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Captions for cover photos can be found on the back cover.

La légende des photos de la couverture se situe sur la couverture arrière.

The face of a robber fly (Diptera: Asilidae) that was basking on a fence rail in August at Mission Creek Park in Kelowna, British Columbia.

Le visage d'une mouche Asilide (Diptera: Asilidae) qui se prélassait sur une clôture en août au parc Mission Creek à Kelowna.

[Photo: Bob Lalonde]



Entomological cycles

Autumn is fast approaching, alongside keen students returning to classrooms and a chance to analyze our field season data in earnest. We've made it through too many covid disruptions and too few direct human interactions, but now we can finally (fingers crossed) anticipate returning to in-person entomology meetings and reacquainting ourselves with our entomological communities. This year's JAM will be a delightfully diverse entomological experience that I'm sure you will remember for a very long time. I'm looking forward to seeing many of you there!

This is my last Up Front piece as ESC President, and now I'd like to thank every one of you for your support of our society. In our ESC Executive Council, I've been extraordinarily lucky to be able to rely heavily on the long experience of Bill Riel, Chris MacQuarrie and Neil Holliday, as well as the fresh insights and diligence of Bryan Brunet and Colin Favret. We are now also gratefully welcoming Erin Campbell as ESC co-secretary. Her official start was 1 September but she was already busily at work soaking up the operational nuances of our society well before that. But fortunately, Neil Holliday is staying on as co-secretary to mentor Erin in the nuances of keeping our society processes functioning and to keep us all on track. Bernie Roitberg's first issue as Editor of the ESC Bulletin is another new beginning, and we are

Cycles entomologiques

L'automne approche à grands pas, en même temps que le retour des étudiants enthousiastes dans les salles de classe et la possibilité d'analyser sérieusement les données de notre saison de terrain. Nous avons traversé trop de perturbations covididiennes et trop peu d'interactions humaines directes, mais nous pouvons enfin (en croisant les doigts) anticiper le retour aux réunions entomologiques en personne et renouer avec nos communautés entomologiques. La réunion annuelle conjointe de cette année sera une expérience entomologique délicieusement diversifiée dont vous vous souviendrez, j'en suis sûr, pendant très longtemps. Je me réjouis de vous y voir nombreux!

C'est mon dernier article pour l'Avant-propos en tant que président de la SEC, et j'aimerais maintenant remercier chacun d'entre vous pour votre soutien à notre société. Au sein du Conseil exécutif de la SEC, j'ai eu la chance extraordinaire de pouvoir compter sur la longue expérience de Bill Riel, Chris MacQuarrie et Neil Holliday, ainsi que sur les nouvelles idées et la diligence de Bryan Brunet et Colin Favret. Nous sommes également heureux d'accueillir Erin Campbell en tant que cosecrétaire de la SEC. Elle a officiellement pris ses fonctions le 1^{er} septembre, mais elle était déjà bien occupée à s'imprégner des nuances opérationnelles de notre société bien avant cette date. Mais heureusement, Neil Holliday reste en tant que cosecrétaire pour guider Erin dans les nuances du fonctionnement de notre société et pour nous garder tous sur la bonne voie. Le premier numéro de Bernie Roitberg en tant que rédacteur en chef du Bulletin de la SEC est un autre nouveau départ, et nous avons beaucoup

very lucky to have his sagacity and experience as editor at the helm. It has also been a pleasure to work with the members of our ESC Board and our many active committees who ensure that our society continues to move forward in positive ways. Adapting constructively to the inevitable changes of new realities is not simple, and our entomological community has stepped up to the challenge with good will and kindness.

We have a strong and resilient 159-year-old foundation to build on as a society, and even more years as a community of entomologists and naturalists. Those of you who were fortunate enough to be able to return this summer to connecting with bugs and nature will know how fortunate we all are. Such activity is a well-documented aid to mental health, with descriptive natural history segueing into limitless opportunities for science that can also contribute to a better world. If we focus on these fundamentals that have brought us together over the years, then we'll have what it takes to move confidently into the coming decades. I'm honoured to have had the opportunity to participate, and I'm eagerly looking forward to seeing what the future will bring.

de chance de pouvoir compter sur sa sagacité et son expérience en tant que rédacteur à la barre. Ce fut également un plaisir de travailler avec les membres de notre CA de la SEC et nos nombreux comités actifs qui veillent à ce que notre société continue à progresser de manière positive. S'adapter de manière constructive aux changements inévitables des nouvelles réalités n'est pas simple, et notre communauté entomologique a relevé le défi avec bonne volonté et gentillesse.

Nous disposons d'une base solide et résiliente âgée de 159 ans sur laquelle nous pouvons nous appuyer en tant que société, et d'encore plus d'années en tant que communauté d'entomologistes et de naturalistes. Ceux d'entre vous qui ont eu la chance de pouvoir retourner cet été à la rencontre des insectes et de la nature savent combien nous sommes chanceux. Une telle activité est une aide bien documentée pour la santé mentale, et la description de l'histoire naturelle débouche sur des possibilités scientifiques illimitées qui peuvent également contribuer à un monde meilleur. Si nous nous concentrons sur ces éléments fondamentaux qui nous ont réunis au fil des ans, nous aurons ce qu'il faut pour aborder avec confiance les décennies à venir. Je suis honoré d'avoir eu l'occasion de participer et j'attends avec impatience de voir ce que l'avenir nous réserve.



Joint Annual Meeting 2022 / Réunion annuelle conjointe 2022



2022 ESA, ESC, and ESBC
Joint Annual Meeting

Entomology as inspiration: Insects
through art, science, and culture

Vancouver, British Columbia, Canada
November 13-16



Réunion annuelle conjointe
ESA, SEC, et SECB 2022

L'entomologie comme source d'inspiration:
Les insectes à travers l'art, la science et la culture

Vancouver, Colombie-Britannique, Canada
13-16 novembre

We invite you to attend the 2022 ESA, ESC, and ESBC Joint Annual Meeting!

The 2022 Joint Annual Meeting will take place in beautiful Vancouver, British Columbia, from **13-16 November 2022**. With a theme of **Entomology as inspiration: Insects through art, science, and culture**, this meeting represents a unique opportunity to share your research, gain exposure, and collaborate across borders and across Societies. Connect with over 3,000 scientists and researchers from around the globe over the 4 science-filled days.

Full meeting details, important deadlines and up to date information can be found on the meeting website: <https://www.entsoc.org/events/annual-meeting>

We look forward to seeing you in Vancouver!

Nous vous invitons à assister à la réunion annuelle conjointe ESA, SEC et SECB 2022!

La réunion annuelle conjointe 2022 se tiendra dans la magnifique ville de Vancouver, Colombie-Britannique, **du 13 au 16 novembre 2022**. Avec le thème **L'entomologie comme source d'inspiration: Les insectes à travers l'art, la science et la culture**, cette réunion représente une chance unique de partager votre recherche, d'avoir de la visibilité et de collaborer au-delà des frontières et des Sociétés. Soyez en contact avec plus de 3000 scientifiques et chercheurs de tout le globe durant 4 journées remplies de science.

Les détails complets de la réunion, les dates limites importantes et de l'information à jour se trouvent sur le site web de la réunion : <https://www.entsoc.org/events/annual-meeting>

Au plaisir de vous voir à Vancouver!

STEP Corner / Le coin de la relève

Rowan French and Matt Muzzatti



Annual meeting

The Entomological Societies of Canada, America, and British Columbia will host their joint annual meeting in Vancouver, **13-16 November 2022**. Members of the Entomological Society of Canada's Student and Early Professional Affairs Committee (SEPAC) have been busy organizing events for the meeting, including a silent auction featuring entomologically themed items made by Canadian artists. In conjunction with ESA, we are also hosting two symposia to celebrate exceptional research conducted by graduate students and postdocs. The Rising stars symposium/Graduate student showcase will feature ESC members Jacob Basso, Anne-Sophie Caron, Jessica Fraser, and Mathilde Gaudreau, as well as ESA members Jordan Glass, Sandra Mendiola, Christine Sosiak, and Samantha Willden. Speakers in the Early Career Recognition symposium include Matthew Doremus, Laura Figueroa, Karen Poh, and Isobel Ronai. Be sure to attend both symposia in Vancouver!

Research Roundup

Are you an ESC student member looking to spread the word about your newly published paper? If so, we'd love to hear from you! We continue to publicize graduate student publications to the wider entomological community through our Research Roundup initiative. As part of this initiative, we invite students to submit (1) a brief (<240 character) summary of their paper, (2) one image related

Réunion annuelle

Les Sociétés d'entomologie du Canada, d'Amérique et de Colombie-Britannique tiendront leur réunion annuelle conjointe à Vancouver, **du 13 au 16 novembre 2022**. Les membres du comité des affaires étudiantes et des jeunes professionnels (SEPAC) de la Société d'entomologie du Canada se sont affairés à organiser des événements pour la réunion, notamment une vente aux enchères silencieuse mettant en vedette des articles à thème entomologique fabriqués par des artistes canadiens. En collaboration avec la ESA, nous organisons également deux symposiums pour célébrer les recherches exceptionnelles menées par des étudiants des cycles supérieurs et des postdocs. Le symposium des étoiles montantes et la vitrine aux étudiants des cycles supérieurs mettront en vedette les membres de la SEC Jacob Basso, Anne-Sophie Caron, Jessica Fraser et Mathilde Gaudreau, ainsi que les membres de la ESA Jordan Glass, Sandra Mendiola, Christine Sosiak et Samantha Willden. Les conférenciers du symposium sur la reconnaissance du début de carrière sont Matthew Doremus, Laura Figueroa, Karen Poh et Isobel Ronai. Ne manquez pas ces deux symposiums à Vancouver!

Aperçu de la recherche

Vous êtes membre étudiant de la SEC et vous souhaitez faire connaître votre article récemment publié? Si oui, nous serions ravis de vous entendre! Nous continuons à faire connaître les publications en provenance de la communauté étudiante à l'ensemble de la communauté entomologique par le biais de notre initiative Aperçu de la recherche. Dans le cadre de cette initiative, nous invitons les étudiants à soumettre (1) un bref résumé (<240 caractères) de leur article, (2) une image liée à l'article, (3) une description en une phrase de leur recherche de thèse, et (4) une phrase sur (a) l'aspect de

to the paper, (3) a 1-sentence description of their thesis research, and (4) one sentence about (a) the aspect of their research they find most fascinating or (b) why they love insects. Check out the ESC blog, [Facebook](#), and [Twitter](#) pages for the most recent featured articles and student author biographies. If you would like your recently published paper to be featured, send us an email at students@esc-sec.ca. For regular updates about Canadian entomological research, join the [ESC Students Facebook page](#) or follow us on [Twitter @ esc_students](#).

Getting Involved with the ESC

SEPAC is always keen to take on new members! Volunteering for SEPAC is a great way to get involved with the Society and promote entomology across Canada. If you are interested in joining or just have suggestions for new initiatives in the coming year, email us at students@esc-sec.ca, or contact us personally at rowan.french@mail.utoronto.ca and mattmuzzatti@mail.carleton.ca. We look forward to hearing from you!

Rowan & Matt

leur recherche qu'ils trouvent le plus fascinant ou (b) pourquoi ils aiment les insectes. Consultez le blogue et les pages [Facebook](#) et [Twitter](#) de la SEC pour obtenir les articles les plus récents et les biographies des étudiants auteurs. Si vous souhaitez que votre article récemment publié soit mis en vedette, envoyez-nous un courriel à students@esc-sec.ca. Pour obtenir des mises à jour régulières sur la recherche entomologique canadienne, rejoignez la page [Facebook des étudiants de la SEC](#) ou suivez-nous sur [Twitter @ esc_students](#).

S'impliquer au sein de la SEC

Le comité des affaires étudiantes et des jeunes professionnels est toujours prêt à accueillir de nouveaux membres! Le bénévolat au sein du comité est une excellente façon de s'impliquer dans la Société et de promouvoir l'entomologie au Canada. Si vous êtes intéressé à vous joindre à nous ou si vous avez des suggestions de nouvelles initiatives pour l'année à venir, envoyez-nous un courriel à students@esc-sec.ca, ou contactez-nous personnellement à rowan.french@mail.utoronto.ca ou mattmuzzatti@mail.carleton.ca. Nous avons hâte de vous lire!

Rowan & Matt

Thesis Roundup / Foisonnement de thèses

SEPAC wants to recognize and celebrate the accomplishments of newly minted entomology grads! If you or a student you know has recently defended an entomology-related thesis at a Canadian University, please send the following details to students@esc-sec.ca student's name, date, degree, thesis title, supervisor(s), and university. This information will appear on the ESC website and in the next ESC Bulletin.

Le comité veut reconnaître et célébrer les réalisations des nouveaux diplômés en entomologie! Si vous, ou un étudiant que vous connaissez, a récemment soutenu sa thèse dans un domaine lié à l'entomologie dans une université canadienne, merci d'envoyer les informations suivantes à students@esc-sec.ca nom de l'étudiant, date, diplôme, titre de la thèse, directeur(s) et université. Cette information apparaîtra sur le site web de la SEC et dans le prochain Bulletin de la SEC.



Entomological Society of British Columbia

In advance of the 2022 Joint Annual Meeting in Vancouver, the ESBC has announced that applications are now being accepted for several new and ongoing scholarships including the new Equity, Diversity & Inclusion Award. Visit: <http://entsocbc.ca/scholarships-awards/> for more information on eligibility criteria and how to apply.

The latest issue of the Society's newsletter 'Boreus' is available at <http://entsocbc.ca/wp-content/uploads/2022/07/BoreusJune2022.pdf>



Entomological Society of Alberta

The Entomological Society of Alberta hosted an Insect Pinning/Shadowboxing Workshop on 7 May 2022 led by Ilan Domnich. At the workshop, attendees learned to pin butterflies and create a shadowbox. It was sold out with all 10 spots filled.

The ESA held a Board meeting on 20 June 2022. A Local Organizing Committee has been struck and the Annual Meeting will be held in Lethbridge on 20-22 October 2022.



Entomological Society of Manitoba

78th Annual Meeting of the Entomological Society of Manitoba
Meeting will be held Friday 28 October and Saturday 29 October 2022 (in person). Scientific Program Chair: Sheila Wolfe



Entomological Society of Ontario

Guelph Bug Day was back in person in 2022 and occurred on Sunday 21 August from 10:00AM – 5:00 PM at the University of Guelph Arboretum Centre. The event was a huge success with over 1000 community members attending! There were bugs to hold, insect inspired nature walks, bugs to eat and many other activities throughout the day to spark a love of insects.

The ESO is hosting their virtual AGM on 22-23 September entitled: "Keep on Rolling – Resilience in the Face of Adversity". Registration is open soon at <https://www.entsocont.ca/> and costs \$15 for student members and \$30 for regular members.

2022 Bug Eye Photo Contest: The Entomological Society of Ontario is holding its annual Bug Eye Photo Contest! Click the link to get more information on this year's competition and to see past winner photos([2022 Bug Eye Photo Contest - Entomological Society of Ontario \(entsocont.ca\)](#)).

The ESO is seeking a Communications Committee Chair: Want to build your leadership skills, while gaining experience in digital communications and science communication? Then this exciting opportunity is for you! The Entomological Society of Ontario is seeking a motivated, strategic and communications savvy individual for the position of Chair, ESO Communications Committee. For more information contact: entsocont.newsletter@gmail.com



Acadian Entomological Society

The AES had their first hybrid meeting 22 July at the Dalhousie University Agricultural College in Truro, NS. There were more than 40 people registered and the meeting included a wonderful range of talks and posters. Discussions have begun for the location of the AGM in 2023!

