentation by a student at the annual meeting.*

Proposal Stage: Étienne Lacroix-Carignan, Institut de Recherche en Biologie Végétale and Département de Sciences Biologiques, Université de Montréal.

Title: Revisiting the taxonomy of *Carex* subsect. *Lupulinae* (Cyperaceae).

Supervisor: Étienne Léveillé-Bourret.

Étienne's words: Étienne Lacroix-Carignan started a master's degree in September 2021 on the taxonomy of *Carex* sect. *Lupulinae*, a group that has undergone many taxonomic revisions, but still holds many surprises! So many surprises, in fact, that a fast track to a doctoral program in 2022 was the only way to realistically hope to solve these mysteries! He is an avid botanist and ecologist, and is interested in all organisms, even neglected groups like lichens and bryophytes, or difficult genera like hawthorns (*Crataegus*). He is heavily involved in citizen science organizations such as *iNaturalist* and *FloraQuebeca*.



Results Stage: Mia Todorov, Département de biologie, Université de Moncton.

Title: Bryomonitoring: monitoring atmospheric pollution with mosses in New Brunswick.

Supervisor: Mélanie Jean.

Mia's words: After working as a field assistant for the plant ecology laboratory of University of Moncton, I discovered a passion for the minuscule world of bryophytes and began my Master's degree in January 2022. The bryomonitoring project on which I focused my MSc, is furthering our understanding of air pollution in New Brunswick, allowing me to study and work towards conservation of my home province. I love getting lost in the woods (but not too much!) with my eyes riveted on the ground admiring the endlessly fascinating species of moss and liverworts that decorate the forest floors. Beauty is found everywhere while studying plant ecology, and doing so is of great honour to me.



Honorable Mention: Krista Williamson, Biology department, Queen's University.

Title: A hair out of place: Understanding the maintenance of a trichome polymorphism in *Camissoniopsis cheiranthifolia*.

Supervisor: Christopher G. Eckert.

Krista's words: I'm a fourth year BSc student in the Eckert lab at Queen's University, and I am interested in the maintenance of variation in ecologically important traits. In the summer of 2022, I did field work in the Pacific coastal dunes, where we studied *Camissoniopsis cheiranthifolia* throughout its



northern range. For my honours project, I investigated the maintenance of the plant's trichome polymorphism. Trichomes have various ecological roles, and nearly all *C. cheiranthifolia* have these structures. At Manchester Beach, CA, there is a glabrous phenotype that is completely lacking trichomes, and it has persisted in the population at a high frequency since first documented by our lab in 2005. To distinguish the mechanism maintaining the glabrous phenotype, I used data collected over 17 years and three spatial scales of *C. cheiranthifolia*. Moving forward, I am continuing my BEd at Queen's in the Outdoor and Experiential Education!

Judges for the Taylor and Cinq-Mars Awards:

Iain and Sylvia Taylor Award, best poster: Carissa Brown, Tim Dickinson, Gavin Kernaghan.

Lionel Cinq-Mars Award, best oral presentations: Jennifer Doubt, Moira Galway, Sean Graham, Mélanie Jean, Christian Lacroix, Étienne Léveillé-Bourret, Elizabeth Schulz, Santokh Singh, Allison Walker, Jeff Warren.

## Student Paper Awards 2023

**Luella K. Weresub Memorial Award** for the best paper in fungal biology.

Judges: Gavin Kernaghan, Mélissande Nagati, Greg Thorn, Allison Walker

Winner: Amanda Griffin  
Mount Saint Vincent University (Halifax)

Griffin, A., and Kernaghan, G. 2022. Ericoid mycorrhizal colonization and associated fungal communities along a wetland gradient in the Acadian forest of Eastern Canada. *Fungal Ecology*, 56, 101138. <https://doi.org/10.1016/j.funeco.2021.101138>

Abstract. Wetlands provide numerous ecosystem services, and ericaceous plants are important components of these habitats. However, the ecology of fungi associated with ericaceous roots in these habitats is poorly known. To investigate fungi associated with ericaceous roots in wetlands, ericoid mycorrhizal colonization was quantified, and fungal communities were characterized on the roots of *Gaultheria hispidula* and *Kalmia angustifolia* along two upland – forested wetland transects in spring and fall. Ericoid mycorrhizal colonization was significantly higher in the wetlands for both plant species. Both upland and wetland habitats supported distinct assemblages of ericaceous root-associated fungi including habitat-specific members of the genus *Serendipita*. Habitat was a stronger driver of ericoid mycorrhizal colonization and ericaceous root-associated community composition than host or sampling season, with differences related to soil water content, soil nutrient content, or both. Our results indicate that ericaceous plant roots in forested wetlands are heavily colonized by habitat-specific symbionts.



**J. Stan Rowe Award** for the best paper in plant ecology.

Generously sponsored in 2023 by [Canadian Science Publishing](#)

Judges: Peter Achuff, Richard Caners, Darwyn Coxson, Jana Vamosi, Mark Vellend, Viktoria Wagner

Winner: Allison M. Dennert  
Department of Biological Sciences, Simon Fraser University; currently at Raincoast Conservation Foundation

Dennert, A. M., Elle, E. and Reynolds, J.D. 2023. Experimental addition of marine-derived nutrients affects wildflower traits in a coastal meta-ecosystem. *Royal Society Open Science*, 10(1), p.221008. <https://doi.org/10.1098/rsos.221008>

Abstract. Organismal movement can bring individuals, resources and



novel interactions across ecosystem boundaries and into recipient habitats, thereby forming meta-ecosystems. For example, Pacific salmon ecosystems receive large marine-derived nitrogen subsidies during annual spawning events, which can have a wide range of effects on aquatic and terrestrial plant species and communities. In this study, we evaluate the effects of cross-ecosystem nutrient subsidies on terrestrial plant growth and reproduction. We conducted a large-scale field experiment with four treatments: (i) addition of a pink salmon (*Oncorhynchus gorbuscha*) carcass, (ii) addition of the drift seaweed rockweed (*Fucus distichus*), (iii) addition of both salmon + rockweed, and (iv) a control. We examined treatment effects on leaf nitrogen and fitness-associated floral traits in four common estuarine wildflower species. We found elevated leaf  $\delta^{15}\text{N}$  in all plant species and all sampling years in treatments with salmon carcass additions but did not observe any differences in leaf per cent nitrogen. We also observed larger leaf area in two species, a context-dependent increase in floral display area in two species, and a limited increase in plant seed set in response to both salmon carcass treatments. In sum, our study suggests that marine nutrients can affect terrestrial plant growth and reproduction.

### **Taylor A. Steeves Award** for the best paper in plant development, structure or morphology

Judges: Christian Lacroix, Moira Galway

Winner: Liyong Zhang  
Department of Biology, The University of Saskatchewan

Zhang, L. and Ambrose, C. 2022. CLASP balances two competing cell division plane cues during leaf development. *Nature Plants* 8(6): 682–693.

Abstract. Starting as small, densely packed boxes, leaf mesophyll cells expand to form an intricate mesh of interconnected cells and air spaces, the organization of which dictates the internal surface area of the leaf for light capture and gas exchange during photosynthesis. Despite their importance, little is known about the basic patterns of mesophyll cell division, and how they contribute to cell and intercellular space organization. To address this, we tracked divisions within individual cell lineages in three dimensions over time in *Arabidopsis* spongy mesophyll. We found that early on, successive cell division planes switch their orientation such that each new cell wall intersects the previous at a right angle, creating a new multi-cell junction (the intersection of three or more cells). These junctions then open to create intercellular spaces. During subsequent enlargement of the spaces, the division planes of the surrounding cells show an increasing tendency to tilt in the direction of their adjacent intercellular spaces. This disrupts the alternating pattern, and by extension, halts the initiation of new multi-cell junctions and intercellular spaces, but allows the expansion of existing spaces. Both division patterns are specified before mitosis by the orientation of interphase cortical microtubules, which gradually narrow to form a preprophase band in the same orientation to establish the future plane of cell division. In the absence of the microtubule-associated protein CLASP, the early alternating division plane and microtubule patterns are compromised, whereas space-oriented divisions are exacerbated. This results in large distortions of the topological relations between cells and intercellular spaces, as well as changes in their relative abundance. Our data reveal the existence of two competing cell division mechanisms that are balanced by CLASP to specify the distribution of cells and intercellular spaces in spongy mesophyll tissue.



## Alf Erling Porsild – Laurie Consaul Award for the best paper in systematics, evolution and biodiversity

Judges: Geraldine Allen and Jeff Saarela

Winner 1: Marinoli Rivas-Chamorro, Universidad Nacional de San Marco, Peru

Winner 2: Qianshi Lin, University of British Columbia; currently at Penn State University

Rivas-Chamorro, M., R. Cadenillas, X.-J. Ge, L. Jin, B. Millán and J. Roncal. 2023. Testing species relationships and delimitation in the Amazonian hyperdominant *Astrocaryum* section *Huicungo* (Arecaceae) using chloroplast data from genome skimming. *Taxon* 72 (3): 501–514. <https://doi.org/https://doi.org/10.1002/tax.12928>

Abstract. Hyperdominant trees in Amazonia account for half of the individual trees (>10 cm dbh) in the forest, and thus play a crucial role in ecosystem dynamics. However, several of these widespread hyperdominant species may be complexes hiding cryptic diversity that can affect species richness estimates and conservation priorities. Here, we study the intraspecific variation of *Astrocaryum murumuru* (Arecaceae), a keystone and hyperdominant species in Amazonia, also known as *Astrocaryum* sect. *Huicungo*, a complex of 15 understory to subcanopy palm species. Using chloroplast DNA from genome skimming (>66 kbp alignment) in a Bayesian framework, we present evidence that *A. sect. Huicungo* represents three separately-evolving lineages, suggesting that the section is not a single hyperdominant species, and that the 15 morphology-based species may be an over-representation. Genome skimming chloroplast data did not fully resolve the species-level phylogenetic relationships in *A. sect. Huicungo* mostly because of gene discordance and the paraphyly of most species. Contrary to a previous nuclear-based phylogenetic analysis, the chloroplast genomic data did not recover *A. sect. Huicungo* as monophyletic, but yielded monophyly in an increased number of species (six) in the complex. Interspecific phylogenetic relationships showed a geographic pattern, and the traditional morphology-based classification was not supported. Our phylogenomic results are discussed in light of earlier phylogeographical studies using Sanger sequencing. Our findings show the utility of genome skimming data in species delimitation analyses to uncover intraspecific variation of hyperdominant species in Amazonia, the largest evergreen tropical forest.



Marinoli Rivas-Chamorro

Qianshi Lin, T.W.A. Braukmann, M. Soto Gomez, J.L.S. Mayer, F. Pinheiro, V.S.F.T. Merckx, S. Stefanović and S.W. Graham. 2022. Mitochondrial genomic data are effective at placing mycoheterotrophic lineages in plant phylogeny. *New Phytologist* 236: 1908-1921. <https://doi.org/10.1111/nph.18335>

### Summary

- Fully mycoheterotrophic plants can be difficult to place in plant phylogeny due to elevated substitution rates associated with photosynthesis loss. This potentially limits the effectiveness of downstream analyses of mycoheterotrophy that depend on accurate phylogenetic inference. Although mitochondrial genomic data sets are rarely used in plant phylogenetics, theory predicts that they should be resilient to long-branch artefacts, thanks to their generally slow evolution, coupled with limited rate elevation in heterotrophs.

- We examined the utility of mitochondrial genomes for resolving contentious higher-order placements of mycoheterotrophic lineages in two test cases: monocots (focusing on Dioscoreales) and Ericaceae.
- We find Thismiaceae to be distantly related to Burmanniaceae in the monocot order Dioscoreales, conflicting with current classification schemes based on few gene data sets. We confirm that the unusual *Afrothismia* is related to Taccaceae–Thismiaceae, with a corresponding independent loss of photosynthesis. In Ericaceae, we recovered the first well-supported relationships among its five major lineages: mycoheterotrophic Ericaceae are not monophyletic, as pyroloids are inferred to be sister to core Ericaceae, and monotropoids to arbutoids.
- Genes recovered from mitochondrial genomes collectively resolved previously ambiguous mycoheterotroph higher-order relationships. We propose that mitochondrial genomic data should be considered in standardised gene panels for inferring overall plant phylogeny.

### Macoun Travel Awards 2023

Adele Bunbury-Blanchette	Saint Mary’s University
Angelo A. Carrion	Memorial University of Newfoundland
Cassandra Bradshaw	University of Ottawa
Étienne Lacroix-Carignan	Institut de recherche en biologie végétale, Montréal
Jordan Wilson-Morrison	University of Ottawa
Jaxon Reiter	University of Lethbridge
Katie Goodwin	University of British Columbia
Olivia Rianhard	University of British Columbia



## Laurie Consaul Northern Research Scholarship 2023

This award was established in honor of Dr. Laurie Consaul (1960-2012) through the generous financial support of her husband, Mr. Mark Armstrong. After several years of interruption caused by Covid-19, the presentation of the award has been resumed in 2023, and Mr. Armstrong kindly sponsored two students and their research projects in the North, each with \$1,500. The award committee consisted of Jennifer Doubt, Jana Vamosi, and Christine Petersen.

The 2023 award recipients are:

### **Anne-Marie Blanchette, Laval University**

Supervisors: Dr. Dominique Fauteux and Dr. Pierre Legagneux

Project: Effects of predation and herbivory pressure on high arctic tundra vegetation in Bylot Island (Nunavut).

### **Claire O'Brien, Wilfrid Laurier University**

Supervisor: Dr. Jennifer Baltzer

Project: Shrugging off disturbance: Are tall, deciduous shrubs more productive in arctic disturbances?

.....

Dr. Laurie Consaul was an internationally recognized plant systematist, and an expert in Arctic plants and the taxonomically-challenging grass genus *Puccinellia*. During her 22-year career as Research Assistant in the Botany section at the Canadian Museum of Nature, she spent many summers undertaking botanical fieldwork in the Canadian Arctic and gained an excellent knowledge of the Arctic flora. Laurie obtained her PhD in 2008 with her research focused on the systematics of Canadian Arctic *Puccinellia*. In 2011, Laurie accepted a position as Assistant Professor in the Biology Department at Memorial University, St. John's, Newfoundland and Labrador. Just prior to moving to St. John's, Laurie became ill and she lost her battle with cancer on December 18, 2012. She was a long-time member of the CBA as a student member in the 1980s, a regular member from 1994, and serving as the Association Secretary from 2009-2011.



This research award is open to all undergraduate or graduate students who will be undertaking their field research in Botany in the northern regions (north of 60°) of Canada in the upcoming field season. One might be able to apply for more southern regions if the application is well justified. The student or his/her/their supervisor must be a member of the CBA. Applications for this award must follow the [instructions in the application form](#) and must be submitted by February 28 of each year. Decisions will be made public by mid-March at the latest to ensure that fieldwork can be conducted in appropriate times.

# Consaul Award Research Report

## **Shrubbing off Disturbance: Are tall, deciduous shrubs more productive in arctic disturbances?**

C.S.B. O'Brien

Department of Biology, Wilfrid Laurier University, Waterloo, ON, Canada

Arctic plant communities are experiencing accelerated temperature rises and an increasing frequency of disturbances. These environmental changes accelerate the expansion of tall, deciduous shrubs and influence their productivity, structure, and functional trait expression. Disturbances such as rapid ice thaw or 'thermokarst' increase the accessibility of plant-available nutrients. This allows shrubs to grow faster and produce greater quantities of litter than their counterparts in undisturbed tundra. However, it is unknown how disturbances alter shrub functional trait expression. The objective of this research is to investigate how shrub traits are shaped by disturbances and the potential impact of altered traits on nutrient cycling. I will select sites from two thermokarst types north of Inuvik, NWT. To determine variation between disturbed and undisturbed areas, I will measure leaf, wood, and structural shrub traits related to productivity and leaf litter quality in two focal shrub genera (*Alder* and *Betula*). Individual shrubs will be selected randomly from within disturbances and paired with individuals from adjacent undisturbed tundra. Environmental factors, including soil nutrient levels and active layer thickness, will be linked to trait expression. I expect shrubs in disturbed sites to exhibit notable increases in productivity-related trait expression, such as growth rates, height, leaf area, and leaf nitrogen. Increases in these trait values could change tundra ecosystem function by boosting plant productivity, soil litter inputs, and nutrient cycling. These changes have implications for tundra carbon cycling, soil microbial communities, and runoff to aquatic systems.



Measuring photosynthesis at a permafrost thaw slump north of Inuvik, NWT.



Alders (*Alnus alnobetula*) in thaw slump disturbances are some of the tallest vegetation you will find on the tundra. The instrument pictured (a LI-COR 6400) measures photosynthesis and is being used to investigate whether shrub productivity is higher within disturbances.

## Mary E. Elliott Award 2023

Mary E. Elliott Service Award is presented for meritorious service to the CBA/ABC.

Many of you have helped CBA in different ways: serving on the Board of Directors, organizing a conference or symposium, participating in the sections' activities, joining different committees, judging for different awards, contributing to the *Bulletin*, donating, and much more. In 2022-2023, some 30% of the members have contributed something to the life of the Association. This is remarkable! Please keep doing that. These caring acts keep CBA vibrant and unite us in a tight community that works towards a common goal: supporting botanical teaching, research, and practice in Canada. However, within this band of enthusiastic volunteers, there are some who have consistently donated their time for many years, selflessly shouldering especially those burdensome responsibilities that are avoided by most of us. It is from among these altruistic people that nominees for the Mary Elliott award are being proposed. **And the recipient of Mary Elliott Award in 2023 goes to... John Markham!**

John Markham is a Professor at the University of Manitoba and he has held many responsibilities within the CBA. Here are summarized only some of the most important ones:

- President Elect, President, and Past President between 2012-2018.
- Co-organizer of the Joint CBA-CSPB Western Regional Meeting in 2017.
- Vice-President 2014-2015 (Botany 2015, Edmonton), 2017-2018 (Botany 2018, Rochester), 2018-2019 (Plant Canada 2019, Guelph), unofficially in 2022-2023 (CBA-CSEE 2023, Winnipeg), and officially in 2023-2024 (Plant Canada 2024, Winnipeg). For those who are not aware, the Vice-President is the Chair of the Local Organizing Committee for an annual meeting or the CBA's main representative in joint meetings with other associations or societies.
- CBA Plant Canada representative in 2011-2015, as well as Vice-President of Plant Canada in 2015- 2019.
- Judge of too many Iain and Sylvia Taylor and Lionel Cinq-Mars Awards to count.
- Kind advisor and support provider for generations of subsequent Presidents.
- Hugues Massicotte's successor as an auctioneer in 2022 and 2023.



In my view, John embodies the best that CBA can offer, not just as a professional association, but as a friendly and welcoming group of people united by their love for plants.

To end with a personal touch, I will cite a paragraph from Frédérique Guinel's support letter:

*“John as President-Elect, Hugues Massicotte as Past-President, and I as President worked together so that the Association passed the Continuance process required by the Federal Government. To say the least this was a major task as we took this opportunity to update our bylaw. This implied many hours discussing on the phone and on reviewing countless numbers of drafts. John as a new President-Elect never complained although I must add that he did follow his own time-table. To me who is a person who was taught to never put off until tomorrow what you can do today; this was quite frustrating. But then, I quickly realized that while John took his time, he always delivered. I believe that he actually taught me that to go slower was not always a bad thing!” CBA is very lucky*

*to have had John as one of its members; he is very generous of his time and of his skills. His friendly behaviour and his smile, in addition to his diplomatic skills and his nonchalance (seen here as an asset), have led to many positive advancements for our Association.”*

Congratulations John, and thank you for your tireless and selfless contribution to the CBA!

.....

Mary Elliott Service Award was first presented in 1978 in memory of Mary E. Elliott, a distinguished plant pathologist and mycologist who spent 28 years with Agriculture Canada at the Central Experimental Farm in Ottawa. She was well known for her work on the taxonomy and biology of the Sclerotiniaceae. In 1975, she became Curator of the National Mycological Herbarium. Mary was also very active in identifying fungi for the public and in contributing to and editing (1970-71) a publication of the Biosystematics Research Institute for public information called Greenhouse-Garden-Grass. Mary E. Elliott was a victim of a homicide in September, 1976. At the time of her death, she had just completed four consecutive years of service on the Board of Directors (as Secretary, Vice President and President), and was just beginning her term as Past President. You can read more here: Savile, D. 1977. “Mary Elizabeth Elliott (1923-1976)”. *Mycologia*. 69 (3): 460–462. <https://doi.org/10.1080/0%2F00275514.1977.12020084> or see a [list of previous recipients of the Mary Elliott Award](#).

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## Prix Mary E. Elliott 2023

Le prix Mary E. Elliott est décerné pour des services méritoires rendus à l'ABC.

Nombre d'entre vous ont aidé l'ABC et ceci de différentes manières : en siégeant au conseil d'administration, en organisant une conférence ou un symposium, en participant aux activités des sections, en joignant différents comités, en étant juge pour différents prix, en contribuant au *Bulletin*, en faisant des dons, et bien d'autres choses encore. En 2022-2023, quelque 30 % des membres ont contribué à la vie de l'Association. C'est remarquable ! Continuez à le faire. Ces actes de bienveillance permettent à l'ABC de rester dynamique et nous unissent dans une communauté soudée qui œuvre pour un objectif commun : soutenir l'enseignement, la recherche et la pratique de la botanique au Canada.