The Journal of the Acadian Entomological Society has published four notes thus far in 2022, with one full article currently in press. All articles are fully open access and can

Equity, Diversity and Inclusion / L'équité, la diversité et l'inclusion

Update on ESC EDI committee activities

Sebastian Ibarra Jimenez

Greetings! Below is an update on the work that the EDI committee volunteers have been busy with over the last year. Before I do so, though, I will kindly ask that next time you see or interact with any of the volunteers of the ESC EDI committee that you give them a high-five along with a heartfelt thank you for the hard and amazing work they do. I am humbled by the knowledge, patience, and skills they all constantly demonstrate. Thank you Patricia Okpara, Hadil Elsayed, Diana Catalina Fernandez, Diana Wilches Correal, Anne-Sophie Caron, Catherine Scott, Morgan Jackson, Kyle Bobiwash, Jess Vickruck, Jean-Philippe Parent, Boyd Mori, Chris Cutler, and Chris MacQuarrie for your support, patience, and dedication!

For the past year, members of the committee have helped coordinate the following plenaries, webinars, townhall meetings, and workshops:

- “Bias and Inclusion in Practice”, Dr. Maydianne Andrade, ESC-ESO JAM 2021
- “Town Hall with ESC EDI committee Panelists”, Dr. Catherine Scott, Dr. Boyd Mori, Dr. Kyle Bobiwash, and Sebastian Ibarra Jimenez, ESC-ESO JAM 2021
- “Strategies for Combatting Bias and Discrimination in STEM”, Dr. Lisa Willis, zoom webinar, January 2022

The EDI committee also finalized and implemented a demographic survey, which also assessed attitudes and beliefs towards EDI. The survey was implemented on **9 May 2022**, and ran until **17 June 2022**. From the 453 active members at the time, we received a total of 115 responses. This accomplishment would have been difficult to achieve without the help of the Centre for Race and Culture, based in Edmonton, AB.

The committee is working hard on summarizing and discussing the survey, which we look forward to presenting before the year’s end in the December issue of the bulletin and other platforms.

We are also working on an “Open spaces” initiative (previously called micro-grants). This initiative will consist of a grant devoted to support members of the ESC who identify as underrepresented members; the details are being finalized “as we speak”, and we look to have the initiative live soon.

Members of our committee are also part of an LGBTQ2SIA+ event organizing committee; details to come very soon.

As you can see, there has been no slow time for us. We are a group of individuals devoted to making our society a more welcoming place. Thank you for your support and we look forward to hearing from you, be on ideas for events, suggestions for readings, or any other EDI related discussion.

Thanks, and we look forward to future discussions!

2022 ESC Award Recipients / Récipiendaires des prix SEC



The ESC Gold Medal recognizes outstanding achievement in Canadian entomology. The recipient of the 2022 ESC Gold Medal is Dr Donna Giberson, Professor Emerita at the University of Prince Edward Island.

Dr Giberson spent 25 years as an educator and researcher introducing thousands of students to biodiversity, limnology, and especially entomology at the University of Prince Edward Island. Donna gave generously of her time, not only to her institution through committee membership and academic leadership positions, but also to regional and national scientific societies, including extensive and consistent service to the Entomological Society of Canada and its publications, while serving her province and her country through her scientific advocacy and expertise. Throughout this, Dr Giberson maintained an NSERC-funded research laboratory with which she explored the nature of Prince Edward Island and supported a continuous stream of undergraduate and MSc students, encouraging them to find and follow their individual biodiversity interests, whether they involved insects or other taxa. Over the course of her career, Dr Giberson won more than \$750,000 in research funding as principal or co-principal investigator. With students and collaborators, she has worked on diverse research questions spanning the biodiversity of the entomofauna of the Maritimes, the

Donna J. Giberson Gold Medal Award / Médaille d'or

La médaille d'or de la SEC reconnaît les réalisations exceptionnelles en entomologie canadienne. La récipiendaire de la médaille d'or de la SEC 2022 est Dre Donna Giberson, professeure émérite à l'Université de l'Île-du-Prince-Édouard.

Dre Giberson a passé 25 ans comme éducatrice et chercheure à initier des milliers d'étudiants à la biodiversité, à la limnologie et surtout à l'entomologie à l'Université de l'Île-du-Prince-Édouard. Donna a donné généreusement de son temps, non seulement à son établissement en siégeant à des comités et en occupant des postes de leadership universitaire, mais aussi à des sociétés scientifiques régionales et nationales, notamment en offrant des services étendus et constants à la Société d'entomologie du Canada et à ses publications, tout en servant sa province et son pays grâce à son expertise et à sa défense des intérêts scientifiques. Pendant tout ce temps, Dre Giberson a maintenu un laboratoire de recherche financé par le CRSNG avec lequel elle a exploré la nature de l'Île-du-Prince-Édouard et a soutenu un flot continu d'étudiants de premier cycle et de maîtrise, les encourageant à trouver et à suivre leurs intérêts individuels en matière de biodiversité, qu'ils concernent les insectes ou d'autres taxons. Au cours de sa carrière, Dre Giberson a obtenu plus de 750 000 \$ en financement de recherche en tant que chercheure principale ou cochercheure principale. Avec des étudiants et des collaborateurs, elle a travaillé sur diverses questions de recherche portant sur la biodiversité de l'entomofaune des Maritimes, la biodiversité et l'écologie des insectes de

biodiversity and ecology of Arctic insects, agricultural entomology on PEI, and the ecology of pitcher plants and their aquatic insect inhabitants. Dr Giberson's dedication to field observation- and collections-based natural history research, primarily regarding benthic aquatic invertebrates, has provided invaluable contributions to our understanding of Canadian freshwater environments, and has enabled biomonitoring programs to better understand the role of invertebrates in maintaining the health of vital waterways, and how they can serve as indicators of aquatic ecosystem function.

l'Arctique, l'entomologie agricole à l'Î.-P.-É. et l'écologie des sarracénies pourpres et de leurs habitants aquatiques. Le dévouement de Dre Giberson à la recherche en histoire naturelle fondée sur l'observation sur le terrain et sur les collections, principalement en ce qui concerne les invertébrés aquatiques benthiques, a apporté une contribution inestimable à notre compréhension des environnements d'eau douce canadiens et a permis aux programmes de biosurveillance de mieux comprendre le rôle des invertébrés dans le maintien de la santé des voies d'eau vitales et la façon dont ils peuvent servir d'indicateurs de la fonction des écosystèmes aquatiques.



Dr Paul Abram is the 2021 recipient of the Entomological Society of Canada's C. Gordon Hewitt Award. This award is given annually to an individual judged to have made an outstanding contribution to entomology in Canada, and who received their PhD within the preceding 12 years.

As a student, post-doctoral fellow and research scientist with the Science and Technology Branch of Agriculture and Agri-Food Canada, Dr Abram has made major contributions to entomology. In research, he has made comprehensive contributions to: 1) developing theory and methods to improve measurement of the efficacy of biological control agents; 2) discovery of introduced

Paul Abram C. Gordon Hewitt Award / Prix C. Gordon Hewitt

Dr Paul Abram est le lauréat 2021 du prix C. Gordon Hewitt de la Société d'entomologie du Canada. Ce prix est décerné chaque année à une personne dont on juge qu'elle a apporté une contribution exceptionnelle à l'entomologie au Canada et qui a obtenu son doctorat au cours des 12 années précédentes.

En tant qu'étudiant, chercheur post-doctoral et chercheur scientifique à la Direction générale des sciences et de la technologie d'Agriculture et Agroalimentaire Canada, Dr Abram a apporté des contributions majeures à l'entomologie. Dans le domaine de la recherche, il a contribué de façon exhaustive à : 1) l'élaboration de théories et de méthodes visant à améliorer la mesure de l'efficacité des agents de lutte biologique; 2) la découverte de ravageurs envahissants introduits et de leurs agents de lutte biologique dans de nouvelles répartitions géographiques; et 3)

invasive pests and their biological control agents in new geographic ranges; and 3) applying concepts and tools from fundamental ecology to improving the scientific basis for biological control programs. Through collaborations with a broad group of entomologists, his research has made lasting contributions in the ecology of insects and their natural enemies. As a young scientist Dr Abram has already served as a mentor and role model to students and has had a very positive impact on the development of the next generation of entomologists. He is highly respected by his peers for his original contributions and his ability to communicate his research findings so well with all audiences.

l'application de concepts et d'outils issus de l'écologie fondamentale pour améliorer la base scientifique des programmes de lutte biologique. Grâce à des collaborations avec un large groupe d'entomologistes, ses recherches ont apporté des contributions durables à l'écologie des insectes et de leurs ennemis naturels. En tant que jeune scientifique, Dr Abram a déjà servi de mentor et de modèle aux étudiants et a eu un impact très positif sur le développement de la prochaine génération d'entomologistes. Il est très respecté par ses pairs pour ses contributions originales et sa capacité à communiquer si bien les résultats de ses recherches à tous les publics.

Honorary Members / Membres honoraires

Honorary Membership is bestowed by vote of the Society membership, to a current or former Active Member of the Entomological Society of Canada who has made an outstanding contribution to the advancement of entomology. Honorary Members are elected by the members of the society in a plebiscite. This year the society recognizes three new Honorary members.

Le titre de membre honoraire est accordé par vote des membres de la Société à un individu, membre actif actuel ou ancien membre actif de la Société d'entomologie du Canada, qui a apporté une contribution exceptionnelle à l'avancement de l'entomologie. Les membres honoraires sont élus par les membres de la société lors d'un plébiscite. Cette année, la société reconnaît trois nouveaux membres honoraires.



Near the end of his first year of graduate studies 58 years ago John Borden became a member of the Entomological Society of Canada (ESC) and presented his first oral paper at the society's 1964 annual meeting

John Borden Honorary Member / Membre honoraire

Il y a 58 ans, vers la fin de sa première année d'études supérieures, John Borden est devenu membre de la Société d'entomologie du Canada (SEC) et a présenté sa première communication orale à la réunion annuelle de 1964 de la société à Vancouver. Les fonds étant rares, même à l'Université de Californie, Berkeley, John et trois de ses camarades de classe campent dans la maison de ses parents

in Vancouver. Funds were scarce, even at the University of California, Berkeley, so John and three fellow students camped out in his parents' home in West Point Grey instead of staying at the expensive Hotel Vancouver. John published his first peer-reviewed paper in *The Canadian Entomologist* in 1965 and followed that up with another 72 papers with the latest appearing in 2022, an average of 1.3 papers per year in the society's journal. John had learned a lot about self-discipline while serving four years as an enlisted man in the United States Marine Corps, and he applied that trait assiduously while finishing his undergraduate studies at Washington State University in 1963 and completing his masters and PhD studies at Berkeley in three years flat. That enabled him to return home to British Columbia in 1966 just in time to join the faculty of Simon Fraser University during its first year of existence. At SFU, John excelled as a mentor, finishing his academic career having supervised 101 graduate students who completed 12 MSc degrees, 73 Master of Pest Management (MPM) degrees and 34 PhDs. He played a major role in developing the MPM program, particularly the five professional courses in which students spent 13 weeks all-day-every-day learning pest management with hands-on experience in the field. John's graduates have played a major role in shaping the profession of entomology in Canada. Twelve of his graduate students and postdoctoral fellows have become members of the faculty of six universities in four Canadian provinces and two British Columbia colleges. Eight of his graduate students have become Research Scientists with the Canadian Forest Service, and six with Agriculture and Agri Food Canada (AAFC). Thirty-eight have served in professional positions with AAFC, Health Canada, Environment Canada, the Canadian Food Inspection Agency, seven ministries in three provinces and one university. At one point all six Regional Forest Entomologists in British Columbia, as well as the Provincial Forest Entomologist, were his graduates. Many others have worked in industry, 10 for Phero Tech Inc. (a spin-off

à West Point Grey au lieu de séjourner à l'Hôtel Vancouver, un établissement coûteux. John a publié son premier article évalué par des pairs dans *The Canadian Entomologist* en 1965, puis 72 autres articles, dont le plus récent a été publié en 2022, soit une moyenne de 1,3 article par an dans la revue de la Société. John avait beaucoup appris sur l'autodiscipline en servant pendant quatre ans en tant qu'enrôlé dans le corps des Marines des États-Unis, et il a appliqué ce trait de caractère avec assiduité tout en terminant ses études de premier cycle à l'Université de l'État de Washington en 1963 et en complétant sa maîtrise et son doctorat à Berkeley en trois ans. Cela lui a permis de rentrer en Colombie-Britannique en 1966, juste à temps pour se joindre au corps professoral de l'Université Simon Fraser au cours de sa première année d'existence. À SFU, John a excellé en tant que mentor, terminant sa carrière universitaire en ayant supervisé 101 étudiants des cycles supérieurs qui ont obtenu 12 maîtrises en sciences, 73 maîtrises en gestion des ravageurs (MPM) et 34 doctorats. Il a joué un rôle majeur dans l'élaboration du programme MPM, en particulier les cinq cours professionnels dans lesquels les étudiants passent 13 semaines, jour après jour, à se familiariser avec la gestion des ravageurs en acquérant une expérience pratique sur le terrain. Les diplômés de John ont joué un rôle majeur dans le façonnement de la profession d'entomologiste au Canada. Douze de ses étudiants des cycles supérieurs et de ses postdoctorants sont devenus membres du corps professoral de six universités dans quatre provinces canadiennes et de deux collèges de la Colombie-Britannique. Huit de ses étudiants des cycles supérieurs sont devenus des chercheurs scientifiques au Service canadien des forêts, et six à Agriculture et Agroalimentaire Canada (AAC). Trente-huit d'entre eux ont occupé des postes professionnels à AAC, à Santé Canada, à Environnement Canada, à l'Agence canadienne d'inspection des aliments, à sept ministères dans trois provinces et dans une université. À un moment donné, les six entomologistes forestiers régionaux de la Colombie-Britannique, ainsi que l'entomologiste forestier provincial, étaient ses anciens étudiants. Plusieurs autres ont travaillé dans l'industrie, 10 pour Phero Tech

company from his laboratory), four for large companies, three for small pest management service companies and 11 set up their own pest management consultancies. Perhaps most notably, John trained and supervised Dr Gail Anderson as a Forensic Entomology Intern in 14 homicide investigations prior to her appointment (by special arrangement with the BC Coroner's Office) to the Simon Fraser University Faculty as Canada's first academic Forensic Entomologist. John's research has primarily been on chemical ecology and management of forest and agricultural insect pests. He has led collaborative studies that identified pheromones in 50 insect species and developed semiochemical-based strategies and tactics for managing several species of ambrosia and bark beetles, large woodborers, cone and seed insects, root maggots and orchard bugs and moths. The integrated pest management (IPM) program for ambrosia beetles in the BC timber industry that arose from his laboratory and was implemented in 1982 is now the world's longest running semiochemical-based IPM program. John was a participant in a collaborative effort to identify the queen mandibular gland pheromone of honey bees, which was published in *Nature*. He was the first investigator to discover a role for juvenile hormone in adult insects and to demonstrate synergism between pheromone enantiomers. Both studies were published in *Science*. John has published 406 papers in peer-reviewed journals, one book, 17 book chapters, two reviews in peer-reviewed journals, three annotated bibliographies, one edited conference proceedings, two research reports, one glossary, 56 non-refereed publications (No. 56 was published in the Working Life section of *Science*), and 55 publications in which he was not an author, but which arose from supervised research. He has also received 11 patents, with one pending, and has delivered 170 invitational presentations in 18 countries. Since his mandatory retirement from SFU in 2003, John worked for three companies until 2017, when at the age of 79 he set up a sole proprietorship consultancy. With industry, he has worked