Au sein de ce groupe de bénévoles enthousiastes, certains ont constamment donné de leur temps pendant de nombreuses années, assumant de manière désintéressée les lourdes responsabilités que la plupart d'entre nous évitent. C'est parmi ces personnes altruistes que sont proposés les candidats au prix Mary Elliott. **Et le lauréat du prix Mary Elliott en 2023 est... John Markham !**

John Markham est professeur à l'Université du Manitoba et il a exercé de nombreuses responsabilités au sein de l'ABC. Voici quelques-unes des plus importantes :

- Président élu, président et président sortant entre 2012 et 2018.
- Co-organisateur de la réunion régionale conjointe de l'ABC et de la CSPB dans l'Ouest en 2017.
- Vice-président en 2014-2015 (Botany 2015, Edmonton), 2017-2018 (Botany 2018, Rochester), 2018-2019 (Plant Canada, Guelph 2019), officieusement en 2022-2023 (CBA-CSEE, Winnipeg 2023) et officiellement en 2023-2024 (Plant Canada 2024). Pour ceux qui ne le savent pas, le vice-président est le président du comité organisateur local d'une réunion annuelle ou le principal représentant de l'ABC lors de réunions conjointes avec d'autres associations ou sociétés.
- Représentant de l'ABC dans la Fédération de Plant Canada de 2011 à 2015, et Vice-président de Plant Canada de 2015-2019.
- Juge de trop nombreux prix Iain et Sylvia Taylor et Lionel Cinq-Mars pour pouvoir les compter.
- Conseiller et soutien bienveillant pour des générations de présidents subséquents.
- Successeur d'Hugues Massicotte en tant que commissaire-priseur en 2022 et 2023.



À mes yeux, John incarne ce que l'ABC peut offrir de mieux, non seulement en tant qu'association professionnelle, mais aussi en tant que groupe amical et accueillant de personnes unies par leur amour des plantes.

Pour terminer sur une touche personnelle, je citerai un paragraphe de la lettre de soutien de Frédérique Guinel :

*“John, en tant que président élu, Hugues Massicotte, en tant que président sortant, et moi-même, en tant que président, avons travaillé ensemble pour que l'association passe le processus de continuité exigé par le gouvernement fédéral. Le moins que l'on puisse dire, c'est qu'il s'agissait d'une tâche importante, car nous avons profité de l'occasion pour mettre à jour notre règlement. Cela a impliqué de nombreuses heures de discussion au*

*téléphone et la lecture d'un grand nombre de brouillons. John, en tant que nouveau président élu, ne s'est jamais plaint, même si je dois ajouter qu'il a respecté son propre calendrier. Pour moi qui ai appris à ne jamais remettre au lendemain ce que l'on peut faire le jour même, c'était assez frustrant. Mais je me suis vite rendue compte que si John prenait son temps, il était toujours à la hauteur. Je crois qu'il m'a en fait appris qu'aller plus lentement n'était pas toujours une mauvaise chose ! L'ABC a beaucoup de chance de compter John parmi ses membres ; il est très généreux de son temps et de ses compétences. Son comportement amical et son sourire, ainsi que ses compétences diplomatiques et sa nonchalance (considérée ici comme un atout), ont permis de nombreuses avancées positives pour notre association."*

Félicitations John, et merci pour ta contribution infatigable et désintéressée à l'ABC !

.....

Le prix de service Mary Elliott a été décerné pour la première fois en 1978 en mémoire de Mary E. Elliott, une éminente phytopathologiste et mycologue qui a passé 28 ans à la Ferme expérimentale centrale d'Ottawa pour le compte d'Agriculture Canada. Elle était bien connue pour ses travaux sur la taxonomie et la biologie des Sclerotiniaceae. En 1975, elle est devenue conservatrice de l'Herbier mycologique national. Mary était également très active dans l'identification des champignons pour le public et dans la contribution et l'édition (1970-71) d'une publication de l'Institut de recherche en biosystématique destinée à l'information du public et intitulée Greenhouse-Garden-Grass (serre-jardin-herbe). Mary E. Elliott a été victime d'un homicide en septembre 1976. Au moment de sa mort, elle venait d'achever quatre années consécutives de service au sein du conseil d'administration (en tant que secrétaire, vice-présidente et présidente) et commençait tout juste son mandat de présidente sortante.

Pour en savoir plus, cliquez ici : Savile, D. 1977. "Mary Elizabeth Elliott (1923-1976)". *Mycologia*. 69 (3) : 460–462. <https://doi.org/10.1080%2F00275514.1977.12020084>. Consultez également la [liste des précédents lauréats du prix Mary Elliot](#).

[Prepared by Mihai Costea and translated in French by Frédérique Guinel.]

## Lawson Medal 2023

The Lawson Medal, the most prestigious award of the Canadian Botanical Association, was established “to provide a collective, formal expression of the admiration and respect of botanists in Canada for excellence in the contribution of an individual to Canadian botany.”

The 2023 winner of the Lawson Medal in the category B, “recognition of cumulative, lifetime contributions to Canadian botany”, is **Dr. James Scott Pringle** of the Royal Botanical Gardens (RBG) in Burlington-Hamilton, Ontario.

Dr. Pringle has had an extraordinary career. He completed his PhD at the University of Alabama (Knoxville) in 1963, and in the same year, after answering an ad published in *Science*, he began a position of Plant Taxonomist at RBG, where he has been working ever since. Thus, in 2023, the RBG celebrates Dr. Pringle’s 60th working anniversary!

Dr. Pringle is best known for his extensive and seminal contributions to the taxonomy of the gentian family (especially the tribe Gentianeae in the Americas), but in fact, he has had a comprehensive and multifaceted contribution to plant taxonomy, floristics and botanical history. As a taxonomist, he also studied *Syringa*, *Clematis*, *Gypsophyla*, Menyanthaceae, and Surinaceae. For many decades, Dr. Pringle has been an avid researcher of the Ontario and neighbouring U.S.A. flora, with additions to the floristics of “*Aster*”, *Lonicera*, *Gypsophyla*, *Holosteum*, *Solidago*, *Trillium*, and *Vincetoxicum*. Some of his over 140 published papers and book chapters are monographic

in nature, such as the taxonomic treatments of Gentianaceae in the Flora of China and volume 14 of the Flora of North America. Dr. Pringle is one of the few Canadian botanists who have studied taxonomy and floristics in the Neotropics, with contributions to the Flora of Mexico, Belize, Columbia, Ecuador, and Peru.

While alpha taxonomy and floristic publications may not garner many citations, they have a long-lasting impact. Dr. Pringle published over 110 new names of plants, many of them new species, which will undoubtedly be utilized by future generations of botanists and horticulturists. In recognition for his contributions to the Gentianaceae taxonomy, three species have been named in his honor by other taxonomists:

[\*Gentiana pringlei\* M.Shabir, P.Agnihotri, J.K.Tiwari & T.Husain, \*Taiwania\* 63\(4\): 356 \(2018\)](#)

(Himalayas, India)

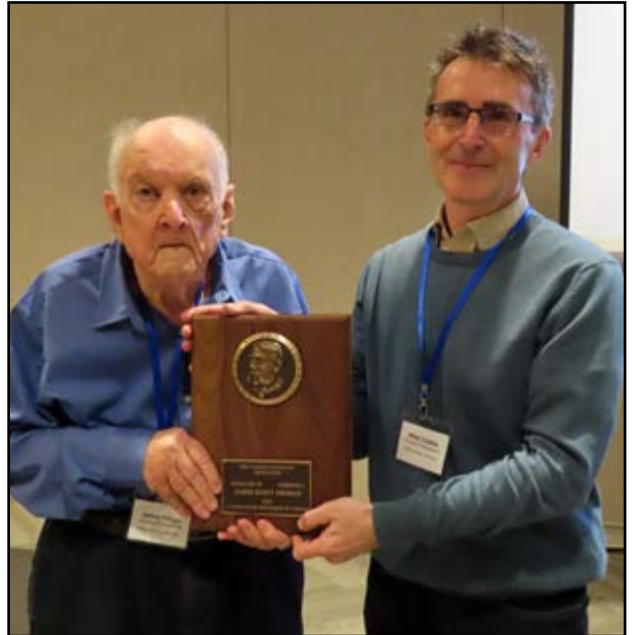
[\*Kueferia pringlei\* D.Maity& S.K.Dey, \*Edinburgh J. Bot.\* 72\(3\): 430 \(2015\)](#)

(Himalayas, Nepal)

[\*Macrocarpaea pringleana\* J.R.Grant, \*Harvard Pap. Bot.\* 9\(1\): 18 \(-21; fig. 4A-B\) \(2004\)](#)

(Ecuador)

Dr. Pringle has also been a meticulous scholar of early botanical exploration in Canada, Saint-Pierre et Miquelon, and Greenland, and has provided portraits of botanical explorers and collectors such as those of Anne Mary Perceval, Clement Charles Todd, Jewell David Sornborger, Jacques-Philippe Cornut, Christian Ramsay (Countess of Dalhousie) and Rev. Anton Schaffranek. Another one of his long-lasting preoccupations has been the history of



taxonomy and floristics in North America and of cultivated plants.

Currently, Dr. Pringle is busy completing or planning new projects. The same day he received the Lawson medal in Winnipeg, he had a paper published in the Ukrainian Botanical Journal, as earlier he had responded to a call to support the continued publication of the journal working under difficult war conditions. He is presently working on a taxonomic revision of a group of species from Peru, completing a field-botanical history study of a part of Ontario, and writing a nomenclature proposal.

Although he did not work in academia, Dr. Pringle has held an Adjunct Professor position at McMaster University since 1984, and he taught what is now considered the first university field-course in plant identification and taxonomy in Ontario, offered at the Queen's University Biological Station at Opinicon Lake. In addition, he led numerous botanical field trips organized through the Field Botanists of Ontario, which presented him with the John Goldie Award in 2011. Finally, Dr. Pringle mentored generations of young botanists who underwent training through the internship program at RBG, or who held an herbarium curator position at this institution. Three of the nine letters of support for Dr. Pringle came from such budding botanists who are now themselves accomplished professionals working in the academia, government or private companies. One of them, Tyler Smith, ended up his support letter with these words: *“My colleagues had warned me to expect a gruff reception from Jim, which is what I received when we met. But I quickly learned that under that rough exterior was a kindred spirit with an amazing depth of botanical understanding, and a quiet, authentic enthusiasm for botany and botanists. Jim was one of the main inspirations leading me to graduate studies in plant taxonomy, a decision which laid the scaffolding for the rest of my career.”*

Congratulations to Dr. Pringle for his wide-encompassing, life-time contributions, and to the RBG for having him all along!

.....