Inc. (une entreprise dérivée de son laboratoire), quatre pour de grandes entreprises, trois pour de petites entreprises de services de gestion des ravageurs et 11 ont créé leur propre cabinet de consultation en gestion des ravageurs. Le plus remarquable est peut-être que John a formé et supervisé la Dre Gail Anderson en tant que stagiaire en entomologie médico-légale dans 14 enquêtes sur des homicides avant sa nomination (par un arrangement spécial avec le Bureau du coroner de la Colombie-Britannique) à la faculté de l'Université Simon Fraser en tant que première entomologiste médico-légale universitaire du Canada. Les recherches de John ont principalement porté sur l'écologie chimique et la gestion des insectes ravageurs forestiers et agricoles. Il a dirigé des études collaboratives qui ont permis d'identifier les phéromones de 50 espèces d'insectes et d'élaborer des stratégies et des tactiques fondées sur la sémi chimie pour gérer plusieurs espèces de scolytes, de grands xylophages, d'insectes des cônes et des graines, de mouches des racines et de punaises et papillons des vergers. Le programme de lutte intégrée contre les scolytes du bois dans l'industrie du bois de la Colombie-Britannique, issu de son laboratoire et mis en œuvre en 1982, est maintenant le programme de lutte intégrée à base de composés sémi chimiques le plus ancien au monde. John a participé à un effort de collaboration visant à identifier la phéromone de la glande mandibulaire de la reine des abeilles domestiques, qui a été publié dans *Nature*. Il a été le premier chercheur à découvrir un rôle pour l'hormone juvénile chez les insectes adultes et à démontrer la synergie entre les énantiomères de phéromones. Ces deux études ont été publiées dans *Science*. John a publié 406 articles dans des revues à comité de lecture, un livre, 17 chapitres de livres, deux critiques dans des revues à comité de lecture, trois bibliographies annotées, un compte rendu de conférence édité, deux rapports de recherche, un glossaire, 56 publications non référencées (le numéro 56 a été publié dans la section Working Life de *Science*), et 55 publications dont il n'est pas l'auteur, mais qui découlent de recherches supervisées. Il a également obtenu 11 brevets, dont un en instance, et a donné 170 présentations sur invitation dans 18 pays. Depuis sa retraite obligatoire de SFU en 2003, John a travaillé pour trois entreprises jusqu'en 2017,

on developing new products for bark beetles, honey bees, yellowjackets, fruit flies, bed bugs, synanthropic flies, ticks, mosquitoes and rodents. Among his many honors, John has received the ESC's C.G. Hewitt Award and the Gold Medal. He is a Fellow of the Entomological Societies of Canada and America and the Royal Society of Canada.

date à laquelle, à l'âge de 79 ans, il a créé une entreprise individuelle de conseil. Avec l'industrie, il a travaillé au développement de nouveaux produits pour les scolytes, les abeilles domestiques, les guêpes, les mouches à fruits, les punaises de lit, les mouches synanthropiques, les tiques, les moustiques et les rongeurs. Parmi ses nombreuses distinctions, John a reçu le prix C.G. Hewitt et la médaille d'or de la SEC. Il est membre des Sociétés d'entomologie du Canada et de l'Amérique et de la Société royale du Canada.



Dr Owen Olfert grew up in rural southwestern Saskatchewan. His interest in entomology was stimulated during his undergraduate degree in Agricultural Biology (1975) at the University of Saskatchewan. Following the completion of his undergraduate program, Owen completed a PhD in Pest Management (1979), also at the University of Saskatchewan, during which he quantified the defoliation of cereal crops by grasshoppers, providing a baseline study of the economics of grasshopper damage. In 1979, Owen began his career as a research scientist with AAFC at the Saskatoon Research Station developing new electronic tools to map grasshopper populations for the annual forecast. As an insect ecologist, Owen's research interests involved developing and testing integrated pest management (IPM) tactics for insects in extensive prairie agricultural systems. In the mid-1990s, Owen originated the Tri-provincial Monitoring Group. Now known as the Prairie Pest Monitoring Network, this

Owen Olfert Honorary Member / Membre honoraire

Dr Owen Olfert a grandi dans le sud-ouest rural de la Saskatchewan. Son intérêt pour l'entomologie a été stimulé pendant son diplôme de premier cycle en biologie agricole (1975) à l'Université de la Saskatchewan. Après avoir terminé son programme de premier cycle, Owen a obtenu un doctorat en gestion des ravageurs (1979), également à l'Université de la Saskatchewan, au cours duquel il a quantifié la défoliation des cultures céréalières par les sauterelles, fourni ainsi une étude de base de l'économie des dommages causés par les sauterelles. En 1979, Owen a commencé sa carrière comme chercheur scientifique à AAC, à la station de recherche de Saskatoon, en développant de nouveaux outils électroniques pour cartographier les populations de sauterelles en vue des prévisions annuelles. En tant qu'écogiste des insectes, Owen s'est intéressé à l'élaboration et à la mise à l'essai de tactiques de lutte intégrée contre les ravageurs dans les systèmes agricoles extensifs des Prairies. Au milieu des années 1990, Owen a mis sur pied le Groupe de surveillance tri-provincial. Maintenant connue sous le nom de Prairie Pest Monitoring Network, cette équipe d'entomologistes de l'Alberta, de la Saskatchewan et du Manitoba, qui travaille en étroite collaboration, a normalisé les protocoles de surveillance des insectes, mis au point des outils de prévision modernes et continue

highly collaborative team of entomologists in Alberta, Saskatchewan and Manitoba has standardized insect monitoring protocols, developed modern forecasting tools, and continues to conduct annual insect pest monitoring activities. His research program also studied the ecology, population dynamics, alternative control, and insect/host plant interactions of important agricultural insects. For example, Owen joined the team developing management strategies for wheat midge after the massive outbreak in 1983 in east-central Saskatchewan and he played a major role in developing a comprehensive IPM program for this pest. Upon returning from sabbatical at the University of New England in Armidale, Australia, Owen expanded his research to include a bioclimatic modelling component to predict potential distributions of insects, including invasive alien species across Canada. This research led to the first assessments of the impact of climate change on insect pests and their natural enemies of importance to agriculture in western Canada.

To date, Owen has published more than 120 peer-reviewed manuscripts, over 10 review papers, multiple book chapters, and contributed to countless technology transfer articles and industry reports. He has presented his research at regional, national, and international conferences (> 175 conference proceedings), including a keynote lecture delivered in Pyongyang, North Korea in 2013. He has mentored numerous undergraduate students, graduate students, and young research scientists. As Chair of the AAFC Biological Control Working Group for over 15 years, as a Section Head, and as an Acting Associate Director for Research Development and Technology at multiple AAFC Research and Development Centres, Owen also gained national recognition for his calm and effective leadership skills. Although he retired from AAFC in 2018, Owen remains active in the entomological community and his influence continues to guide research in the Canadian and international entomological communities.

de mener des activités annuelles de surveillance des insectes ravageurs. Son programme de recherche a également permis d'étudier l'écologie, la dynamique des populations, le contrôle alternatif et les interactions entre l'insecte et la plante hôte d'importants insectes agricoles. Par exemple, Owen s'est joint à l'équipe chargée d'élaborer des stratégies de gestion de la cécidomyie orangée du blé après l'épidémie massive de 1983 dans le centre-est de la Saskatchewan et il a joué un rôle majeur dans l'élaboration d'un programme complet de lutte intégrée contre ce ravageur. À son retour d'un congé sabbatique à l'Université de la Nouvelle-Angleterre à Armidale, en Australie, Owen a élargi ses recherches pour y inclure une composante de modélisation bioclimatique afin de prédire les distributions potentielles d'insectes, y compris les espèces exotiques envahissantes au Canada. Cette recherche a conduit aux premières évaluations de l'impact du changement climatique sur les insectes nuisibles et leurs ennemis naturels d'importance pour l'agriculture dans l'Ouest canadien.

À ce jour, Owen a publié plus de 120 manuscrits évalués par des pairs, plus de 10 articles de synthèse, plusieurs chapitres de livres, et a contribué à d'innombrables articles sur le transfert de technologie et à des rapports industriels. Il a présenté ses recherches lors de conférences régionales, nationales et internationales (> 175 actes de conférence), dont une conférence plénière donnée à Pyongyang, en Corée du Nord, en 2013. Il a encadré de nombreux étudiants de premier cycle, des étudiants des cycles supérieurs et de jeunes chercheurs scientifiques. En tant que président du groupe de travail sur la lutte biologique d'AAFC pendant plus de 15 ans, en tant que chef de section et en tant qu'administrateur associé par intérim pour le développement de la recherche et la technologie dans plusieurs centres de recherche et de développement d'AAFC, Owen a également acquis une reconnaissance nationale pour son calme et ses compétences efficaces en matière de leadership. Bien qu'il ait pris sa retraite d'AAFC en 2018, Owen reste actif dans la communauté entomologique et son influence continue de guider la recherche dans les communautés entomologiques canadiennes et internationales.



Dan Quiring

Dr Dan Quiring [BSc Hons Biology, Simon Fraser University, 1979; PhD, Université Laval, 1984] was nominated for Honorary Membership in the Entomological Society of Canada to recognize his outstanding contributions to the scientific literature on insect ecology, dedicated mentorship and teaching of graduate and undergraduate students in entomology, and meritorious service to the Entomological Society of Canada. After a brief period as a research scientist for Agriculture Canada (1984–1986), Dr Quiring was hired by the Faculty of Forestry, University of New Brunswick (UNB), where he studied and taught insect ecology, plant-insect interactions and integrated pest management (IPM) until his retirement as Honorary Research Professor in July 2013. During his career, Dan supervised 10 PhD students, 21 MSc students and 47 senior undergraduates, publishing >100 papers in refereed journals, 3 book chapters, 78 articles in Proceedings/ non-refereed journals, and >200 papers at scientific conferences. The quality of his mentorship is reflected in the achievements of his students, six of whom were awarded best thesis of the year and eleven awarded 1st or 2nd in student paper competitions at scientific conferences. For his excellent contributions to teaching and scholarship, Dr Quiring received UNB's Merit Award in 1990 and 2006. A hallmark of Dan's career was his productive synthesis of basic

Dan Quiring Honorary Member / Membre honoraire

Dan Quiring

Dr Dan Quiring (B.Sc. Hons Biologie, Université Simon Fraser, 1979; Ph.D., Université Laval, 1984) est proposé comme membre honoraire de la Société d'entomologie du Canada en reconnaissance de ses contributions exceptionnelles à la littérature scientifique sur l'écologie des insectes, de son dévouement à l'enseignement et au mentorat d'étudiants de premier et de deuxième cycles en entomologie et de ses services méritoires à la Société d'entomologie du Canada. Après une brève période en tant que chercheur scientifique pour Agriculture Canada (1984–1986), Dr Quiring a été embauché par la Faculté de foresterie de l'Université du Nouveau-Brunswick (UNB), où il a étudié et enseigné l'écologie des insectes, les interactions plantes-insectes et la gestion intégrée des ravageurs (IPM) jusqu'à sa retraite en tant que professeur de recherche honoraire en juillet 2013. Au cours de sa carrière, Dan a supervisé 10 étudiants de doctorat, 21 étudiants de maîtrise et 47 étudiants de premier cycle, publiant plus de 100 articles dans des revues à comité de lecture, 3 chapitres de livres, 78 articles dans des comptes rendus/revues sans comité de lecture, et plus de 200 communications lors de conférences scientifiques. La qualité de son mentorat se reflète dans les réalisations de ses étudiants, dont six ont reçu le prix de la meilleure thèse de l'année et onze ont obtenu la première ou la deuxième place dans des concours de communications d'étudiants lors de conférences scientifiques. Pour ses excellentes contributions à l'enseignement et à la recherche, Dr Quiring a reçu le prix du mérite de l'UNB en 1990 et en 2006. L'une des caractéristiques de la carrière de Dan Quiring a été sa synthèse productive de l'entomologie fondamentale et appliquée,

and applied entomology, applying the results of curiosity-driven research to improve forest management, and procuring more than \$4.2 million in funding from NSERC, federal and provincial governments, the forest industry and other agencies.

Dr Quiring's service to the ESC was exceptional, serving as a member of: the ESC Awards Committee (1986–1987), Science Policy Committee (1987–1989), Scholarship Committee (1993–2002), and the Governing Board (1989–2002); as Chair of the By-Laws and Standing Rules Committee (1990–1994), Science Policy Committee (2003) and Awards Committee (2004); and as first Vice-President, second Vice-President, President, and Past-President (2004–2007). Dan was also Associate Editor of *The Canadian Entomologist* (1995–2010) and gave the Heritage Lecture at the 2011 Joint Annual Meeting of the ESC and Acadian Entomological Society of Canada. Dr Quiring's previous honours include the John Henry Comstock Award from the Entomological Society of America (the first Canadian graduate student to receive this Award), the "Prix Léon Provancher" from the Société Entomologique du Québec (1993), and the C. Gordon Hewitt Award (1994). We sincerely hope the members of the ESC members agree that Dan Quiring is deserving of Honorary Membership in the ESC in recognition of his outstanding contributions to entomology in Canada.

l'application des résultats de la recherche motivée par la curiosité pour améliorer la gestion forestière, et l'obtention de plus de 4,2 millions de dollars de financement du CRSNG, des gouvernements fédéral et provinciaux, de l'industrie forestière et d'autres organismes.

Dr Quiring a servi la SEC de façon exceptionnelle, en tant que membre du Comité des prix de la SEC (1986-1987), du Comité de la politique scientifique (1987-1989), du Comité des bourses d'études (1993-2002) et du Conseil d'administration (1989-2002); en tant que président du Comité des règlements (1990-1994), du Comité de la politique scientifique (2003) et du Comité des prix (2004), et en tant que premier vice-président, deuxième vice-président, président et président sortant (2004-2007). Il a également été éditeur thématique pour *The Canadian Entomologist* (1995-2010) et a donné l'allocution du patrimoine lors de la réunion annuelle conjointe de la SEC et de la Société acadienne d'entomologie du Canada en 2011. Les distinctions antérieures de Dr Quiring comprennent le prix John Henry Comstock de la Société d'entomologie d'Amérique (le premier étudiant canadien des cycles supérieurs à recevoir ce prix), le prix Léon Provancher de la Société d'entomologie du Québec (1993) et le prix C. Gordon Hewitt (1994). Nous espérons sincèrement que les membres de la SEC conviendront que Dan Quiring mérite d'être nommé membre honoraire de la SEC en reconnaissance de ses contributions exceptionnelles à l'entomologie au Canada.

Entomological Society of Canada Fellows / Membres associés de la Société d'entomologie du Canada

Entomological Society of Canada Fellowships are bestowed by the Society to recognize members for their major contributions to entomology via research, teaching, application, and (or) administration. This year the society recognizes three new fellows.

Le statut de membre associé de la Société d'entomologie du Canada est accordé par la Société afin de reconnaître les membres pour leurs contributions majeures à l'entomologie par le biais de la recherche, de l'enseignement, de l'application et (ou) de l'administration. Cette année, la société reconnaît trois nouveaux membres associés.