Dr. George Lawson (1827–1895) was born in Scotland. He obtained his Ph.D. from the University of Giessen in Germany in 1857. The following year, he accepted an appointment as Professor of Chemistry and Natural History at Queen's College (now University) in Kingston, Ontario. He was instrumental in the foundation of the Botanical Society of Canada, which met from 1860 until 1862. In 1863, Lawson abruptly left Queen's for Dalhousie. At Dalhousie he was active in the Nova Scotia Institute of Science and was a founding fellow of the Royal Society of Canada. From 1885-1895, he was Secretary of Agriculture for Nova Scotia. In 1891, he helped to establish the Botanical Club of Canada (1891-1910) and was its President until his death. Please see a [list of previous recipients of the Lawson Award](#) and a more comprehensive [portrait of George Lawson](#).

## Médaille Lawson 2023

La médaille Lawson, le prix le plus prestigieux de l'Association botanique du Canada, a été créée “pour fournir une expression collective et formelle de l'admiration et du respect des botanistes au Canada pour l'excellence de la contribution d'un individu à la botanique canadienne.”

Le lauréat 2023 de la médaille Lawson dans la catégorie B, “Reconnaissance des contributions cumulatives de toute une vie à la botanique canadienne”, est le **Dr James Scott Pringle** des Jardins Botaniques Royaux (JBR) de Burlington-Hamilton, en Ontario.

M. Pringle a eu une carrière extraordinaire. En 1963, après avoir obtenu son doctorat à l'Université d'Alabama (Knoxville) et avoir répondu à une annonce publiée dans Science, il a commencé à travailler en tant que taxonomiste des plantes aux JBR, où il travaille depuis lors. En 2023, le JBR fêtera donc le 60e anniversaire de travail de M. Pringle !



Dr. Pringle est surtout connu pour ses contributions importantes et déterminantes à la taxonomie de la famille des gentianes (en particulier la tribu des Gentianeae dans les Amériques), mais il a en fait contribué de multiples façons à la taxonomie des plantes, à la floristique et à l'histoire de la botanique. En tant que taxonomiste, il a aussi étudié les syringa, les clématites, les gypsophyla, les Menyanthaceae et les Surinaceae. Pendant de nombreuses décennies, il a été un chercheur passionné de la flore de l'Ontario et des États-Unis voisins, avec des ajouts à la floristique des “Aster”, *Lonicera*, *Gypsophyla*, *Holosteum*, *Solidago*, *Trillium* et *Vincetoxicum*. On trouve parmi les 140 articles et chapitres de livres qu'il a publiés beaucoup des monographies, comme les traitements taxonomiques des Gentianaceae dans la Flora of China et le volume 14 de la Flora of North America. M. Pringle est l'un des rares botanistes canadiens à avoir étudié la taxonomie et la floristique dans les régions néotropicales, avec des contributions à la Flore du Mexique, du Belize, de la Colombie, de l'Équateur et du Pérou.

Bien que les publications sur la taxonomie alpha et la floristique ne fassent pas l'objet de nombreuses citations, elles ont un impact durable. Dr Pringle a nommé plus de 110 nouvelles plantes, dont beaucoup de nouvelles espèces, qui seront sans aucun doute utilisés par les générations futures de botanistes et d'horticulteurs. Pour ses contributions à la taxonomie des Gentianaceae, trois espèces ont été nommées en son honneur par d'autres taxonomistes :

[\*Gentiana pringlei\* M. Shabir, P. Agnihotri, J.K. Tiwari & T. Husain, \*Taiwania\* 63\(4\): 356 \(2018\)](#)

(Himalaya, Inde)

[\*Kueferia pringlei\* D. Maity & S.K. Dey, \*Edinburgh J. Bot.\* 72\(3\): 430 \(2015\)](#)

(Himalaya, Népal)

[\*Macrocarpaea pringleana\* J.R. Grant, \*Harvard Pap. Bot.\* 9\(1\): 18 \(-21 ; fig. 4A-B\) \(2004\)](#)

(Ecuador)

Dr Pringle est également un érudit méticuleux des premières explorations botaniques au Canada, à Saint-Pierre et Miquelon et au Groenland, et il a fourni de nombreux portraits d'explorateurs et de collectionneurs botaniques, tels

ceux d'Anne Mary Perceval, de Clement Charles Todd, de Jewell David Sornborger, de Jacques-Philippe Cornut, de Christian Ramsay (comtesse de Dalhousie) et du révérend Anton Schaffranek. Une autre de ses préoccupations a été l'histoire de la taxonomie et de la floristique en Amérique du Nord et des plantes cultivées.

Actuellement, M. Pringle est très occupé, soit par l'achèvement de projets ou la planification de nouveaux. Le jour même où il a reçu la médaille Lawson à Winnipeg, il avait un article qui apparaissait dans l'Ukrainian Botanical Journal, car il avait répondu à un appel pour soutenir, dans des conditions de guerre difficiles, la poursuite de la publication de ce journal. Il travaille actuellement à la révision taxonomique d'un groupe d'espèces du Pérou, à la complétion d'une étude sur l'histoire de la botanique de terrain d'une partie de l'Ontario et à la rédaction d'une proposition de nomenclature.

Bien qu'il n'ait pas travaillé dans le milieu universitaire, M. Pringle a occupé un poste de professeur auxiliaire à l'université McMaster depuis 1984, et il a enseigné ce qui est aujourd'hui considéré comme le premier cours universitaire de terrain sur l'identification et la taxonomie des plantes en Ontario, dispensé à la station biologique de l'université Queen's au lac Opinicon. En outre, il a dirigé de nombreuses excursions botaniques organisées par les Field Botanists of Ontario, qui lui ont décerné le prix John Goldie en 2011. Enfin, M. Pringle a été le mentor de plusieurs générations de jeunes botanistes qui ont suivi une formation dans le cadre du programme de stages du JBR ou qui ont occupé un poste de conservateur d'herbier dans cet établissement. Trois des neuf lettres de soutien à M. Pringle proviennent de ces botanistes en herbe qui sont aujourd'hui eux-mêmes des professionnels accomplis travaillant dans le monde universitaire, au gouvernement, ou dans des entreprises privées. L'un d'entre eux, Tyler Smith, a terminé sa lettre de soutien par ces mots : *“Mes collègues m'avaient prévenu qu'il fallait s'attendre à un accueil bourru de la part de Jim, et c'est ce que j'ai reçu lorsque nous nous sommes rencontrés. Mais j'ai rapidement appris que sous cet extérieur rude se cachait une âme sœur dotée d'une étonnante compréhension de la botanique et d'un enthousiasme tranquille et authentique pour la botanique et les botanistes. Jim a été l'une de mes principales sources d'inspiration ; le rencontrer m'a conduit à des études supérieures en taxonomie végétale, une décision qui a été fondamentale pour le reste de ma carrière.”*

Félicitations à M. Pringle pour sa vaste contribution à la botanique tout au long de sa vie, et au JBR pour l'avoir toujours eu à ses côtés !

.....

George Lawson (1827-1895) est né en Écosse. Il obtient son doctorat à l'université de Giessen en Allemagne en 1857. L'année suivante, il est nommé professeur de chimie et d'histoire naturelle au Queen's College (aujourd'hui Université) à Kingston, en Ontario. Il contribue à la fondation de la Société Botanique du Canada, qui a fonctionné de 1860 à 1862. En 1863, Lawson quitte brusquement Queen's pour Dalhousie. À Dalhousie, il est actif au sein de l'Institut des sciences de la Nouvelle-Écosse ; plus tard, il sera l'un des membres fondateurs de la Société Royale du Canada. De 1885 à 1895, il est secrétaire à l'agriculture de la Nouvelle-Écosse. En 1891, il participe à la création du Botanical Club of Canada (1891-1910), dont il est le président jusqu'à sa mort. Voir la [liste des précédents lauréats du prix Lawson](#) et [un portrait plus complet de George Lawson](#).

[Prepared by Mihai Costea and translated in French by Frédérique Guinel]

# Review: Brave the Wild River – The Untold Story of Two Women Who Mapped the Botany of the Grand Canyon

By Melissa L. Sevigny, 2023, Norton Company

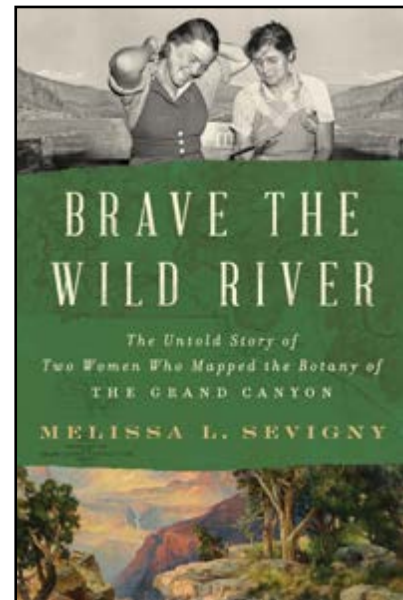
Anyone loving adventures will be caught by the story of this scientific expedition, which took place shortly before WWII in a location which had captured the imagination of many because of the sheer difficulty in accessing it. During this epic trip down the Colorado River, friction but also respect and friendship arose, and certain biases, especially toward women's capabilities, were altered for the better. The many characters encountered are all quite interesting, and because the author relied on their diaries for her main narrative, they appear very human and we follow them with attention. At times, I was frustrated by some; at other times, I felt much empathy for them. In essence, I was taken by the story.

At the centre of the book are two remarkable American women:

Elzada Clover, born in 1896, earned her PhD in Botany in 1935 from the University of Michigan. For her degree, she had studied the cacti of the Rio Grande Valley. Despite being supported by the head of the Botany Department at the University of Michigan, she could not obtain a Faculty position – largely because she was a woman. She did not fit the mould of what a woman in the 1930s, let alone a scientist, should be. She therefore became an instructor and an assistant curator of the botanical gardens. In 1937, she went on a field trip to Mexican Hat, located in a curve of the San Juan River, a tributary of the Colorado, where she met Norman Nevills. Clover and Nevills shared a love for adventure. She loved plants and he loved river trips; her dream was to study all the cacti in the Southwest and his was to raft “the big un,” the Colorado. Together, they planned a Grand Canyon expedition, but with different ideas in mind. For her, the undertaking was to be scientific, whereas for him it was a venture which he hoped he could later turn into a business.

Lois Jotter, born in 1914 and a graduate student in the late 1930s, was studying the cytogenetics of the evening primrose at the University of Michigan. Jotter would be Clover's assistant during the expedition, chosen because of, though not exclusively for, her backcountry experience. I was not taken by Jotter at first, but quickly warmed to her. By the end of the book, it became obvious that she had a lot to offer. She would become a mentor appreciated by many of her students and she was definitively a person ahead of her time.

The two women were rather different, and this can be sensed throughout the journey down the canyon. However, the chemistry must have worked since they accomplished something that no other women and very few men had done before. They had many things against them; the biggest one was their gender. In 1932, Roy Chapman Andrews, President of the Explorer's Club and future Director of the Natural History Museum, had written “I know of no more effective way to wreck an expedition than to put in one woman, or worse still, two.” Sexism is omnipresent in this book and one can easily understand the difficulties encountered by women scientists of the time to find a path where they would be respected for their work and not for their looks. Their second biggest handicap was the line of work they had decided to pursue. In the 1930s, female scientists were not taken seriously, either by their male colleagues or by society at large. A woman did not belong in a lab, let alone in a boat collecting plants! To Clover and Jotter's dismay and frustration, for example, the journalists covering the trip never mentioned the expedition's scientific findings, focusing instead on how the two women measured up against the men.



*Brave the Wild River* is a well-written book. The language is often poetic, especially when the author writes about the landscape. It is also well-structured. Sevigny introduces the main characters in the first two chapters, and then dedicates each of the next ten to a different leg of the journey. Since there is a (small) map at the front of the book, it is easy to follow the progress of the expedition. Sevigny cleverly intersperses information about what was collected, seen, and felt with historical facts. Because she features quotes from the members' journals, it was fascinating to get the viewpoints of the different members on the expedition. In the second-last chapter, she summarizes what happened to the crew members after the journey completion. And it is in the last chapter that she reveals the importance of the 1938 expedition.

In 1994, scientists from the US Geological Survey (USGS) realized how essential Clover's and Jotter's botanical exploration was to assess the ecological changes that had occurred in the Grand Canyon since the Boulder dam construction. They thought that one of the best persons to measure these changes would be one who had seen the Colorado 50 years earlier. So in 1994, 80-year-old Jotter was invited to go back down the Colorado as part of a scientific expedition! What a way to close the circle! The epilogue, although informative, is to me the weakest part of the book. In it, Sevigny mentions her own 2021 trip down the Colorado River, and she reminds us that women in sciences are still facing many barriers. Because she had covered these challenges so well and powerfully throughout the book, this ending appeared unnecessary.

This is a book that will interest many. There is something for everyone in it: **botany** (of course), with the botanizing of the Colorado banks in the Grand Canyon; **geology**, with the description of how this magnificent landscape came to be; **ecology**, with, for example, the introduction of C. Hart Merriam and his theory of "life zones"; **Indigenous knowledge and spirituality** since the Confluence of the Little Colorado with the Colorado itself is a Sacred Place for the Hopi people; **social issues** as this was the time when tourism in National parks was being launched. This list is far from exhaustive. A lot of information is given, information appealing for both students and scholars of ecology, and often I found myself online searching for additional details on certain subjects. Using the main narrative, the author elegantly threaded together many smaller stories.

This is also a book which shed new light (at least for me) on today's drought events in the US. Here, the author unravelled the story behind the construction of the Boulder Dam and Lake Mead. A man of numbers, Eugene Clyde La Rue, a hydrologist and the chief engineer for the USGS, knew that the average flow of the Colorado River had been over-estimated because the data used to gauge it had been obtained early in the 20<sup>th</sup> century, when the weather had been very wet. In 1926, he proposed in front of a House Committee in Washington to construct a string of dams down the length of the River instead of a single larger one; according to him, this would minimize evaporation, maximize hydropower, and control floods. A few weeks later, however, Congress voted to authorize the Boulder Dam construction as they did not believe La Rue's claim (and that of several other hydrologists) that the Colorado River was likely to have less water than thought. I read this book in February 2023, when the media were regularly updating us on the catastrophic decrease of the water levels of the Colorado. With hindsight, one can think that La Rue was likely right all along. This divide between politics and the scientific community, where the voices of the latter often fall on the deaf ears of the former, is still only too present today.

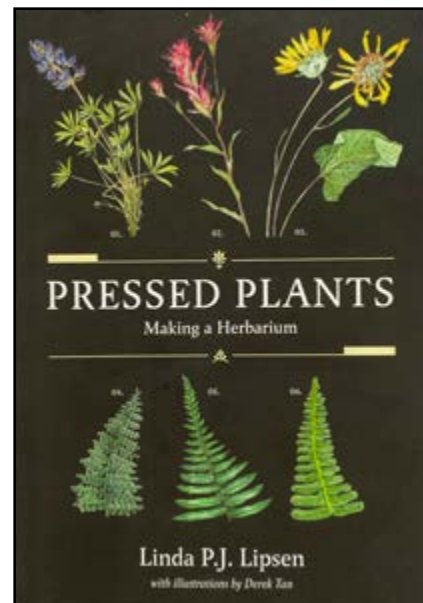
Definitively, an excellent read!

Frédérique Guinel,  
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# Review: Pressed Plants – Making a Herbarium

Linda P. J. Lipsen 2023. Royal BC Museum, Victoria

*Pressed Plants: Making a Herbarium* is everything you would expect from the title—a concise pocket manual on how and why to press plants and create or contribute to a herbarium. The paperback 5.5” × 7.5” × 1/4” format is perfect for fitting into a backpack. The durable front and back covers have folded flaps that are useful for marking pages. The book is divided into six chapters organized in a stepwise manner: Preparing to Collect; Collecting Plants; Pressing and Drying; Mounting Pressed Plants, Preserving and Organizing Specimens, and Identifying Specimens. Each chapter is broken down into practical subheadings that take the reader through the sequential steps for that stage in the process. Throughout the book, well-labelled line drawings, beautifully executed by Derek Tan, reinforce the text. A single specimen of *Aquilegia formosum* Fisch. is the plant example used and illustrated in each chapter so that its progress can be tracked from the plant in the field to the specimen in the herbarium cabinet at the end of the process. The text is further supported by three categories of sidebars that are explained in the Introduction, each handily marked with an Icon. These are: Tips and Tricks; Reusable Items and Sustainable Ideas; A Step-by-Step Checklist. The References and Resources are conveniently subdivided by topic.



In her introduction Linda Lipsen directs the book to “anyone who is curious about plants and has the desire to note their place on earth.” Her tone, style, and methodology hold true to that goal, and I could easily see the book being used by hobbyists, amateur naturalists, and professional botanists alike. Linda draws extensively on her own experience as a collector and a collections manager. Her anecdotes bring the process to life – as if she were conducting a practical workshop on the subject. The book is an easy, enjoyable read that provides a tremendous resource for herbaria to use when training volunteers, students, or staff. Based on my own experience as a practitioner and a teacher, there is little if nothing that has been left out. The comprehensive coverage of safety and conservation ethics for collecting is highly commendable. Likewise, the inclusion of information on how to prepare plant tissue specimens suitable for DNA analysis is vital information for contemporary botanical research and collecting that is not readily available in other specimen preparation manuals.

If I were to make suggestions for a 2<sup>nd</sup> edition of this book, they would be as follows:

Both the Introduction and Chapter 2, Collecting Plants: Why, What, When and How, acknowledge the need to document biodiversity beginning in our own backyards, and also note that contributions to herbaria by private collectors have been on the decline. Collectors are therefore encouraged to think about contributing their specimens to established herbaria. This is laudable; however, it would be useful to encourage collectors to consult or collaborate with herbarium botanists beforehand to identify regions or taxa that are poorly documented and could benefit from new specimens. Many herbaria are faced with space and or capacity constraints, so it is especially important to direct collecting efforts to regions or taxa of interest rather than ending up having to disappoint a keen collector by rejecting their specimens. As well, many institutions now require proof of provenance, so permits or written permission from private or public landowners must accompany specimens being donated, even by government or non-government agencies, or university researchers.

The book rightly advocates the use of archival products for mounting specimens but does not mention that not everything marketed as archival quality actually is. It would be useful to add sources of reliable information on recommended products, or means of testing e.g., paper pH. Similarly, in Chapter 5, “Preserving and Organizing

Your Collection,” freezing specimens for 10-14 days in a regular commercial freezer is the recommended means of pest control, but there is no explanation that the duration and temperature are linked to the lethal exposure required for each species of insect. While in both instances, that level of detail may be “too much information” for some, for those readers who are serious about making collections that will last in perpetuity it would be helpful to make reference to resources like the [Canadian Conservation Institute \(CCI\)](#), the [Society for the Preservation of Natural History Collections \(SPNHC\)](#) or the Herbarium List Serve ([herbaria-bounces@nacse.org](mailto:herbaria-bounces@nacse.org)) as reliable sources of information or advice on recommended products and protocols.

These suggestions aside, I highly recommend *Pressed Plants: Making a Herbarium*. It should be added to the reading lists and textbooks of all plant systematics and floristic courses or field courses. I will definitely have copies on hand for myself, my own herbarium staff, students and volunteers and to recommend to anyone who will ever need or want to collect a plant.

Deborah Metsger  
Assistant Curator of Botany, Royal Ontario Museum  
Acting Curator, TRT

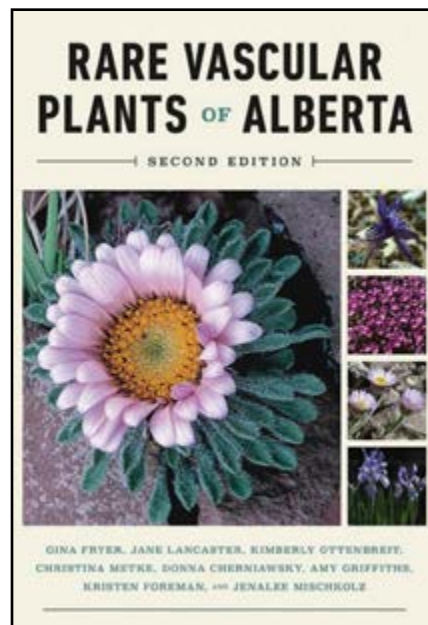
# Review: Rare Vascular Plants of Alberta, Second Edition (2022)

Edited by Gina Fryer, Jane Lancaster, Kimberly Ottenbreit, Christina Metke, Donna Cherniawsky, Amy Griffiths, Kristen Foreman, and Jenalee Mischkolz

This newly revised Rare Vascular Plants of Alberta (RVPA) book has been extensively revised from the previous edition in 2001. RVPA details approximately 470 species of native vascular plants found in Alberta, including flowering, non-flowering seed and spore-producing plants. It is useful for general plant enthusiasts and professional botanists. Each entry of a species has explanations on the plant, including overall characteristics, leaves, reproductive parts and habitat. These text descriptions are accompanied with line drawing and, in most cases, a colour photograph. As well, especially of use for researchers interested in the northern range limits of plant species, this book has beautiful colour images of range and ecosystem maps that show where plants occur in Alberta and elsewhere in North America. These maps indicate with colours (a colour-blind friendly palette) useful information, such as if a given species is common, rare or introduced.