Rose has been a Research Scientist in Weed Biological Control at Agriculture and Agri-Food Canada at the Lethbridge Research and Development Centre since 1992. She has used her strong background in entomology, botany and the interface between the two sciences to become recognized as an international leader in importation biological control of weeds. Importation biological control is an applied science that requires a huge spectrum of skills and knowledge ranging from pure ecological theory to working with regulators and international colleagues to engaging end users such as ranchers and land managers. Rose has successfully led petitions for regulatory approval for release of three successful biological control insects. Her research program, which includes pre- and post-release research, has led to the suppression of a major rangeland invasive weed (houndstongue) in western Canada and work continues on other priority weeds. Rose was the lead author on the 2006 Government of Canada publication "Guide for the Importation and Release of Arthropod Biological Control Agents in Canada" and second author on the 2017 update of this publication. Besides her specific research, Rose has been generous in giving her time and energy to advance entomology in Canada. Rose was an ESC Director-at-Large in 2004-2006, and served as Chair of the Student Awards Committee (2004-2006), of the Membership Committee (2016-2018), and in the 4-year cycle of ESC Executive (2010-2014; President in 2013). She also was active in her regional entomological community, serving as President of the Entomological Society of Alberta in 2008, and has helped contribute to the next generation of insect enthusiasts through the training and mentorship of many graduate (10) and undergraduate students.

**Rosemarie (Rose)
De Clerck-Floate
Fellow /
Membre associé**

Rose est chercheure scientifique en lutte biologique contre les mauvaises herbes à Agriculture et Agroalimentaire Canada, au Centre de recherche et de développement de Lethbridge, depuis 1992. Elle a mis à profit ses solides connaissances en entomologie, en botanique et à l'interface entre ces deux sciences pour devenir une sommité internationale de la lutte biologique classique contre les mauvaises herbes. La lutte biologique classique est une science appliquée qui requiert une vaste gamme de compétences et de connaissances allant de la théorie écologique pure à la collaboration avec les organismes de réglementation et les collègues internationaux, en passant par la participation des utilisateurs finaux tels que les éleveurs et les gestionnaires de terres. Rose a mené avec succès des pétitions pour l'approbation réglementaire de la libération réussie de trois insectes de lutte biologique. Son programme de recherche, qui comprend des recherches avant et après les lâchers, a conduit à la suppression d'une importante mauvaise herbe envahissante des parcours (la cynoglosse) dans l'ouest du Canada et les travaux se poursuivent sur d'autres mauvaises herbes prioritaires. Rose a été la principale auteure de la publication de 2006 du gouvernement du Canada intitulée « Guide pour l'importation et le lâcher d'agents de lutte biologique contre les arthropodes au Canada » et la deuxième auteure de la mise à jour de 2017 de cette publication. Outre ses recherches spécifiques, Rose a généreusement donné de son temps et de son énergie pour faire progresser l'entomologie au Canada. Rose a été conseillère de la SEC en 2004-2006, a servi en tant que présidente du Comité des bourses d'études (2004-2006) et du comité de l'adhésion (2016-2018), et a occupé les postes du cycle de 4 ans de l'exécutif de la SEC (2010-2014; présidente en 2013). Elle est également active auprès de sa communauté entomologique régionale, ayant été présidente de la Société d'entomologie de l'Alberta en 2008, et a contribué à la prochaine génération d'enthousiastes des insectes par la formation et le mentorat de plusieurs étudiants des cycles supérieurs (10) et de premier cycle.



**Terry Galloway
Fellow /
Membre associé**

Terry's Ph.D. defense may have been his job interview, as he was hired as a professor of livestock entomology at the end of his Ph.D. at the University of Manitoba in 1977. During his 36 years in the position, Terry taught over 30 different courses. Anyone who has had the pleasure of sitting in one of his lectures can attest to his skill; no matter what the topic, Terry will reel you in. His teaching excellence was recognized with 10 teaching awards, including three merit awards and two fellowships in New Zealand. Terry also supervised or co-supervised 20 graduate students and served on more than 120 graduate student advisory committees. His enthusiasm is contagious, and he is always available, regardless of the constraints of his own schedule, to help a student or provide advice to a colleague. In addition to fostering an interest in entomology in countless students, Terry has a long history of mentoring amateur entomologists of all ages and has been an inspiration to those who chose a path in education. Terry held many positions with the Entomological Society of Manitoba, including that of President. Perhaps even more noteworthy is his 20-year tenure as Editor of the *Proceedings of the Entomological Society of Manitoba* (2001-2021), now an open access online journal indexed by major search engines. Terry was made Honorary Member of the Entomological Society of Manitoba in 2021.

La soutenance de thèse de Terry a peut-être été son entretien d'embauche, puisqu'il a été engagé comme professeur d'entomologie du bétail à la fin de son doctorat à l'Université du Manitoba en 1977. Pendant les 36 années où il a occupé ce poste, Terry a enseigné plus de 30 cours différents. Quiconque a eu le plaisir d'assister à l'un de ses cours peut attester de ses compétences; peu importe le sujet, Terry vous captive. L'excellence de son enseignement a été récompensée par dix prix d'enseignement, dont trois prix du mérite et deux bourses en Nouvelle-Zélande. Terry a également supervisé ou cosupervisé 20 étudiants des cycles supérieurs et a fait partie de plus de 120 comités consultatifs d'étudiants des cycles supérieurs. Son enthousiasme est contagieux et il est toujours disponible, quelles que soient les contraintes de son propre emploi du temps, pour aider un étudiant ou donner des conseils à un collègue. En plus d'avoir suscité un intérêt pour l'entomologie chez d'innombrables étudiants, Terry a longtemps servi de mentor à des entomologistes amateurs de tous âges et a été une source d'inspiration pour ceux qui ont choisi la voie de l'éducation. Terry a occupé de nombreux postes au sein de la Société d'entomologie du Manitoba, dont celui de président. Ce qui est peut-être encore plus remarquable, c'est son mandat de 20 ans comme rédacteur en chef des *Proceedings of the Entomological Society of Manitoba* (2001-2021), maintenant une revue en ligne à accès libre indexée par les principaux moteurs de recherche. Terry a été nommé membre honoraire de la Société d'entomologie du Manitoba en 2021.



**Bob Lamb
Fellow /
Membre associé**

Bob's contributions to entomology started early in his graduate career, working on the effect of photoperiod and temperature on aphids for his MSc and on the life history and dispersal of the introduced European earwig for his PhD. Bob joined the Agriculture Canada Research Station in Winnipeg in 1978 as a Research Scientist studying insect pests of canola. During his 25-year career at Agriculture Canada, Bob's very successful research program focused on the ecology of agricultural pests without losing sight of the practical applications. For example, his research in plant resistance to insects led to the development of techniques for screening canola seedlings for resistance to flea beetle attacks. One of his major contributions at Agriculture and Agri-Food Canada was as the entomologist working in collaboration with wheat breeders to incorporate resistance to the orange blossom wheat midge. This bold project was a success and now this trait is incorporated into all major Western wheat cultivars. More notably, he pushed to have a susceptible refuge in all resistant varieties sold to producers to ensure that the resistance to wheat midge would be retained for years to come. The mixture of susceptible and resistant seeds in the product sold to producers was a first in Canada. This work has generated \$300 million in profits for Canadian producers as a result of increased wheat yields and fewer insecticide applications. Bob is also a long-time participant in the affairs of the

Les contributions de Bob à l'entomologie ont commencé dès le début de sa carrière d'étudiant, alors qu'il travaillait sur l'effet de la photopériode et de la température sur les pucerons pour sa maîtrise et sur le cycle biologique et la dispersion du perce-oreille européen pour son doctorat. Bob a rejoint la station de recherche d'Agriculture Canada à Winnipeg en 1978 en tant que chercheur scientifique chargé d'étudier les insectes ravageurs du canola. Au cours de sa carrière de 25 ans à Agriculture Canada, le programme de recherche très fructueux de Bob s'est concentré sur l'écologie des ravageurs agricoles sans perdre de vue les applications pratiques. Par exemple, ses recherches sur la résistance des plantes aux insectes ont conduit à la mise au point de techniques de criblage des semis de canola pour déterminer leur résistance aux attaques des altises. L'une de ses principales contributions à Agriculture et Agroalimentaire Canada a été d'être l'entomologiste qui a travaillé en collaboration avec les sélectionneurs de blé pour incorporer la résistance à la cécidomyie orangée du blé. Ce projet audacieux a été couronné de succès et ce caractère est maintenant incorporé dans tous les principaux cultivars de blé de l'ouest. Il a notamment insisté pour qu'un refuge sensible soit intégré à toutes les variétés résistantes vendues aux producteurs afin de s'assurer que la résistance à la cécidomyie du blé soit maintenue pour les années à venir. Le mélange de semences sensibles et résistantes dans le produit vendu aux producteurs était une première au Canada. Ce travail a généré 300 millions de dollars de bénéfices pour les producteurs canadiens grâce à l'augmentation des rendements de blé et à la réduction des applications d'insecticides. Bob participe également depuis longtemps aux affaires de la Société d'entomologie

Entomological Society of Canada and his regional affiliate, the Entomological Society of Manitoba. He has served on multiple ESC committees, including six years on the Publications Committee and the Heritage Committee where he sits currently. He served as Regional Director (1997-2001) and was President of the ESC (2004-2005) and the Entomological Society of Manitoba (2012-2013).

du Canada et de son affiliée régionale, la Société d'entomologie du Manitoba. Il a siégé à de nombreux comités de la SEC, dont six ans au comité des publications et au comité du patrimoine où il siège actuellement. Il a été directeur régional (1997-2001) et a été président de la SEC (2004-2005) et de la Société d'entomologie du Manitoba (2012-2013).



The annual Norman Criddle Award recognizes the contribution of an outstanding non-professional entomologist to the furtherance of entomology in Canada. The 2022 recipient is Lori Weidenhammer.

Lori Weidenhammer is a Vancouver, performance-based, interdisciplinary artist and educator. She is a settler originally from a tiny hamlet called Cactus Lake, Saskatchewan. It is in this place, bordered by wheat fields and wild prairie, that she first became enchanted with bees. She is the author of a book called *Victory Gardens for Bees: A DIY Guide for Saving the Bees*.

For the past several years she has been appearing as the persona Madame Beespeaker, practising the tradition of “telling the bees”. As a food security volunteer and activist, Lori works with students of all ages on eating locally and gardening for pollinators.

Lori Weidenhammer Norman Criddle Award / Prix Norman Criddle

Le prix annuel Norman Criddle récompense la contribution d'un entomologiste non professionnel exceptionnel à l'avancement de l'entomologie au Canada. La lauréate de 2022 est Lori Weidenhammer.

Lori Weidenhammer est une artiste interdisciplinaire et une éducatrice de Vancouver qui se consacre à la performance. Elle est une pionnière originaire d'un petit hameau appelé Cactus Lake, en Saskatchewan. C'est dans cet endroit, bordé de champs de blé et de prairies sauvages, qu'elle a été charmée pour la première fois par les abeilles. Elle est l'auteure d'un livre intitulé *Victory Gardens for Bees : A DIY Guide for Saving the Bees*.

Depuis plusieurs années, elle se présente sous le nom de Madame Beespeaker, pratiquant la tradition de « raconter les abeilles ». En tant que bénévole et militante pour la sécurité alimentaire, Lori travaille avec des élèves de tous âges sur l'alimentation locale et le jardinage pour les polliniseurs. Elle utilise de nombreuses formes d'art dans son enseignement et sa pratique artistique, notamment le dessin, la peinture, le collage,

She uses many art forms in her teaching and art practise including drawing, painting, collage, printmaking, cyanotypes, sculpture, photography, textiles, singing, culinary arts and installation. On occasion, she likes to dress up in silly costumes and talk to bees. She performs three characters: HRH Queen Honey Bee, Charlotte Bumble Bee, and Maisie Mason Bee.

Lori is passionate about creating habitat and conserving native habitat for native bees and also reworking our food systems to be more sustainable for the land, native bees and humans that work the land. She has helped to design and create two community gardens in Vancouver at the Moberly Arts Centre and the Riley Park Community Garden. She also loves connecting folks who are passionate about bees, to each other, so that they can have more impact working together. She has given talks on gardening for bees to organizations in western Canada, Ontario, and California. Lori has introduced hundreds of people to the wonder of native bees and inspired people of all levels of gardening experience to create habitat for native bees.

She has taken several classes on bee taxonomy from Lincoln Best and is a student of the BC cohort of the Oregon State University Master Melittology program. As co-chair of the Native Bee Society of B.C., Lori has been co-creator (with Tyler Kelly) and co-curator (with Lincoln Best) of the B.C. Bee Tracker project on iNaturalist where she has helped ID over 10, 000 bees with the help of many other taxonomists and naturalists and helped to connect bee species to the flowers they visit in their bioregion.

Lori Weidenhammer works to be positive force giving people of all ages new ways to connect to the beauty and wonder of BC's native bees.

la gravure, les cyanotypes, la sculpture, la photographie, les textiles, le chant, les arts culinaires et les installations. À l'occasion, elle aime se déguiser avec des costumes loufoques et parler aux abeilles. Elle interprète trois personnages : HRH Queen Honey Bee, Charlotte Bumble Bee, et Maisie Mason Bee.

Lori est passionnée par la création et la conservation de l'habitat des abeilles indigènes et par la refonte de nos systèmes alimentaires afin qu'ils soient plus durables pour la terre, les abeilles indigènes et les humains qui travaillent la terre. Elle a aidé à concevoir et à créer deux jardins communautaires à Vancouver, au Moberly Arts Centre et au Riley Park Community Garden. Elle aime aussi mettre en contact les gens qui se passionnent pour les abeilles, afin qu'ils puissent avoir plus d'impact en travaillant ensemble. Elle a donné des conférences sur le jardinage pour les abeilles à des organisations dans l'ouest du Canada, en Ontario et en Californie. Lori a fait découvrir à des centaines de personnes les merveilles des abeilles indigènes et a inspiré des personnes de tous niveaux d'expérience en jardinage à créer un habitat pour les abeilles indigènes.

Elle a suivi plusieurs cours sur la taxonomie des abeilles auprès de Lincoln Best et fait partie de la cohorte de la Colombie-Britannique du programme de maîtrise en mélittologie de l'Université d'État de l'Oregon. En tant que co-présidente de la Native Bee Society of B.C., Lori a été cocréatrice (avec Tyler Kelly) et coconservatrice (avec Lincoln Best) du projet B.C. Bee Tracker sur iNaturalist où elle a aidé à identifier plus de 10 000 abeilles avec l'aide de nombreux autres taxonomistes et naturalistes et a aidé à relier les espèces d'abeilles aux fleurs qu'elles visitent dans leur biorégion.

Lori Weidenhammer s'efforce d'être une force positive en offrant aux personnes de tous âges de nouvelles façons de se rapprocher de la beauté et de l'émerveillement des abeilles indigènes de la Colombie-Britannique.

Bert and John Carr Awards / Prix Bert et John Carr

The Society seeks applicants for this cash award, which is in support of research activities by individuals who study insect faunistics, or the natural history and taxonomy of Canada's insect fauna. This year the society has given two Bert and John Carr Awards.

La Société d'entomologie du Canada offre un prix en argent pour soutenir les activités de recherche de personnes qui étudient la faunistique des insectes, ou l'histoire naturelle et la taxonomie de la faune des insectes du Canada. Cette année, la société compte deux récipiendaires du prix Bert et John Carr.



Tori Miller

Tori Miller is an undergraduate BSc. Student at Laurentian University specializing in Ecology. Tori requested support to aid in the collection, identification and description of a new species of Globular springtail (<https://inaturalist.ca/observations/92722398>). The funds will support travel to British Columbia, accommodations, and shipping of specimens. A short synopsis of this project will be published in the ESC Bulletin in 2023.