I do not have many criticisms of the book; it was worked on by many people and they did an impeccable job. Personally, to make the book even more helpful for all readers, I would have clarified the naming on pages xviii to xix for non-experts so that they are aware that eudicots also include, for example, plants that are trees and shrubs. Right now, “eudicots” is a separate section that to be clearer could be “some eudicots” or “non-woody and non-aquatic eudicots.” The way it is currently set up could potentially make that confusing for some users. It is a change that could be made in the next edition whenever that is released. There is an illustrated glossary in the back of the book, with illustrations that are carefully drawn and detailed. A minor re-arrangement that would help with their quick use by a broader audience would be to put these illustrations in the same order as the other sections (such as xviii to xix) and to break them down into groupings when applicable, such as under “spore-bearing plants.”

Increasingly, people are using books and digital technologies to understand the natural world. Learning about plants is no exception. In the introduction section of the book, it mentions the most up-to-date information on rare plants in Alberta is in the Alberta Conservation Information Management System (ACIMS), and in the Database of Vascular Plants of Canada (VASCAN), as well as ways to help, such as working together and involvement with the Alberta Native Plant Council (ANPC). What might really be helpful with this book, or in the next edition after this (hopefully sooner than 20 years from now!) is a RVPA open access database and website of plant sightings, and updated range maps (the map files from the book would be great for the public to be able to download, for example) where people using the book can upload, curate data, and link it into other databases. Given the increasingly large use of databases, such as for plant traits for example, information on plants in Alberta and records could be linked to this book in an online website. Potentially graduate students could curate this website along with the experts and enthusiasts who have been involved in previous RVPA editions. Furthermore, such a website could be linked to things like Global Biodiversity Information Facility (GBIF) and iNaturalist for when experts and the general public use the book and their computer and phone applications.



This is a new field guide, which is a sizable book (greater than 1 kg in mass) filled with colour images and printed on acid-free paper. There are 664 pages, with 548 colour photographs and 934 maps, 508 illustrations, and five tables.

In conclusion, this book is a greatly updated field guide, that had tremendous effort put into revising it from the previous edition. This new edition would be a wonderful addition to book collections of people passionate about rare vascular plants of Alberta. It is also important for those interested in northern range limits of vascular plants in North America; understanding where current species range limits exist, and anticipating where they might shift, is important in our rapidly changing world.

Laura Super, PhD Candidate  
University of British Columbia

## Two Sides of the Same Dune

Marion Leménager, PhD student, IRBV, Université de Montréal (marion.lemenager@umontreal.ca)  
Frédérique Guinel, Professor Emerita, Wilfrid Laurier University (fguinel@wlu.ca)

The Spruce Woods Provincial Park / Spirit Sand Dunes field-trip, held in conjunction with the joint annual meeting between the Canadian Society for Ecology and Evolution (CSEE) and the CBA, took me to a different planet, one I did not know existed in Canada. A visit to this unique sand dune habitat, located about 200 km west of Winnipeg, Manitoba, had been on my bucket list for a while, so I was very excited when I boarded the school bus on Sunday morning to find it filled with 35 other equally enthusiastic participants. I was not disappointed by what I discovered on our trip. I am not a taxonomist, so I am always a little bit worried to show my ignorance. However, retirement had alleviated my worries, and I was able to recognize several groups of plants and place them in well-known families. I even saw a gorgeous legume plant, the purple locoweed (*Oxytropis lambertii*, Fig. 1), which I did not know. Field trip participants had expertise in botany and zoology, so information concerning plants, insects, spiders, and other creatures was exchanged happily. This made the day even more special!

True, it was a hot day, and it was not so easy to walk in the sand, but the landscapes seen from the trail made me want to continue. The sky in its blue hue was magnificent. The trip, organized by Bruce Ford, with the help of Carla Zelmer and Diana Sawatzky, took us up to the top of a small ridge where we saw sand on both sides as far as we could see, with some short trees, both deciduous and conifers, here and there. When it was finally time to head back to the bus; we were lured by the idyllic description that Bruce gave of our picnic location: shaded banks along a nice body of water, exactly what we needed after a hot morning hiking in the dunes.



Fig. 1 – *Oxytropis lambertii* (© F. Guinel)

It felt so good eating our lunch on the grass with old friends and chatting away. The day still had a gift for me, to spend the trip back in the company of a graduate student studying in Montreal. Marion and I were able to exchange ideas on many different topics in our native tongue! What a pleasure! I had just met a talented and artistic young woman, whose illustrations enthused me. I nudged her to write a small report on this field-trip so that you can discover her sharp sense of observations and her powerful sketching abilities. Being a keen student, Marion has taken the field-trip much more seriously than I did as you will read below.

~Frédérique

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I was excited to visit the Spirit Sand Dunes before the CSEE-CBA conference, and prepared the list of plants to observe in my field notebook. With a little apprehension from the heat wave warning received days prior to the excursion, I equipped myself with a UV protection long sleeve shirt. Wearing light clothing was also a good idea due to the number of ticks ready to get their meal. With all my things prepared, I still felt a bit uncomfortable to step out of my comfort zone; it wasn't so much going into the field than to keep at bay my social anxiety. However, I ended up talking with a lot of the participants, and even made friends. Sharing a passion for plants made it easier for me to break out of my invisible shell.

Among the things we saw or heard, there were plenty of fascinating plants, belonging to gymnosperms (e.g., Fig. 2) as well as angiosperms, but also mammals and birds. Among the flowering plants, we could see very showy ones from red to yellows, such as the prairie smoke (*Geum triflorum*, Fig. 3), gaillardia (*Gaillardia aristata*), Western red lily (*Lilium philadelphicum*, Fig. 4), and hoary puccon (*Lithospermum canescens*). There were also shy ones, such as the skeleton weed (*Lygodesmia juncea*, Fig. 5), green comet milkweed (*Asclepias viridiflora*), pygmyflower (*Androsace septentrionalis*), and sand dock (*Rumex venosus*, Fig. 6). The star of the day was without any doubt the purple cactus (*Escobaria vivipara*, Fig. 7).



Fig. 2 - Sketches of *Juniperus communis* and *Juniperus horizontalis* (© M. Leménager) and a photo of *J. horizontalis* (© F. Guinel)



Fig. 3 – *Geum triflorum*, photo (© F. Guinel) and sketch (© M. Leménager)



Fig. 4 - *Lilium philadelphicum* (© M. Leménager)



Fig. 5 - *Lygodesmia juncea* (© F. Guinel)



Fig. 6 - *Rumex venosus* (© F. Guinel)



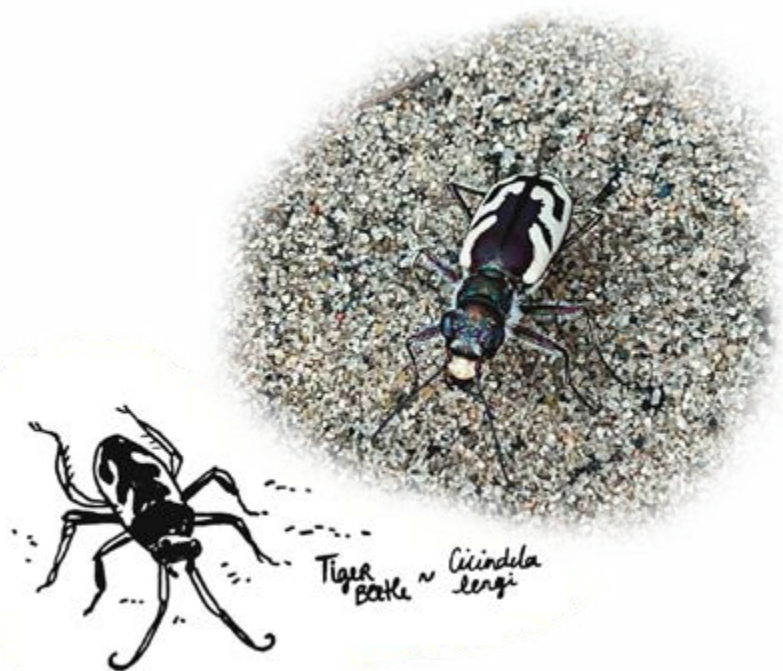
**Fig.7 – *Escobaria vivipara***  
 (photo and sketch © M. Leménager)



During our short walk (in distance, but long in duration... you know how botanists hike), we heard a red-eyed vireo (*Vireo olivaceus*, Fig. 8), and crossed paths with a viceroy butterfly (*Limenitis archippus*), which mimics the famous monarch butterfly (*Danaus plexippus*), as well as with a fierce tiger beetle (*Cicindela lengi*, Fig. 9). After viewing the dunes (Fig. 10), we took a group photo (Fig. 11) to immortalize the moment, during which a thirteen-lined ground squirrel (*Ictidomys tridecemlineatus*, Fig. 11) jumped into the picture!



**Fig. 8 - *Vireo olivaceus***  
 (© M. Leménager)



**Fig. 9 – *Cicindela lengi*** (© M. Leménager)



**Fig. 10** - View on the sand dunes and the sketch of the view (© M. Leménager)



Notebook in hand, I checked things off the list of organisms we saw during the day. A last stop by the river allowed us to have a luncheon in the breeze, and discuss in smaller groups. However, it was on the bus rides that I felt closer (both literally and metaphorically) to two participants, with whom I was happy to spend time the following days at the conference. These bus rides allowed me to chat away about our anticipation and appreciation of the sand dunes, but also allowed time to connect even more. Frédérique was especially keen and intrigued by the research I was doing and gave me confidence in my work. Doing a PhD is a long and rocky road, so having peers supporting you and validating your doubts, even when you don't know them for very long, was very valuable.

*~Marion*



Fig. 11 - Group photo (© Carla Zelmer) and sketch of *Ictidomys tridecemlineatus* (© M. Leménager)

*We both thank Bruce Ford for the very well organized and informative field trip. We can probably speak for the whole group when we say that we all really enjoyed this visit, and sharing our passion for plants with colleagues and new friends. Furthermore, we would like to thank him for his help and support in this writing endeavour.*



# The George Lawson Medal, Part II

## An expanded portrait of the medal itself

Frédérique Guinel<sup>1</sup> and Jennifer Doubt<sup>2</sup>

1. Professor Emerita, Biology Department, Wilfrid Laurier University

2. Curator, Botany, Canadian Museum of Nature

For the second installment in this series on the Lawson Medal, Frédérique has been time travelling in the CBA Archives at Library and Archives Canada (LAC), and in the professional archives of Victor Tolgesy, the artist who designed the George Lawson Medal. Re-tracing past conversations through minutes and correspondence to understand our present practices has underscored (yet again) how important the documents we archive today will be to our CBA successors. It also has unearthed so many riches that we have decided to extend the series into 2024. Get comfy! In this episode, we trace the initiation and early logistics of the Lawson Medal.

### *1968: Inception and early plans*

Although the CBA's founding meeting was held in 1965, the first mention of a merit award to be given to a "Canadian who had made an outstanding contribution to the botanical science" was made at an Executive Meeting in June 1967. Then President Roy L. Taylor tasked Vice President Jim C. Ritchie with creating a committee to help establish the ground rules for such an award. As the Executive Committee was keen to bestow the first award at the 1969 meeting, time was tight. A short note in the very first issue of the *Bulletin* (January 1968) invited members to contribute ideas to the committee.

A few months later, in May 1968, the CBA executive and membership approved Ritchie's initial report. In October of the same year, bolstered by recommendations from the membership, the Board determined that the annually-appointed Award Committee would include the CBA President, its Past-President, three members, and an external senior scientist from a discipline related to Botany. The award would be "a medal of silver with a ribbon of green and gold attached." Taylor, by now Past-President, agreed to seek suggestions for the medal design from the botanical artists of the Plant Research Institute in Ottawa, where he was working. Other details were discussed, such as the wording that would be inscribed on the medal.

In *Bulletin* 1(4), the membership learned that

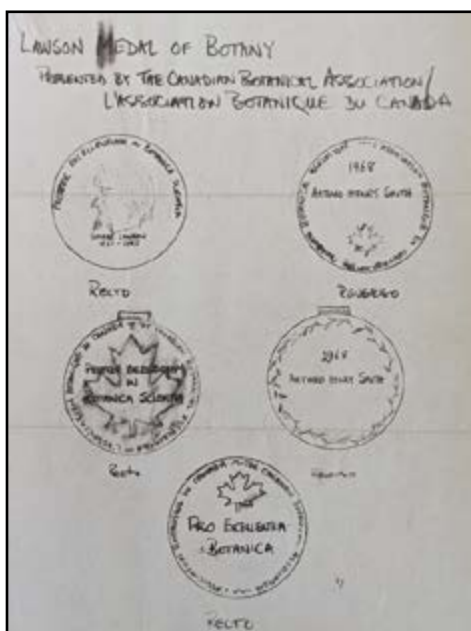
*The purpose (of the award) is "To provide a collective, formal expression of the admiration and respect of botanists in Canada for the excellence of the contribution of an individual to Canadian botany." Two awards can be given annually. One award may be for a single outstanding contribution to botanical knowledge. A second award may be given in recognition of cumulative distinguished contributions of a senior investigator, teacher, or administrator. It is possible that only one award or none will be given. Any professional botanist working permanently in Canada is eligible as it is hoped the establishment of the award will foster botanical excellence in Canada.*

The official call for nominations for the as yet unnamed medal was set to close on January 15, 1969.

## 1968-69: The creation of the medal itself

In the late months of 1968, while preparing to move to the University of British Columbia to assume Directorship of its Botanical Garden, Taylor worked arduously on the creation of the medal.

- He contacted a representative of Henry Birks and Son to discuss the production of a cast and the striking of a medal.
- As promised, he discussed a medal design with an artist he supervised, who suggested that he engage a professional sculptor.
- He contacted the Classics Departments of both the University of Ottawa and Carleton University regarding an appropriate Latin inscription embracing the idea “For Excellence in Botany.” They replied with the following:
  - *Pro Excellentia Botanica*
  - *Propter Excellentiam in Botanica Scientia*
- He proposed to Ritchie that the award be named after a Canadian botanist, recommending for this honour George Lawson, who had played such an important role in the development of the first Canadian Botanical Society (Rousseau and Dore, 1966). He proposed to call the Award “The Lawson Medal of Botany,” and have an artist sculpt Lawson’s profile on one side of the medal.
- He sketched his ideas (Fig. 1) for Ritchie, who meantime had become the CBA President.



**Figure 1** – CBA Past-President R.L. Taylor’s sketches of possible Lawson medal designs and inscriptions.

Source : LAC CBA/ABC fonds R14600 – Vol 11 – File 7

The archived letters exchanged between Taylor and Ritchie reveal that the medal came to be over a period of three months, a remarkable feat! By early 1969, after contacting two other artists, Taylor selected Victor Tolgesy (Fig. 2), a well-known Ottawa sculptor for the commission of the medal. From his new Vancouver home, Taylor began a lengthy and friendly exchange of letters with Tolgesy, who was becoming famous on the Canadian scene, with a number of exhibitions, commissions, and awards.

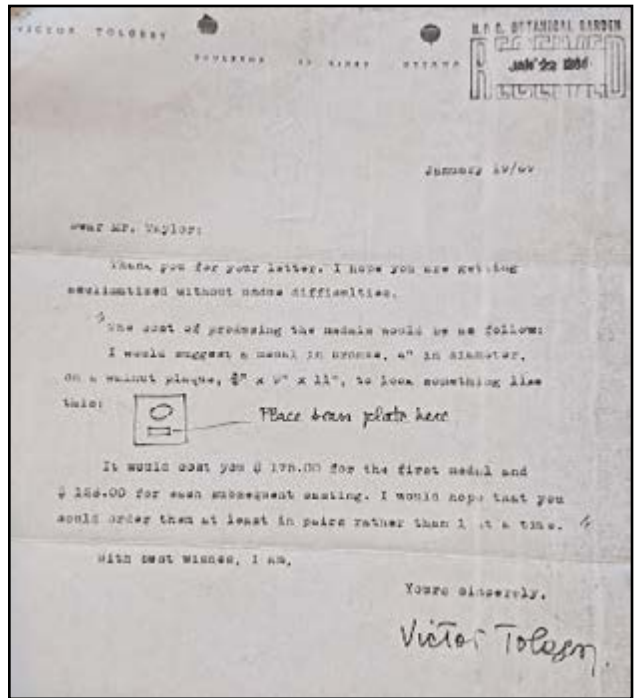
Being very conscientious and organized, Tolgesy kept a folder of all the correspondence he exchanged with the CBA Executive over a period of ten years, including his related sketch books and drafts. At first, his main contact was Taylor (Fig. 3), but letters exchanged with various CBA treasurers soon followed. Tolgesy’s first quote for a single medal approached \$1000 in today’s currency (accounting for inflation).

Although it would not be revealed to the membership until April 1969, the medal’s name first appeared in a letter dated February 25 1969, in which Taylor (on behalf of the CBA Executive) asked Tolgesy “to proceed with the production of the medals and the plaques for the George Lawson Medal in Botany.” In the same letter, Taylor sought assurance that the material for producing the award would be available, and in a consistent format, for some years to come. Taylor’s former Ottawa co-worker, Bill G. Dore, was to provide a photograph of Lawson (Fig. 4) to use as a model. This portrait still resides in Tolgesy’s archives along with a reprint of Lawson’s biography (Rousseau & Dore 1966).



**Figure 2** – A photograph of Tolgesy close to the time when he created the Lawson Medal. In 1967, in Ottawa, he participated in *Canadian Sculpture 1967* at the Blue Barn Gallery, and in the *10th Annual Exhibition and Sale of Works by Leading Canadian Artists from Coast to Coast*.

Photo courtesy of the Tolgesy Estate.



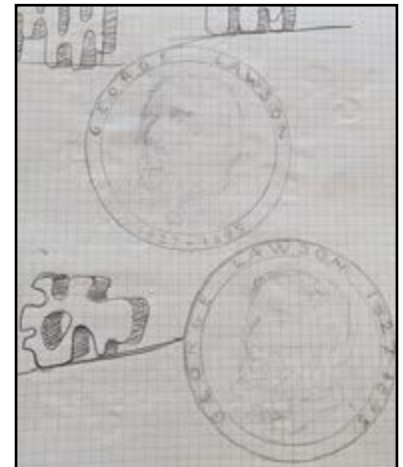
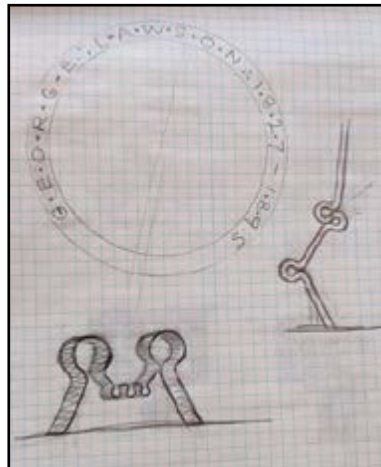
**Figure 3** – Tolgesy’s first known letter to Taylor, including a quick drawing to illustrate his vision of the plaque. It reads:

*“I would suggest a medal in bronze, 4” in diameter, on a walnut plaque, ¾” x 9” x 11” to look something like this. It would cost you \$175.00 for the first medal & \$125.00 for each subsequent casting.”*

Photo courtesy of the Tolgesy Estate.



**Figure 4** – Photograph of George Lawson, corresponding to Figure 1 in Rousseau & Dore (1966). At the back of this photograph, there is a stamped inscription indicating that the photo was reproduced at the Canada Dept. of Agriculture – Research Branch – Bio Graphic Unit - Scientific Information Section. We have not yet been able to trace its origin, i.e., where Dore got hold of it. (Photo courtesy of the Tolgesy Estate)



**Figures 5 & 6** – Two pages of the sketchbook of Victor Tolgesy, the artist who created the first Lawson Medals.

Photo courtesy of the Tolgesy Estate.

Tolgesy thus began to work on the medal, drafting a few variations in his 1968-1969 sketchbooks (Figs. 5 and 6).

To the Executive's concern about the continuity of medal production, he responded with several options. The CBA could 1) order the medals yearly, 2) order several medals at once to last 4 to 5 years, or 3) acquire the aluminum "master" (the original artist's mould) of the medal, with the rights to have copies made as required. For the last option, Tolgesy quoted a lump sum of \$1,000 (equivalent to a little over \$8,000 today). At the end of April 1969, when Tolgesy had completed a plaster cast of the medal, Taylor visited Ottawa and checked in on progress. He liked what he saw! In anticipation of the launching of the Medal, Taylor asked Tolgesy for a short biography and for a photograph of the award (Fig. 7).

### 1969: Launch!

While Taylor was busy working on medal details with Tolgesy, Ritchie was working with the Awards Committee to select the first honouree. Two nominations had been received.

On one hand, in a hand-written nomination letter, Dore explained that Jacques Rousseau's work "*has been concentrated in the broad fields of nomenclature, geography and utilization of the vascular plants which make up so important a part of our natural vegetation. He has made his findings known through numerous publications (over 500), teaching, public lectures, radio and TV and his influence has been far-felt. The places, neglected by others, that he has so well filled-in are: an history of early botanical exploration (currently he is preparing Pehr Kalm's account of 1740-50), ethnobotany (through contact with the aborigines), and bibliography (in connection with the Royal Society of Canada).*"

On the other hand, in a letter of nomination for Alf Erling Porsild, Wilf B. Schofield wrote that "*His many contributions to systematics, phytogeography and ecology of Canadian Arctic vascular plants are unsurpassed. Only Hulten comes close in his understanding of Arctic botany. Besides this, Dr. Porsild has brought the National Herbarium to a position of international importance. It has encouraged the broadening of the curatorial research staff, and the museum now possesses both able "cryptogamic" botanists and vascular plant botanists and admirably complements the staff at the Plant Research Institute giving Canada an enviable full-time research team in basic botany.*"

The vote in support of Rousseau's nomination won 4 to 2 (Porsild would receive the Lawson medal two years later). Ritchie disclosed the name to be inscribed on the inaugural award when he ordered the first two medals on June 5, 1969 (Fig. 8).