Tori Miller est une étudiante de premier cycle de l'Université Laurentienne qui se spécialise en écologie. Tori a demandé un soutien pour aider à la collecte, l'identification et la description d'une nouvelle espèce de collembole globulaire (<https://inaturalist.ca/observations/92722398>). Les fonds serviront à financer le voyage en Colombie-Britannique, l'hébergement et l'expédition des spécimens. Un bref synopsis de ce projet sera publié dans le bulletin de la SEC en 2023.



Hadil Elsayed

Hadil Elsayed is a doctoral candidate at York University investigating the role of protected areas for biodiversity conservation under climate change. Hadil requested support for their project evaluating changes in insect and insectivore communities over time in protected wildlife areas. The funds will support the purchase of collection materials and supplies. A short synopsis of this project will be published in the ESC Bulletin in 2023.

Hadil Elsayed est au doctorat à l'Université York et étudie le rôle des zones protégées pour la conservation de la biodiversité dans le contexte du changement climatique. Hadil a demandé un soutien pour son projet évaluant les changements dans les communautés d'insectes et d'insectivores au fil du temps dans les zones sauvages protégées. Les fonds serviront à l'achat de matériel de collecte et de fournitures. Un bref synopsis de ce projet sera publié dans le bulletin de la SEC en 2023.

Bert and John Carr Award Reports / Rapports sur les Prix Bert et John Carr



I am very honoured to have received the Bert and John Carr Award to support my PhD research at York University, to study bee conservation in Canadian vineyards. I am also extremely grateful to have been able to delay the award by one year due to Covid and the subsequent cancellation of my fieldwork in 2020. The research project that these funds supported aims to determine how bee communities respond to farm management practices and the surrounding landscape within vineyards across the Niagara Region of Ontario. Several threats facing bees and other pollinators are highly prevalent in agricultural lands, such as exposure to pesticides, habitat loss, and interactions with managed pollinators. Verification of these threats has led to significant research on how to conserve and protect pollinators in and around farmlands. However, much of this research has been focused on a select few crops, often field crops and pollinator-dependent crops, leaving many other crop types understudied. My research focuses on an understudied crop type that is pollinator-independent, the wine grape, and the management practices and surrounding land uses that benefit bee diversity and abundance. This includes organic vs conventional management, between-row practices such as tillage, mowing, and cover-cropping, and the surrounding landscape composition around the vineyard, including the percentage of natural lands, impervious surfaces, and other crop types. I worked with 20 grape growers and wineries to select vineyards that differed in their management

Briann Dorin 2020 award / prix

Je suis très honorée d'avoir reçu la bourse Bert et John Carr pour soutenir mes recherches de doctorat à l'Université York, afin d'étudier la conservation des abeilles dans les vignobles canadiens. Je suis également extrêmement reconnaissante d'avoir pu retarder la bourse d'un an en raison de la covid et de l'annulation subséquente de mon travail sur le terrain en 2020. Le projet de recherche soutenu par ces fonds vise à déterminer comment les communautés d'abeilles réagissent aux pratiques de gestion agricole et au paysage environnant dans les vignobles de la région de Niagara, en Ontario. Plusieurs menaces auxquelles sont confrontées les abeilles et autres pollinisateurs sont très répandues dans les terres agricoles, comme l'exposition aux pesticides, la perte d'habitat et les interactions avec les pollinisateurs aménagés. La vérification de ces menaces a donné lieu à d'importantes recherches sur les moyens de conserver et de protéger les pollinisateurs à l'intérieur et autour des terres agricoles. Cependant, la plupart de ces recherches se sont concentrées sur quelques cultures, souvent des cultures de plein champ et des cultures dépendant des pollinisateurs, laissant de nombreux autres types de cultures peu étudiés. Mes recherches portent sur un type de culture peu étudié et indépendant des pollinisateurs, la vigne cultivée, ainsi que sur les pratiques de gestion et les utilisations des terres environnantes qui favorisent la diversité et l'abondance des abeilles. Il s'agit notamment de la culture biologique par rapport à la culture conventionnelle, des pratiques entre les rangs telles que le travail du sol, le fauchage et les cultures de couverture, ainsi que de la composition du paysage autour du vignoble, notamment le pourcentage de terres naturelles, de surfaces imperméabilisées et d'autres types de cultures. J'ai travaillé avec 20 viticulteurs et établissements vinicoles pour sélectionner des vignobles qui différaient par leurs pratiques de gestion et leurs paysages environnants. J'ai ensuite échantillonné les communautés d'abeilles

practices and surrounding landscapes. I then sampled the bee communities monthly from May to August using pan traps and netting. The funds from the Bert and John Carr Award went towards the sampling and processing equipment and mileage necessary to conduct this research. I hope the results of this study can inform Canadian grape growers and land managers on how to promote diverse and abundant bee communities in vineyard-dominated landscapes.

This project was created from a blending of my past experiences in wildlife conservation and agriculture. I completed an HBSc in Wildlife Biology and Conservation from the University of Guelph and an MSc in Viticulture and Oenology from Brock University. I have also worked for the University of Guelph Crop Science Department and the Ontario Ministry of Agriculture, Food and Rural Affairs. My interests lie in sustainable agriculture and agroecology and this project enabled me to pursue these interests through collaboration with many amazing grape growers and research collaborators. I am excited to continue to process my collected specimens and share the results of this project at future ESC events.

tous les mois de mai à août à l'aide de pièges-bols et de filets. Les fonds provenant du prix Bert et John Carr ont servi à l'achat de l'équipement d'échantillonnage et de traitement ainsi qu'au kilométrage nécessaire à la réalisation de cette recherche. J'espère que les résultats de cette étude pourront informer les viticulteurs canadiens et les gestionnaires des terres sur la façon de promouvoir des communautés d'abeilles diversifiées et abondantes dans les paysages dominés par les vignobles. Ce projet est le fruit d'un mélange de mes expériences passées en conservation de la faune et en agriculture. J'ai obtenu un baccalauréat en biologie et conservation de la faune de l'Université de Guelph et une maîtrise en viticulture et œnologie de l'Université Brock. J'ai également travaillé pour le département de science des cultures de l'Université de Guelph et pour le ministère de l'Agriculture, de l'Alimentation et des Affaires rurales de l'Ontario. Je m'intéresse à l'agriculture durable et à l'agroécologie et ce projet m'a permis de poursuivre ces intérêts en collaborant avec de nombreux viticulteurs et collaborateurs de recherche extraordinaires. Je suis impatiente de continuer à traiter les spécimens que j'ai collectés et de partager les résultats de ce projet lors des prochains événements de la SEC.



It is with much joy and pride that I accepted this award recognizing the amateur naturalist that I have been for more than 50 years. Currently retired, my “butterfly wall” project, done by citizen scientists, has facilitated the cultivation of scientific knowledge in

Michel Larrivée 2020 award / prix

C'est avec beaucoup de joie et de fierté que j'ai reçu ce prix en 2020, prix qui reconnaît l'amateur naturaliste que je suis depuis plus de 50 ans. Présentement à la retraite, mon projet de « Mur à papillons », projet qualifié de sciences citoyennes, permet la production de connaissances scientifiques auxquelles des participants non-scientifiques et non-professionnels, qu'il s'agisse d'individus ou de groupes, participent de façon active et délibérée à mieux faire connaître et diffuser leurs observations.

Malheureusement, la COVID 19 a brouillé un peu les cartes pour l'avancement de mon projet

participants that are not professional scientists. Both individuals and groups participated actively and deliberately to share their observations and make them better known.

Unfortunately, COVID-19 slightly derailed the advancement of the project, and it had to be postponed in 2021. Alas, with COVID-19 ever-present, many national parks and reserves that I had planned to visit were no longer accessible. Nevertheless, I was able to host several get-togethers with participants ranging from a few individuals to more than twelve. These evenings of observing moths were organized in different publicly accessible natural settings in Gaspésie and the Bas Saint-Laurent. Each evening started with a short talk on the biology and ecology of moths, photography and identification, and the use of iNaturalist to compile observations. iNaturalist data are open-access and deposited automatically on other platforms like GBIF, maximizing the use of biodiversity data by researchers. After the talk, the participants were invited to observe moths on a wall or sheet illuminated by lamps and on trees with sap.

The funds from this award allowed me to finance my travel costs. I was also able to produce an observation guide for moths and a guide for installing a butterfly wall (<https://1drv.ms/u/s!AIYAkwXeHjTkVBAdUVASVoNt73i?e=I9alhB>). Over these two years, I participated in the training and guiding of a group of amateurs passionate about moths that live throughout Quebec. The observations of the group are compiled on the Atlas of Moths hosted on iNaturalist ([Atlas des papillons de nuit du Québec : iNaturalist](#)). The iNaturalist project currently includes 115,000 observations of 2,240 species observed by more than 3,300 collaborators and verified by more than 1,450 identifiers. This demonstrates the huge potential of creating knowledge from observations of insects by citizens.

qui a dû être reporté à l'été 2021. Encore là, la COVID 19 étant toujours présente, cette situation m'a fermé les portes de plusieurs réserves et parcs nationaux que j'avais prévu visiter. Par contre, j'ai pu réaliser plusieurs soirées (8) avec une participation très variable de quelques individus à plus de douze participants. Les soirées d'observation des papillons de nuit ont été organisées dans différents milieux naturels publics de la Gaspésie et du Bas Saint-Laurent. Chaque soirée débute en une courte conférence sur la biologie et l'écologie des papillons de nuit, sur l'identification et la photographie d'insectes et sur le fonctionnement et l'impact de la plateforme iNaturalist utilisée pour la compilation des observations. Les données de iNaturalist sont libres d'accès et déposées automatiquement sur d'autres plateformes en ligne comme l'Établissement pour l'Information sur la Biodiversité Globale (GBIF) et ainsi, cela permet de maximiser l'utilisation des données sur la biodiversité par les chercheurs. Suite à la conférence, les citoyens sont invités à observer les papillons de nuit sur un mur (ou drap) éclairé par des lampes et sur des arbres avec de la miellée.

Les fonds de la bourse ont surtout permis de financer mes frais de déplacement. J'ai également produit un guide d'observation des papillons de nuit ainsi qu'un guide sur l'installation d'un mur à papillon (<https://1drv.ms/u/s!AIYAkwXeHjTkVBAdUVASVoNt73i?e=I9alhB>). Durant ces deux années, j'ai participé à la formation et l'animation d'un groupe d'observateurs passionnés des papillons de nuit répartis dans l'ensemble du Québec méridional. Les observations du groupe sont colligées dans l'Atlas des papillons de nuit sur la plateforme iNaturalist ([Atlas des papillons de nuit du Québec : iNaturalist](#)) qui actuellement regroupe plus de 115 000 observations et 2 240 espèces observées par plus de 3 300 collaborateurs et vérifiées par plus de 1450 identificateurs. Ceci démontre le grand potentiel de création de connaissances d'un suivi des insectes par les citoyens.



Scott Gilmore 2021 Award

As a child, I grew up playing with click beetles I found in the firewood that was used to heat my family's home. As an adult, I have grown to appreciate the huge diversity of the family Elateridae and the challenge of distinguishing one species from the next. I like a challenge and my goal is to produce a series of keys to the Elateridae of British Columbia, the Yukon and Alaska. This is a resource that is greatly lacking for such a diverse and commonly-collected family.

I am very grateful that I was awarded the Bert and John Carr award in 2021. This award allowed me to spend time at the Spencer Entomological Museum at University of British Columbia as a step towards untangling the diversity and distribution of click beetles in this region. The Spencer collection is one of two major collections in British Columbia and, as such, very important for me to find material to study and to record specimen details. I spent long days at the collection from 16–19 November 2021. When I arrived, the collection had 8.5 drawers of named specimens, a synoptic collection, and 6.5 drawers of unidentified Elateridae. A large portion of the named collection is from the G. Stance-Smith collection with many specimens collected from around Creston and Copper Mountain. This early material was often used by W.J. Brown of the Canadian National Insect Collection to describe new material in the 1930s and is rich in paratypes and specimens

Enfant, j'ai grandi en jouant avec les taupins que je trouvais dans le bois de chauffage qui servait à chauffer la maison de ma famille. Une fois adulte, j'ai appris à apprécier l'immense diversité de la famille des Elateridae et le défi que représente la distinction entre les espèces. J'aime les défis et mon objectif est de produire une série de clés pour les Elateridae de la Colombie-Britannique, du Yukon et de l'Alaska. Il s'agit d'une ressource qui fait cruellement défaut pour une famille aussi diverse et couramment collectée.

Je suis très reconnaissant d'avoir reçu la bourse Bert et John Carr en 2021. Cette bourse m'a permis de passer du temps au Musée entomologique Spencer de l'Université de la Colombie-Britannique afin de démêler la diversité et la distribution des taupins dans cette région. La collection Spencer est l'une des deux principales collections en Colombie-Britannique et, en tant que telle, elle est très importante pour moi pour trouver du matériel à étudier et pour enregistrer les détails des spécimens. J'ai passé de longues journées à la collection du 16 au 19 novembre 2021. Lorsque je suis arrivé, la collection comptait 8 tiroirs et demi de spécimens identifiés, une collection synoptique et 6 tiroirs et demi d'Elateridae non identifiés. Une grande partie de la collection identifiée provient de la collection de G. Stance-Smith avec de nombreux spécimens collectés dans les environs de Creston et Copper Mountain. Ce matériel ancien a souvent été utilisé par W.J. Brown de la Collection nationale canadienne d'insectes pour décrire du nouveau matériel dans les années 1930 et il est riche en paratypes et en spécimens identifiés.

identified by Brown. For me this was a gold mine of learning and included a chance to examine material of species that do not reside on the west coast where I have done most of my collecting.

The Elateridae collection at UBC has never been “cleaned” so checking through some species’ unit trays was a matter of removing up to a third of the specimens which were incorrectly identified and getting them into the correct species box. The richest part of the collection was the unidentified material, diverse in location and including many species collected by Syd, Dick, and Rob Cannings from northern BC and the Yukon. I quickly found and identified many species not yet represented in the collection. New species records for the Yukon were also hidden among this section of the collection.

The Spencer Entomological Museum team has participated in many regional bioblitzes over the last several years and I identified all its Elateridae material from these trips. This resulted in four new species for the already impressive Whistler Bioblitz list.

Since this initial trip, I have managed to get back to the Spencer for a second visit and reduced the 6.5 drawers of unidentified material down to just a couple of unit trays of eastern and foreign material. Thanks to the Entomological Society of Canada for supporting this work and to Karen Needham for inviting me to the museum and helping me during the visit.

par Brown. Pour moi, ce fut une mine d’or d’apprentissage et une chance d’examiner du matériel d’espèces qui ne sont pas présentes sur la côte ouest où j’ai fait la plupart de mes collections.

La collection d’Elateridae de l’UBC n’a jamais été « nettoyée », de sorte que la vérification des casiers de certaines espèces a consisté à retirer jusqu’à un tiers des spécimens incorrectement identifiés et à les placer dans la bonne boîte d’espèces. La partie la plus riche de la collection était le matériel non identifié, diversifié en termes de localisation et comprenant de nombreuses espèces collectées par Syd, Dick et Rob Cannings dans le nord de la Colombie-Britannique et au Yukon. J’ai rapidement trouvé et identifié de nombreuses espèces qui n’étaient pas encore représentées dans la collection. De nouvelles espèces pour le Yukon étaient également cachées dans cette section de la collection.

L’équipe du musée entomologique Spencer a participé à de nombreux bioblitz régionaux au cours des dernières années et j’ai identifié tout le matériel Elateridae de ces voyages. Cela a permis d’ajouter 4 nouvelles espèces à la liste déjà impressionnante du Whistler Bioblitz.

Depuis ce premier voyage, j’ai réussi à retourner au musée Spencer pour une deuxième visite et j’ai réduit les 6 tiroirs et demi de matériel non identifié à seulement quelques boîtes de matériel provenant de l’Est et de l’étranger. Merci à la Société d’entomologie du Canada pour son soutien à ce travail et à Karen Needham pour m’avoir invité au musée et m’avoir aidé pendant la visite.



Wider aspects of a career in entomology.

19. My introduction to Canada's fauna and environments, concluded

Hugh V. Danks

This series of articles outlines some ancillary aspects of my entomological career, for the potential amusement of readers. It reports the sometimes-unexpected challenges of working in new places and in the real world, an approach that serves also to expose some conclusions about entomological activities, and some information about insects and their environments. This article continues an account of my introduction to the Canadian insect fauna.



My explorations of Canada's fauna revealed many insects in addition to the butterflies, moths, and dragonflies featured in previous articles (*ESC Bulletin* 54: 11–20; 54: 66–75). However, most of the species were unfamiliar to me.

They were also more difficult to identify than the ones I had met in the United Kingdom. There, only a few species remain to be discovered, and more than 24 000 species of all orders have already been described. In Canada, nearly all groups are less well known and more diverse.

Nevertheless, the large and strikingly coloured species seen on my hikes could usually be identified. Their names allowed me to discover noteworthy details about the natural history and adaptations of each species, just as for the groups previously featured.

Tiger beetles are active and showy (and there are six times as many species in Canada as in the UK). There has been much faunistic and ecological research, including the potential of tiger beetles as bioindicators, as well as studies of activity (in relation to temperature and solar radiation), vision, locomotion, and predation. One common species (Figure 1) usually pounces on prey that come close, rather than pursuing prey over greater distances as in most other species.



H. Danks

Figure 2. Elder borer, the cerambycid *Desmocerus palliatus*. Length about 2.5 cm.

The elder borer (Figure 2) has dramatic warning coloration that is believed to mimic that of toxic lycid beetles. However, because this longhorn beetle feeds on elderberry flowers and leaves, and its larva bores in the stems and roots, it may be toxic in its own right through substances obtained from the elderberry plant¹. Moreover, confirming the general complexity of interspecific interactions in insects, a few other species of longhorn beetles not only mimic but also prey on lycids.



H. Danks

Figure 1. Six-spotted tiger beetle, the cicindelid *Cicindela sexguttata*. Length 1.3 cm.

¹Elderberry contains cyanogenic glycosides. Lycid beetles are protected by lycidic acid, apparently generated by the beetles (their larvae do not eat higher plants, but live under bark and are believed to eat myxomycetes or metabolic products of fungi, although they were once thought to be predaceous).

Hugh Danks (hughdanks@yahoo.ca) retired in 2007 after many years as head of the Biological Survey of Canada. In that role, he helped to coordinate work on the composition and characteristics of the arthropod fauna of the country, and to summarize the results. In addition, his research studied cold hardiness, diapause, and other adaptations to seasonality in northern regions.

The milkweed leaf beetle (Figure 3) has warning colouration too, despite its relatively small size. It is one of many orange and black species in the complex of mainly unpalatable mimics associated with milkweed, which in Canada also includes the milkweed longhorn beetle, the larva of the milkweed tussock moth, large and small milkweed bugs, the viceroy butterfly, and the monarch butterfly². Adults and larvae of the milkweed leaf beetle cut several side-veins of the leaf prior to feeding, to tap off the sticky exudate that would otherwise be produced at the feeding site.



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Figure 3. Milkweed leaf beetle, the chrysomelid *Labidomera clivicollis*. Length about 1 cm. ▶



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Figure 4. Two common pest beetles: rose chafer, the scarabaeid *Macroactylus subspinosus* (L), length about 1 cm; and Japanese beetles, the scarabaeid *Popillia japonica*, length 1.5 cm, on a leaf damaged by their feeding.

Other beetles were noticed because they are especially abundant. Some were pests, both native species like the rose chafer, and introduced ones such as the Japanese beetle (Figure 4). Many such pests have extraordinarily wide host-plant ranges. Japanese beetles will eat more than 300 kinds of herbaceous plants, shrubs, and trees belonging to about 80 plant families, and they feed on flowers and fruits as well as foliage.

Cicadas attracted my notice because they are large and noisy. Even so, individuals are hard to see as they sing

high in the trees, but the exuviae of nymphs that have emerged from the soil relatively recently (and the adults that came from them) are visible on tree trunks. Most cicadas are annual, although the periodical ones in which the whole population emerges together only every 13 or 17 years get most of the attention. The “annual” species evidently take more than 1 year to develop, given the nutritionally poor xylem fluid on which cicadas feed, but are not synchronized and so appear every year. Many of the relatively common “green *Tibicen* species” in eastern Canada (e.g., Figure 5) are difficult to distinguish.

Grasshoppers were often seen or heard in open areas, sometimes in large numbers. The Carolina grasshopper is particularly common, and easy to see when it flies suddenly—revealing spectacular hind wings, which are dark with a pale border. Extended flights, frequent in hot weather, are unpredictable and never linear, a pattern that would hinder pursuit by predators. Moreover, as soon as the insect settles it becomes perfectly camouflaged (Figure 6).

The courtship behaviour of this species is distinctive. Males hover above the ground, rising and falling, and crackling their wings. After the males land, they stridulate, alternating hind legs in a characteristic way, until a female approaches. I once saw a



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Figure 5. An annual cicada, the cicadid *Neotibicen* sp., probably *N. linnei*. Length about 4 cm.

²Milkweed toxins, sequestered by the monarch and some other species, are cardenolide glycosides (cardiac glycosides).



Figure 6. Carolina grasshopper, the acridid *Dissosteira carolina*. Length about 4.5 cm.



Figure 7. Twostriped grasshopper, the acridid *Melanoplus bivittatus*. Length about 3.5 cm.

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male attempting this behaviour although it had lost one hind leg. Its courtship was not successful!

Many common species of grasshoppers belong to the genus *Melanoplus*, which includes the twostriped grasshopper (Figure 7). That species is easily recognized, but many of its congeners are not, a problem exacerbated by considerable variation in colour. The migratory locust (Figure 8) is one such species. Like the twostriped grasshopper, it is distributed across the continent, and eats many kinds of forbs and grasses. Therefore, especially given migratory behaviour, the species are major pests of grasslands and crops, consuming grains, vegetables, and forages. Shrubs and trees, and even other individuals, will also be attacked when populations are high and food is short.

The abundance, pest status, and relatively large size of *Melanoplus* grasshoppers make them frequent subjects for research, and interesting discoveries have been made about insect nutrition and development, swarming and migration in both nymphs and adults, resource transfer during mating, egg diapause, and other matters. For example, during bouts of copulation lasting many hours, nutrients are transferred by the male in the form of spermatophores, and are subsequently used by the female. Females therefore obtain proteins and other resources for egg development through multiple mating.

The fact that these grasshoppers (and some of the butterflies and moths noted in earlier articles) will eat such a broad array of plants reinforces the theme that many abundant insects of all groups are broadly adapted to a range of conditions. In the same way, common species of many orders exploit widely available food types, such as decaying materials and prey organisms. Other adaptations that frequently bring success in cold or variable Canadian environments are tolerance to a range of climates, substantial cold hardiness in relevant stages, and sophisticated control of life-cycle timing (such as multiple programmed delays in development, which include complex egg diapauses in some grasshopper species).

More specialized insects such as gall makers are widespread too. One conspicuous gall, up to 5 cm long, occurs on sumac (Figure 9). Each gall is founded by a single egg laid on the underside of a sumac leaf in spring by a female aphid. These females (and the males that mate with them) arise from asexual generations that develop and overwinter in moss, the alternate host. The egg



Figure 8. Migratory grasshopper, the acridid *Melanoplus sanguinipes*. Length about 2.5 cm.

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Figure 9. Sumac pouch gall, caused by the eriosomatine aphid *Melaphis rhois*, on staghorn sumac. Length about 5 cm.



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Figure 10. Cast exoskeleton of a stonefly nymph. Length about 2 cm.

by the long, flexible legs that distribute the weight evenly as they support the animals, while hydrofuge hairs on the legs and body prevent them from breaking through the surface. All of them feed on invertebrates that have fallen onto the water surface. There are species and stages of many different sizes, and the smallest are especially difficult to photograph. Veliids often assemble in masses of tiny individuals that seethe in perpetual motion.

hatches into a stem mother, which stimulates the formation of a gall. Inside it, an aphid colony builds up through several parthenogenetic generations. When the gall splits open, typically in late summer, winged females are released and move to the alternate host, often by simply dropping on to mosses beneath the sumac bearing their gall.

Many galls on the leaves and twigs of oaks are relatively large too, with a range of forms, giving rise to names like apple, gouty, and horned galls; some smaller leaf galls are brightly coloured. Most of these oak galls are induced by cynipid wasps. Characteristic galls on goldenrod (illustrated in ESC Bulletin 53: 190–191) belong to a fly and to a moth.

As can be seen from the descriptions above, looking at vegetation during my hikes revealed species of interest that extended well beyond caterpillars. Attention was also particularly worthwhile at the edges of aquatic habitats, in the vicinity of artificial lights at night, and on flowers.

Adult dragonflies are the most conspicuous insects near water (see ESC Bulletin 54: 70–75). Exuviae left by nymphs that have crawled out on to emergent vegetation to transform into adults are encountered too. The exuviae of stonefly nymphs (e.g., Figure 10) are much less common, but were a rewarding discovery because stoneflies are key indicators of cool, unpolluted habitats, and so are most frequent far from civilization! Chironomid midges (see below) are everywhere, both close to water bodies and away from them.

Water striders are regular denizens of the water surface. A few of the ways in which they drew my attention are shown in Figure 11. For example, in sunshine, gerrids cast strange shadows on the substrate because the surface film is depressed



Figure 11. Water striders (gerrids) and broad-shouldered water striders (veliids). L and R from top to bottom: shadows cast where the surface film is depressed by the legs; gerrid feeding on a dead caddisfly; two tiny individuals on calm water; cluster of hundreds of individuals of *Rhagovelia* sp. Lengths 0.3–1.2 cm.

Thirty species of water striders have been reported from Canada, living on various still and running waters. In some species, the wings of different individuals have two or more different lengths: long, short, or absent (as in nymphs). Such variation reflects adaptations to seasonality, dispersal, resource use, and calmness of the water surface, depending on habitat features such as permanence and turbulence.

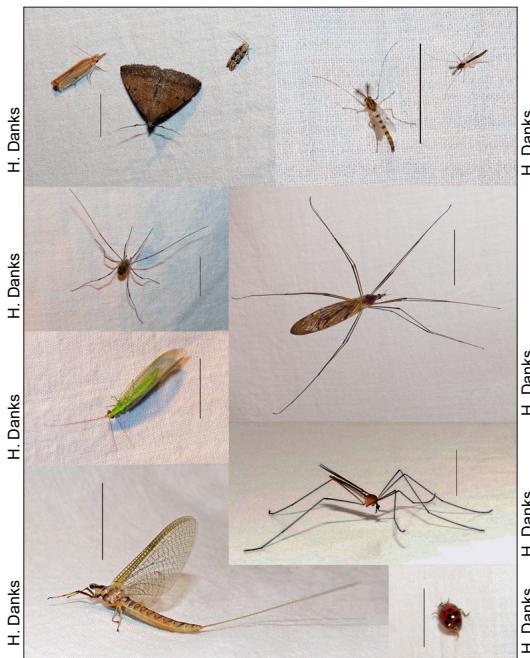


Figure 12. A sample of the many kinds of arthropods that come to light. Clockwise from top L: small moths; chironomids; crane flies; lady beetle; mayfly; lacewing; harvestman. Scale lines, 1 cm.

Flowers attract many kinds of insects, and are the best places to observe bees. Canada has more than 40 species of bumble bees, some of them Holarctic. A few widely distributed species dominate the observations (e.g., Figure 14), as for insects everywhere, but some that were once common are in decline, like the yellow-banded bumble bee (Figure 15). The reasons for such changes are seldom understood, although presumably they stem partly from loss of habitat, climate change, pesticide use, and other general factors. Pathogens and parasites from honey bee colonies are a more specific threat to bumble bees.

Many insects (including some typically diurnal species) were attracted to my camping lantern, and in later years to the lights of motels and hotels. Large moths are most conspicuous, but many other arthropods arrive too (e.g., Figure 12). Small moths and even smaller flies are abundant, as are crane flies. Beetles, mayflies, caddisflies, lacewings, bugs, mantids, and others also come. Harvestmen frequently visit lights on the ground. Most of the species in this diverse assemblage are not easy to identify. Nevertheless, the species attracted to light are obviously different in each place. In addition to wide-ranging generalists, there are specialists from woodlands, wetlands, agricultural fields, or other habitats in the local area.

Hotel-room windows provide good views of insects resting there (e.g., Figure 13), whether or not those individuals have come to the lights.



Figure 13. Insects on hotel windows: lake chironomids (L); and a mayfly alongside its subimaginal exoskeleton.



Figure 14. Common eastern bumble bee, the bombid *Bombus impatiens*, an adaptable species and the one most frequently encountered in eastern Canada. Length 1.3 cm.



Figure 15. Yellow-banded bumble bee, the bombid *Bombus terricola*, a species now greatly reduced in numbers in much of Canada. Length 1.3 cm.

Solitary bees vastly outnumber bumble bees, and are likely to be threatened by the same changes, but most species are too small (and active) to identify or photograph easily.

Like larger bees, several of the insects already mentioned are conspicuous because they have warning colouration. This category includes wasps³, such as the familiar aerial yellowjacket (Figure 16). Like other yellowjackets, its notoriety depends on the fact that workers regularly come into contact with humans, are aggressive (especially near large nests, and if harassed⁴), and have an excruciating sting that produces severe allergic reactions in some people.



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Figure 16. Aerial yellowjacket, the vespid *Dolichovespula arenaria*. Length about 1.2 cm.



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Figure 17. European paper wasp, the polistine vespid *Polistes dominula*. Length about 1.2 cm.

Commonly encountered as well is the European paper wasp (Figure 17) a social species that was introduced relatively recently, but has spread rapidly across the country. Its success depends partly on the use of diverse nest sites, including man-made structures, and on the fact that it collects a wide range of food types. In some areas it seems to have interfered with populations of a native species, but this does not appear to be the case in Ontario.



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Figure 18. Red paper wasp, the polistine vespid *Polistes carolina*. Length about 2 cm.

³Many identifications in the species-rich family Vespidae were challenging until an excellent and profusely illustrated guide was published in 2008 in the *Canadian Journal of Arthropod Identification* [no. 5] (<https://cjai.biologicalsurvey.ca/>). Even so, photographs alone may be insufficient if they do not show all of the relevant characters.

⁴Foraging workers will sting well away from the nest if they feel threatened, and some individuals do so with little provocation (prompting the advice: “Don’t flap at wasps”!).



Figure 19. Black-and-yellow mud dauber, the sphecid *Sceliphron caementarium*. Length 2.5 cm.