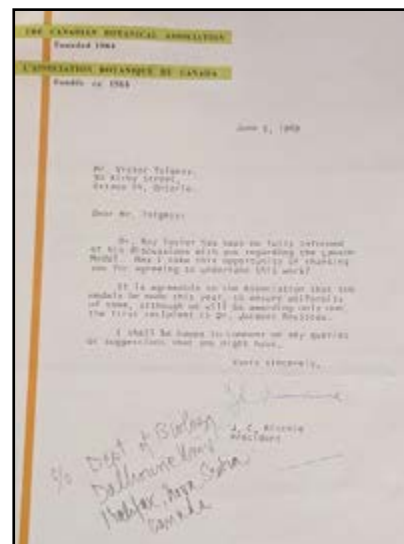
### 1970-1981: The first generation of medals

Over its first decade, the Lawson medal fell into a routine: members of the Award Committee were selected at the Fall Executive Board meeting, and



**Figure 7** – Tolgesy's photograph of the Lawson medal and plaque for the award unveiling in CBA Bulletin 2(3) in June 1969. We found two copies of this issue in Tolgesy's files.

Photo courtesy of the Tolgesy Estate.



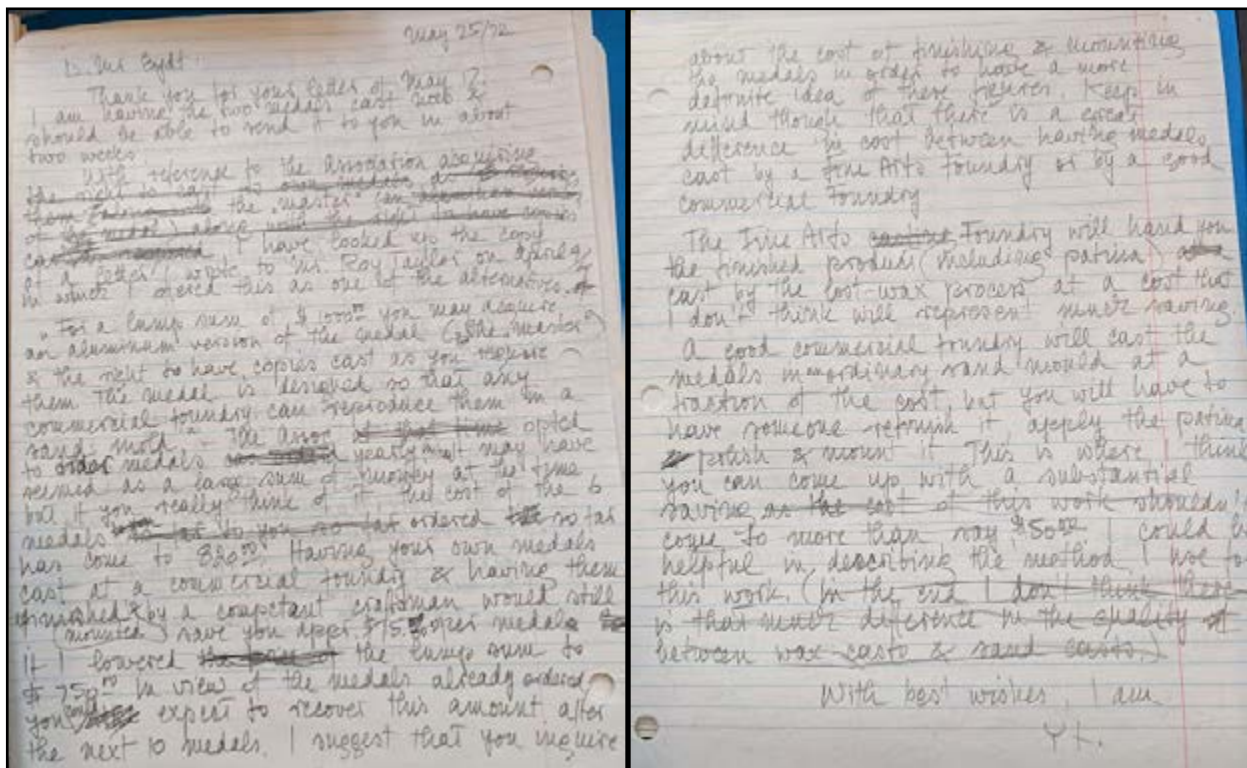
**Figure 8** – A letter addressed to Tolgesy where Ritchie mentioned that Jacques Rousseau will be the first recipient of the Lawson Medal.

Photos courtesy of the Tolgesy Estate.

Association members were urged via the *Bulletin* to nominate potential recipients. Early in the year, Tolgesy would receive an order from the CBA Treasurer for generally two medals (in keeping with his procurement option 1) to be ready by the annual meeting. This continued until May 8th 1979, the date of the last letter in Tolgesy's file.

Some correspondence from this period nonetheless stood out.

- In May 1972, Tolgesy was contacted (again) by the Executive Board to inquire about buying the original mould of the medal. In his response the same month (Fig. 9), he reminded the Executive of his previous offer (option 3), but proposed a lower price for the master (\$750.00, i.e., about \$5,600 today), as there had already been six medals cast. He explained that with the aluminum mould, a foundry could take over the work he had until now performed, carefully noting the price and processing differences between a Fine Arts Foundry and a commercial foundry. To save CBA funds, he recommended the commercial option but that a competent craftsman applied the patina, polished, and mounted the medal. Evidently, the Executive was unconvinced.
- In 1972, Luella K. Weresub proposed that pictures of the Lawson Medal winners be published in the *Canadian Journal of Botany*. After a lively correspondence between the CBA Executive and the journal's Editor-in-Chief, the journal declined.
- For several years, starting in 1975, to augment the small pool of nominees put forward by CBA members, Chairs of University biology and botany departments were invited to participate in the nominations.
- The tragic death of Mary E. Elliott in 1976 profoundly impacted CBA proceedings. Elliott was about to become the Association Past-President – the role of association “memory” and mentor to Board newcomers. Will N. Stewart, the President who succeeded Elliott, faced challenges as revealed in a 1977 correspondence with former Past-President John K. Morton: “*We have not been able to locate the remaining unused Lawson Medal which Mary had. Hence we must write it off and order two new ones....*”



**Figure 9** – A hand-written draft of a letter written by Tolgesy to Ron N. Eydt, CBA President in 1972, where he reiterated what he had previously mentioned to Taylor. The Board could get the medal master and the right to copy as sees fit for a lump sum of \$1000. Tolgesy demonstrated in this letter his love for the craft as he carefully explained to the Board his suggestions for producing the best medal possible. (Photos courtesy of the Tolgesy Estate)

Tolgesy died from cancer on January 6th 1980; he was only 52. A short paragraph announcing his death was published in *Bulletin* 13(2). In the ensuing uncertainty surrounding future production of the Lawson medal, the Executive again investigated medal ownership and rights. No legal documentation surfaced to settle the matter in their search of the archives. In June 1981, the CBA purchased the mould from Tolgesy's widow, Greta Tolgyesy (the spelling is intentionally different), for \$400.00 (about \$1,500 today).

Coincidentally, 1980 is the only year so far in which no George Lawson Medal has been awarded. Although a call for nominations was published as usual in the *Bulletin* 13(1) of that year, the archives show that none were received.

### *The next generations of medals ...*

We suspend the timeline of the Lawson Medal here. The story is developing as we speak. As the association has bestowed the last of the existing medals, current Lawson Medal coordinator Anne Bruneau has arranged for the production of a fresh supply, a project that we will describe in installment 4 when we bring the timeline into the present, along with a “big picture” view of the growing population of Lawson honourees. Stay tuned!

Meantime, in installment three, we will bring you the Botanical Society of Canada – the organization that Lawson launched in 1860, an action that so inspired the founders of the CBA.

### *Acknowledgements*

We are much indebted to Tina Tolgyesy, Victor Tolgesy's daughter, for access to her father's archives. We also would like to thank Anne Bruneau for her insightful comments on an earlier version of this work. Finally, we also send a respectful, grateful tip of the hat to Drs. Taylor and Ritchie, for their leadership, thought and hours of work to create the Lawson Medal.

### *References*

Rousseau, J. and Doré, W.G. 1966. L'oublié de l'histoire de la science canadienne — George Lawson, 1827-1895. In *Pioneers of Canadian Science*. G.F.G. Stanley, ed. pp.54-80.

## A Special Thank You to Dr. Ernie Small

Readers of the CBA *Bulletin* will all be familiar with the contributions of Dr. Ernie Small. Year in and year out, each *Bulletin* issue has contained one of his in-depth and thoroughly-researched articles on a plant species of interest, be it a native Canadian species or some fascinating horticultural specimen.

Dr. Small received his doctorate in 1969 from the University of California at Los Angeles. Since then, he has worked for Agriculture and Agri-Food Canada, where he is now Principal Research Scientist, specializing in the evolution and classification of economically important plants; in particular food, forage, biodiversity, and medicinal species. Dr. Small is the award-winning author of 15 books and over 400 scientific publications. He has appeared as an expert witness in dozens of court cases, advised national governments, and has been an adjunct professor at numerous universities. His honours include election as a Fellow of the Linnean Society, the G.M. Cooley Prize of the American Association of Plant Taxonomists, the Queen Elizabeth Diamond Jubilee medal for contributions to science, our own George Lawson Medal, and appointment to the Order of Canada, the nation's highest recognition of achievements. In short, we at the CBA have been lucky to benefit from his contributions.



Dr. Ernie Small being awarded the Order of Canada on Sept 6, 2018, by the then Governor General, Julie Payette.

As editor for the past three years, his articles have been a pleasure to receive, as they are always meticulously well written and organized. I have no idea how he consistently manages to turn up such interesting and often obscure facts about the species he chooses to focus on. When I asked him about his history with the *Bulletin*, I was astounded to learn that he's authored or co-authored **one hundred and four** such articles running all the way back to 1994.

Dr. Small recently reached out to let me know that the article he wrote for us this past spring would be his last, as he wished to focus on two books he is writing, including *In Defense of the World's Most Despised Species: Why we love some species but hate most, and why it matters*, out next month from Routledge Press. This represents a huge loss to the *Bulletin*, but certainly a gain for readers of his upcoming books. On behalf of the CBA *Bulletin*, I'd like to thank Ernie for his enormous contributions, to wish him well in all his endeavours, and to encourage members to enjoy more of his writing by picking up one of his new books.



Erin Zimmerman  
Executive Editor, CBA *Bulletin*

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