Figure 20. A potter wasp, the eumenine vespid *Eumenes fraternus*. Length about 1.7 cm.



Figure 21. Pigeon tremex, the siricid *Tremex columba*, a horntail that develops in the wood of deciduous trees. Length about 3 cm.

Most wasps, even some dangerous-looking social species like the red paper wasp (Figure 18), are not aggressive except at the nest. The red paper wasp makes grey paper nests in protected locations, and is often seen on flowers.

The large black-and-yellow mud dauber (Figure 19), which stocks spiders in multiple cells in sheltered mud nests, looks equally formidable. However, it is solitary and builds a number of structures successively, rather than defending a continuously occupied nest as the social species do. Therefore, individuals seldom sting.

Potter wasps of the genus exemplified in Figure 20 (easily diagnosed by the distinctively shaped petiolate abdomen) are solitary too. Typical species stock caterpillars in pitcher-shaped nests made of mud.

Based mainly on lessons taught by yellowjackets and hornets, however, many people unduly fear all wasps, including docile and harmless species. Other harmless insects with similar warning colours—e.g., horntails (Figure 21), the large sawflies that attack chiefly dead or dying trees—produce the same response.

Such warningly coloured insects advertise their



Figure 22. Flies at resources. Top bottom: the tabanid *Stomemyia tranquilla* (length about 1.5 cm), on a flower; several polleniids, *Pollenia vagabunda* (length about 1 cm), on sap from a cut branch; sheep blow fly, the calliphorid *Lucilia sericata* (length about 1 cm), on dung.

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Figure 23. A swarm of chironomid midges around a tree top. The scale is indicated by a crow taking flight.

presence. In contrast, small flies and parasitoid wasps do not, and as a result, they were seen far less during my explorations than would have been justified by their diversity and ecological importance. Both groups are particularly well represented in northern climates like Canada's.

A few families of parasitoid wasps, such as ichneumonids and gasteruptiids, contain large diurnal species that are easy to see as they hunt for prey. Even so, typical genera have many similar species, and individuals are constantly in motion. Observing any of the thousands of smaller, unidentifiable, parasitic wasps (belonging to nearly 40 different families) is not a profitable pursuit for the casual hiker!

Many flies can be seen when they assemble at resources such as flowers, sap, and dung (Figure 22). However, most of these and other species are difficult to identify. Although some of the 116 families of flies currently known from Canada are readily recognized, most identifications to species are challenging and require detailed examination of multiple characters. For instance, chironomid midges, especially swarms of males, are abundant near water (e.g., Figure 23), but even common species cannot normally be identified in the field.

Extraordinary numbers emerge in spring from large lakes, when swarms like that shown in Figure 23 are common across hectares of the land nearby. A few weeks later, their dead bodies coat surrounding surfaces (e.g., Figure 24). They are so plentiful that birds (including ducklings, which rely on rich insect food even in species with an adult diet of plants) consume only a negligible fraction of the population.

Decaying materials support many species. Their diversity is exemplified by sphaerocerids, common but diminutive microbial grazers that develop in a wide range of moist microhabitats. The family is much better known than in the past (the Canadian list of 35 species of sphaerocerids in 1979 has grown to more than 180 species), but in the field I could barely distinguish the family, let alone the species⁵!



Figure 24. Dead chironomids in the same area, about 4 weeks after the swarm shown in Figure 23: on a leaf; and on a tree stump. Length of individuals less than 1 cm.

⁵However, I did have an early experience with sphaerocerids: one of the graduate students who shared my laboratory in England studied them, including species reared on decaying grass clippings. An ample supply of this rearing medium was once left unattended indoors over a long summer weekend, after which the stench of rotting vegetation rendered the laboratory virtually uninhabitable for hours. (The response: "Oh, sorry, I forgot.")

Therefore, it was rewarding to find large and distinctive species of flies. The red-and-black crane fly *Ctenophora dorsalis* (Figure 25) mimics a wasp. Its presence indicates relatively undisturbed forest, because the larvae feed on rotting wood.

Of course, mosquitoes, black flies, and horse flies also forced themselves into notice during most hiking and camping journeys. Their unwelcome presence there—eliciting numerous biting comments from family members—will be considered in the next article in this series.

Many conspicuous species crossed my path over the years, therefore, but they proved to be a mere fraction of the fauna. Recent figures suggest that more than 44 100 species of insects, arachnids, and related groups are already known from Canada. Moreover, even conservative estimates suggest that between 27 000 and 42 600 additional species remain to be discovered.

Indeed, when I first saw cabinet drawers in the Canadian National Collection of insects, one feature stood out. A few genera of parasitic wasps, flies, and other taxa that had been studied in detail were labelled with the names of dozens of species; but many other similar genera bore only a handful of names, because they had not yet been revised, and many of the species were not even described. Such lack of knowledge adds to the difficulty of identification, hindering research of all kinds. It underscores the value of concerted efforts to characterize the fauna, such as the Biological Survey of Canada⁶, which was established by the ESC.

Consequently, although my personal introduction to Canada's fauna and environments taught me many interesting things, those experiences served equally to emphasize how little I knew!

⁶Biologicalsurvey.ca



Figure 25. A wasp-mimic crane fly, the tipulid *Ctenophora dorsalis*. Length 2 cm.

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S. McCann

Tibellus oblongus (Araneae: Philodromidae): a well-camouflaged slender running crab spider.

Books available for review / Livres disponibles pour critique

The ESC frequently receives unsolicited books for review. A list of these books is available online (<http://esc-sec.ca/publications/bulletin/#toggle-id-2>) and is updated as new books are received.

If you wish to review one of these books, please send an email to the Chair of the Publications Committee (Véronique Martel, veronique.martel@NRCan-RNCan.gc.ca).

You should briefly indicate your qualifications to review the topic of the book, and be able to complete your review within 8 weeks.

Preference will be given to ESC members.

Guidelines

Book reviews should be approximately 800-1200 words in length. They should clearly identify the topic of the book and how well the book meets its stated objective. Weaknesses and strengths of the book should be described.

Formatting of the review should follow that of reviews in recent issues of the Bulletin. A scan of the book cover (jpeg or tiff format, about 500 kb) should be submitted with the review.

La SEC reçoit fréquemment des livres non demandés pour des critiques. Une liste de ces livres est disponible en ligne (<http://esc-sec.ca/publications/bulletin/#toggle-id-2>) et est mise à jour lorsque de nouveaux livres sont reçus.

Si vous souhaitez critiquer un de ces livres, veuillez envoyer un message au présidente du comité des publications (Véronique Martel, veronique.martel@NRCan-RNCan.gc.ca).

Vous devez brièvement indiquer vos qualifications pour critiquer le sujet du livre, et être en mesure de terminer votre critique en 8 semaines.

La préférence est donnée aux membres de la SEC.

Lignes directrices

Les critiques de livre doivent compter entre 800 et 1200 mots. Elles doivent clairement identifier le sujet du livre et si le livre rencontre bien les objectifs énoncés. Les forces et faiblesses du livre devraient être décrites.

Le format des textes doit suivre celui des critiques des récents numéros du Bulletin. Une version numérisée de la couverture du livre (en format jpeg ou tiff, environ 500 kb) devra être soumise avec la critique.

Books available for review

- Blomquist, G. & R. Vogt [Eds.]. 2021. Insect Pheromone Biochemistry and Molecular Biology. Elsevier Inc. ISBN: 978-0-12-819628-1. [e-book].
- Delaplane, K. 2021. Crop Pollination by Bees, Volume 1. Evolution, Ecology, Conservation and Management. CABI. ISBN: 9781786393494. [e-book].
- Eiseman, C. 2019. Leafminers of North America. [e-book].
- Forman, R.T.T. 2019. Towns, Ecology and the Land. Cambridge University Press. ISBN 978-1-316-64860-5 [paperback].
- Frank, B., J.A. Klikman and S. Marchini. 2019. Human-Wildlife Interactions. Turning conflict into coexistence. Cambridge University Press. ISBN: 978-1-108-40258-3 [paperback].
- Gibson, D.J. and J.A. Newman [Eds.]. 2019. Grasslands and Climate Change. Ecological Reviews. Cambridge University Press. ISBN: 978-1-316-64677-9 [paperback].
- Hölldobler, B. and Kwapich, CL. 2022. The Guests of Ants: How Myrmecophiles Interact with Their Hosts. Harvard University Press. ISBN 9780674265516
- Kaufman, A.B., M.J. Bashaw and T.L. Maple [Eds.]. 2019. Scientific Foundations of Zoos and Aquariums: Their Role in Conservation and Research. Cambridge University Press. ISBN: 978-1-316-64865-0 [paperback].
- Keddy, P.A., and Laughlin, D.C. [Eds]. 2022. A Framework for Community Ecology. Cambridge University Press. ISBN 978-1-009-06831-4 [e-book or paperpack]

- Klimaszewski J., et al. 2020. Synopsis of Adventive Species of Coleoptera (Insecta) Recorded from Canada. Part 5: Chrysomeloidea (Cerambycidae, Chrysomelidae, and Megalopodidae). Advanced Books. [e-book] doi: 10.3897/ab.e50613.
- Kondo, T. and G. Watson [Eds]. 2022. Encyclopedia of Scale Insect Pests. CABI. ISBN: 978-1-80062064-3
- Pettorelli, N., S.M. Durant and J.T. du Toit [Eds.]. 2019. Rewilding. Cambridge University Press. ISBN: 978-1-108-46012-5 [paperback].
- Volis, S. 2019. Plant Conservation: The Role of Habitat Restoration. Cambridge University Press. ISBN: 978-1-108-72733-4 [paperback].
- Wilson, K., Fenton, A., Tompkins, D., eds. 2019. Wildlife Disease Ecology. Linking theory to data and application. Cambridge University Press. ISBN: 978-1316-50190-0 [paperback].
- Wrigley, R.E. 2020. Chasing Nature: An Ecologist's Lifetime of Adventures and Observations. Robert E. Wrigley and Friesen Press. ISBN: 978-1-5255-5586-2 [hardcover], 978-1-5255-5587-9 [paperback], 978-1-5255-5588-6 [e-book].
- Wrigley, R.E., de March, L., Huebner, E. 2022. Tiger Beetles of Manitoba: Ecology, Life History and Microsculpture. Robert E. Wrigley. ISBN: 978-1-7781065-0-7 [paperback].

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Highlights of the recent Board of Directors meeting

The ESC Board of Directors met by videoconference on 16 June 2022 with President Felix Sperling chairing. The Board received reports on future Joint Annual Meetings (JAM). Preparations for JAM 2022, joint with the Entomological Societies of America and British Columbia, are progressing well. ESC representatives will be part of a site visit of the tri-society organizing committee in late June 2022. At the time of the Board meeting, the registration site had been open for two days and the membership discount codes for registration had been sent to ESC members. The Board received information on the number of paper submissions received in both in-person and virtual categories: the numbers were indicative of a well-attended meeting. The Board was informed that the local organizing committee for JAM 2023 in Saskatoon had recently met, and progress on meeting organization is being made. La Société d'entomologie du Québec will co-host JAM 2024; the chair of the local organizing committee has been named and has received the ESC documents outlining the organization of a JAM. The ESC had appointed ESC 2nd Vice-President, Colin Favret, as its representative on the local organizing committee for JAM 2024. At this point, no information is available on the organization of JAM 2025, to be co-hosted by the Entomological Society of Alberta. ESC Secretary, Neil Holliday, advised that he had contacted the Entomological Society of Manitoba to solicit an invitation from that Society to co-host JAM 2026.

The Board received an update from ESC Treasurer, Bryan Brunet, on steps taken in response to the review of the financial sustainability of *The Canadian Entomologist* (TCE). The Treasurer has transferred the balance in the C.P. Alexander TCE Endowment Fund chequing account to the C.P. Alexander TCE Endowment Fund investment account. The chequing account has long been inactive but incurs bank charges, and will be closed in the near future. The Treasurer has initiated the process of establishing the TCE Contingency Investment Account, to which profits from TCE will be directed until the fund has reached a balance of twice the TCE technical editor's salary. The Board received a brief report on steps taken in response to recommendations to the previous Board meeting from the Physical Assets Committee. Also received was an initial report on the Equity, Diversity and Inclusion (EDI) Survey, which had closed on the day of the Board meeting.

Treasurer Brunet presented the draft ESC Budget for 2022–23, and reviewed the main items. The budget projects a small deficit for the Society, but Treasurer noted that the surplus from JAM 2022 was likely to be greater than that projected in the budget, and that the Society had adequate reserves to cover the projected deficit should it occur. Board members questioned the amount allocated for management of investments and discussed the appropriate amount to allocate for reimbursement of costs of directors to attend Board meetings at JAM 2022. There was also clarification of the allocation for the expenses of incorporation of the ESC Scholarship Fund. Following this discussion, the Board approved the budget as distributed.

Past president Bill Riel, who chairs the Bylaws, Rules and Regulations Committee, presented proposals to amend the ESC's Committee Guidelines to implement previous decisions made by the Board. The Board approved amendments to the Student Awards Committee Guidelines, to allow Becker Awards to be made in years when the JAM is online only; to the Physical Assets Committee Guidelines, to remove reference to maintaining two complete printed copies of *The Canadian Entomologist*, and to the chair holding a key to the safety deposit box; to the Insect Common Names Committee Guidelines, to add the object of harmonization of common names with existing names whenever they are suitable; and to the Fundraising Committee Guidelines, to add the duty of recommending the annual cost of advertising in the Bulletin.

Secretary Holliday pointed out that since TCE had changed to be an E-journal, "E-ToCs" — the

electronic table of contents sent by Cambridge University Press (CUP) to ESC members — was no longer being issued. The Executive Council had been concerned that the lack of notification of ESC members about the contents of **their** journal was a reduction in member services, and is detrimental to the retention of members and to the profile of TCE as a place to publish members' research. The Executive Council had authorized the ESC Secretary to send an Eblast to all members listing the contents of TCE for the first few months of 2022, but was opposed to this becoming a permanent duty of the Secretary. The Council had authorized President Sperling to work with the Publications Committee and TCE Editors-in-Chief to ensure that CUP restored E-ToCs as soon as possible; however, progress with CUP was not rapid. There was a broad ranging discussion of ESC's concerns with the services provided by CUP. It was noted that the Task Force on Financial Sustainability of TCE had recommended that, before the end of the current contract with CUP, potential arrangements with alternative publishers be investigated. Such investigations should begin well ahead of the December 2025 termination of the current contract. The ESC Secretary was directed to distribute the ESC contract with CUP to Board members, and to include an item on ESC–CUP roles and relationships on the agenda of the next Board meeting.

Acadian Entomological Society Regional Director Jess Vickruck asked for details of the services provided to ESC by its association management company, Strauss event and association management. It was noted that a large portion of the ESC's budgeted expenditures were paid to Strauss, and that it was appropriate that the Board understand what ESC was getting for this outlay. Past president Riel informed the Board that the decision to engage an association management company had been made after it was realized that ESC could no longer afford to pay and house staff to perform all the Society's needed administrative activities. Alternatives had been reviewed and engagement of an association management company had been considered the most appropriate and cost-effective option. Executive Director Geoff Powell briefly reviewed the main activities of Strauss on ESC's behalf, and he and the ESC Secretary described the documents that define Strauss' services for ESC. It was agreed that Board members should immediately receive copies of these documents, as well as a detailed report on hours used by Strauss in providing service to ESC.

Treasurer Brunet reported on the issues he had been forced to address in the early months of his time as Treasurer. These mostly related to the ESC Scholarship Trust. They involved the fine details of reporting to the Canada Revenue Agency (CRA) and the calculation of the annual disbursement quota, which is the minimum total value of scholarships that the Scholarship Trust must pay to fulfil the conditions of being a registered charity. Treasurer Brunet had to work through many of the details himself, as he was faced with conflicting information from the Society's accountants, auditors, and CRA. He had recently submitted to CRA amendments for the past five years of reporting. It was noted that Board could receive this information, but cannot direct Scholarship Trust matters, as the Trust is required to be at arm's length to the ESC. Several factors appear to have contributed to the problems, major ones being the lack of continuity of knowledge of Trust members, and the great differences in accounting and taxation procedures between charitable trusts and non-profit corporations such as ESC. The hope was expressed that the new structure for the Trust that would emerge from the on-going incorporation process would provide the necessary continuity of expertise to avoid future problems.

In other business, 1st vice-president and chair of the Achievement Awards Committee, Chris MacQuarrie, noted that, with one exception, all current and nominated honorary members are of the same ethnicity and gender. Nominations of honorary members must come from the ESC membership, rather than the Committee. Directors should encourage nominations of worthy individuals in diverse groups to redress this near-uniformity.

Board members were reminded that the next planned meeting of the ESC Board of Directors would be on Sunday 13 November 2022 from 8 AM to 3 PM Pacific Standard Time, and was planned to be an in-person meeting at the Pan-Pacific Hotel, Vancouver, with the option of remote participation via a video link.

In July, some weeks after the Board meeting, the Board conducted an email ballot to approve the appointments of two co-secretaries, Erin Campbell and Neil Holliday. These appointments will become effective on 1 September 2022.

72nd Annual Meeting of Members and Board of Directors Meetings (JAM 2022)

The Annual Business Meeting of Members of the Entomological Society of Canada is scheduled to occur in Room 211, Vancouver Convention Centre, 1055 Canada Place, Vancouver, British Columbia on Tuesday 15 November 2022, beginning at 3:00 PM PST. The incoming Board of Directors will meet at the same location at 4:00 PM PST. The outgoing Board of Directors Meeting is planned to be in Oceanview Suite 2 of the Pan Pacific Hotel, 999 Canada Place, Vancouver, British Columbia on Sunday 13 November 2022, beginning at 8:00 AM PST. Matters for consideration at any of the above meetings should be sent to the Co-Secretaries of the Entomological Society of Canada (see inside back cover for contact details).

72^e assemblée annuelle des membres et réunions du conseil d'administration 2022

L'assemblée annuelle des membres de la Société d'entomologie du Canada aura lieu dans la salle 211 du Centre des congrès de Vancouver, au 1055 Canada Place, Vancouver, Colombie-Britannique, le mardi 15 novembre 2022, à partir de 15h HNP. Le nouveau conseil d'administration se réunira au même endroit à 16h HNP. La réunion du conseil d'administration sortant est prévue dans la suite Oceanview 2 de l'hôtel Pan Pacific, au 999 Canada Place, Vancouver, Colombie-Britannique, le dimanche 13 novembre 2022, à partir de 8h HNP. Les sujets à discuter lors de l'une des réunions ci-dessus doivent être envoyés aux cosecrétaires de la Société d'entomologie du Canada (voir les coordonnées à l'intérieur de la couverture arrière).

Executive Meeting - Call for Agenda Items

If members have any items they wish to be discussed at the next Board of Directors or Executive Council meeting, please send them to the to the Co-Secretaries (see inside back cover for contact details), as soon as possible.

Réunion du conseil exécutif – Points à l'ordre du jour

Si des membres aimeraient ajouter des points à l'ordre du jour pour discussion à la prochaine réunion du Bureau des directeurs ou du Conseil de l'exécutif, merci de les envoyer aux cosecrétaires (voir le troisième de couverture pour les informations de contact), le plus tôt.

Call for Nominees: ESC Achievement Awards / Appel à candidature: 2023 Prix d'excellence de la SEC

Do you know a well-respected entomologist who deserves recognition because of their outstanding contributions to their science in Canada? Is this person a leader in their field due to successes in publishing, patenting, editorial work and/or grantsmanship, in the teaching and mentoring of students, or through active volunteer involvement in the ESC and other societies/organizations? If yes, consider nominating them for one of our Society's Achievement Awards. Do not hesitate to contact the Chair of the Achievement Awards Committee, Colin Favret (Colin.Favret@umontreal.ca), if you have any eligibility or nomination process questions.

Applications are to be sent by e-mail to the Chair of the Achievement Awards Committee, Colin Favret (Colin.Favret@umontreal.ca), no later than **28 February 2023**. Award-specific nomination guidelines can be found below.

Connaissez-vous un entomologiste respecté qui mérite une reconnaissance pour ses contributions remarquables dans son domaine au Canada? Cette personne est-elle un leader dans son domaine par son succès en publications, brevets, travail éditorial et/ou subventions, enseignement et mentorat d'étudiants, ou même par du bénévolat actif dans la SEC et d'autres sociétés/organisations? Si oui, considérez de la nominer pour un de nos prix d'excellence de la Société. N'hésitez pas à contacter la président du comité des prix d'excellence, Colin Favret (Colin.Favret@umontreal.ca), si vous avez des questions concernant l'éligibilité ou le processus de nomination.

Les candidatures doivent être envoyées soit par courriel au président du comité des prix d'excellence, Colin Favret (Colin.Favret@umontreal.ca), au plus tard le **28 février 2023**.

Gold Medal and C. Gordon Hewitt Awards Médaille d'or et prix C. Gordon Hewitt

Both awards are for outstanding entomological contributions in Canada by an individual. The C. Gordon Hewitt Award nominee must have successfully defended their doctoral thesis in the 12 years ending on 31 December of the year in which the Award is received.

Nominations can only be made by members of the ESC, and signed by the nominator and by at least one seconder (also to be a member of the ESC). Nominators should include the following information for both awards: 1. The name and address of the nominee(s); 2. A statement of relevant achievements (3-5 pages) which may include but is not limited to, the following: outline of research areas, particularly major contributions; numbers of articles in refereed journals, books, book chapters, patents; editorial activities; teaching history, numbers of graduate students, teaching

Ces deux prix vont pour les contributions remarquables en entomologie au Canada par un individuel. Le candidat/la candidate au prix C. Gordon Hewitt doit avoir défendu avec succès sa thèse de doctorat au cours des 12 dernières années se terminant le 31 décembre de l'année au cours de laquelle le prix est reçu.

Les nominations ne peuvent être faites que par des membres de la SEC, et doivent être signées par la personne qui soumet la nomination et par au moins un personne qui appuie la nomination (qui doit aussi être membre de la SEC). Les personnes qui soumettent la nomination doivent inclure les informations suivantes pour les deux prix : 1. Le nom et l'adresse du nommé ; 2. Un énoncé sur les accomplissements pertinents (3-5 pages) qui peut inclure, mais ne se limite pas à : domaine de recherche, contributions majeures particulières, nombre d'articles dans des revues avec évaluation, livres, chapitres

awards; value of grants; involvement in ESC; active involvement and/or memberships in other Societies; entomological extension/ community involvement; organizing of symposia, meetings; 3. A current curriculum vitae; and 4. The name of the nominator and at least one seconder. The documentation should stress the particular achievement or achievements to be considered and not merely the general competences of the nominee. Other seconders may merely state their support, without documentation, in a letter of endorsement of the nomination. The Committee shall not prepare the documentation nor conduct research connected with it. Please send nominations by e-mail to the Chair of the Achievement Awards Committee, (Colin.Favret@umontreal.ca), no later than **28 February 2023**.

de livres, brevets, activités éditoriales, histoire d'enseignement, nombre d'étudiants gradués, prix d'enseignement, valeur des subventions, implication dans la SEC, implication active et/ ou adhésion à d'autres sociétés, implication dans la communauté entomologique, organisation de symposiums et réunions ; 3. Un curriculum vitae à jour ; et 4. Le nom de la personne qui soumet la nomination et au moins une personne qui l'appuie.

La documentation devrait mettre en évidence le ou les accomplissements particuliers à considérer et pas seulement les compétences générales du nominé. D'autres personnes peuvent aussi manifester leur appui, sans documentation, dans une lettre de soutien de la nomination. Le comité ne préparera aucune documentation et ne fera aucune recherche en lien avec la nomination.

Merci d'envoyer vos nominations par courriel au président des prix d'excellence, Colin Favret (Colin.Favret@umontreal.ca), au plus tard le **28 février 2023**.

Honorary Members of the Entomological Society of Canada Membres honoraires de la Société d'entomologie

An Honorary Member is deemed to have made an outstanding contribution to the advancement of entomology, and may be an Active Member or former Active Member of the Society at the time of nomination.

Collectively, Honorary Members are not to comprise more than 10 members or 1% of the active membership of the Society. Nominations should be supported by at least five Active or Special Members of the Society, and are to be sent by e-mail to the Chair of the Achievement Awards Committee (Colin.Favret@umontreal.ca), no later than **28 February 2023**.

Un membre honoraire est considéré comme ayant apporté des contributions remarquables à l'avancement de l'entomologie et peut être un membre actif ou un ancien membre actif de la Société au moment de la nomination.

Collectivement, les membres honoraires ne peuvent pas totaliser plus de 10 membres ou 1% des membres actifs de la Société. Les nominations doivent être supportées par au moins cinq membres actifs ou spéciaux de la Société, et doivent être envoyées par courriel au président des prix d'excellence, Colin Favret (Colin.Favret@umontreal.ca), au plus tard le **28 février 2023**.

Fellows of the Entomological Society of Canada Membres associés de la Société d'entomologie du Canada

Fellows are deemed to have made a major contribution to entomology, and are to be Active Members of the Society at the time of nomination. Their contribution may be in any area (e.g., research, teaching, application or administration), and may be judged on the basis of contribution to and stimulation of the work of others, as well as by direct personal effort.

Collectively, Fellows may not comprise more than 10% of the active membership of the Society. Nominations should be supported by at least four Active or Special Members of the Society, and are to be sent by e-mail to the Chair of the Achievement Awards Committee (Colin.Favret@umontreal.ca), no later than **28 February 2023**.

Les associés sont considérés comme ayant apporté une contribution majeure à l'entomologie et doivent être des membres actifs de la Société au moment de la nomination. Leur contribution peut se situer dans n'importe quel domaine (e.g. recherche, enseignement, application ou administration), et ils seront jugés selon leur contribution et la stimulation au travail des autres, ainsi que par leurs efforts personnels.

Collectivement, les **associés** ne peuvent pas totaliser plus de 10% des membres actifs de la Société. Les nominations doivent être supportées par au moins quatre membres actifs ou spéciaux de la Société et doivent être envoyées par courriel au président des prix d'excellence, Colin Favret (Colin.Favret@umontreal.ca), au plus tard le **28 février 2023**.

Wanted: Applicants for the Bert and John Carr Award Recherchés : Candidats pour le prix Bert & John Carr

The Bert and John Carr Award was created in 2010 (see ESC Bulletin, June 2010 [p. 102] or September 2010 [p. 170]) to support research activities by individuals who study insect faunistics, or the natural history and taxonomy of Canada's insect fauna. Preference is given to applications by amateurs, but those by students and others will be considered.

Applications should consist of: 1. The name and address of the applicant; 2. A statement of the research activity to be undertaken, including a cost estimate of up to \$1000; and 3. A current curriculum vitae. Applications are to be sent by e-mail to the Chair of the Achievement Awards Committee (Colin.Favret@umontreal.ca), no later than **28 February 2023**.

Le prix Bert et John Carr a été créé en 2010 (voir le Bulletin de la SEC, juin 2010 [p.102] ou septembre 2010 [p.170]) pour en appui à des activités de recherche menées par des individus qui étudient la faune entomologique ou l'histoire naturelle et la taxonomie de la faune entomologique du Canada. Une préférence sera donnée aux candidatures provenant d'amateurs, mais des candidatures présentées par des étudiants ou d'autres individus seront aussi prises en considération.

Les candidatures devront inclure : 1. Le nom et l'adresse du candidat ; 2. Un énoncé sur les activités de recherche devant être entreprises par le candidat, dont une estimation des coûts jusqu'à concurrence de 1000 \$; et 3. Un curriculum vitae à jour. Les candidatures doivent être envoyées par courriel au président du comité des prix d'excellence (Colin.Favret@umontreal.ca), au plus tard le **28 février 2023**.

Annual Financial Statements

The 2021-22 ESC Financial Statements and Scholarship Fund Statements will be available on the Members' Area of the ESC Website. Please scroll down to Society Business to find the Statements.

États financiers annuels

Les états financiers 2021-22 de la SEC et du Fonds des bourses d'études seront disponibles dans la section des membres du site web de la SEC. Veuillez faire défiler la page jusqu'aux affaires de la Société pour trouver ces états

Members' discounts

Entomological Society of Canada members can enjoy discounts on publications from Annual Reviews, Elsevier, Cambridge University Press, and the Entomological Society of America. Details of how to benefit from these discounts are available on the member's area of the Entomological Society of Canada website at: <https://esc-sec.site-ym.com/>.

Remise pour les membres

Les membres de la Société d'entomologie du Canada peuvent bénéficier d'une remise lors d'achats de publications de : Annual Reviews, Elsevier, Cambridge University Press et de la Société d'entomologie d'Amérique. Les informations nécessaires pour profiter de ces remises sont disponibles dans la section des membres du site de la Société d'entomologie du Canada à : <https://esc-sec.site-ym.com/>.



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Announcements / Annonces

Insect Surveillance Notice

The Insect Surveillance Community of Practice, established under the Canadian Plant Health Council, is exploring the creation of a community-science project that would connect enthusiasts from across the country, who use black light attraction and other insect traps or techniques to collect or observe insects for a variety of purposes. Insect trapping or observation can provide valuable knowledge about the health of insect populations across Canada, contribute to the early detection of invasive species, and provide data on new and emerging species. We believe that if we can provide a network effect around insect observations then we will be in much better position to improve insect management or conservation decision-making to protect the health of plants across Canada.

As a first step, we would like to gather information on how black light and other insect traps are being used across the country to potentially identify opportunities to create additional networks for insect monitoring, including for the detection of key insect species of concern. If you're willing to share information about your insect observational activities, please take a few minutes to complete the questionnaire available here: <https://arcg.is/1yjzbW0>

Thank you on behalf of the Insect Surveillance Community of Practice!

Jaimie Schnell

Secretariat, Canadian Plant Health Council

cphcsecretariat@gmail.com

Avis de sur la surveillance phytosanitaire des insectes

La Communauté de pratique sur la surveillance phytosanitaire des insectes, qui relève du Conseil canadien de la santé des végétaux, explore la création d'un projet de science communautaire qui regrouperait des amateurs de partout au pays qui utilisent des pièges à lumière ultraviolette ou d'autres pièges ou techniques pour attirer les insectes et les collectionner ou les observer à diverses fins. Le piégeage ou l'observation d'insectes peuvent fournir de précieux renseignements sur la santé des populations d'insectes à l'échelle du Canada, contribuer à la détection précoce des espèces envahissantes et fournir des données sur les espèces nouvelles et émergentes. Nous croyons que si nous pouvons créer un réseau d'observation des insectes, nous serons bien mieux placés pour améliorer la gestion des insectes ou la prise de décisions en matière de conservation en vue de protéger les végétaux à l'échelle du Canada.

Dans un premier temps, nous souhaitons recueillir des renseignements sur la façon dont les pièges à lumière ultraviolette et d'autres pièges à insectes sont utilisés au pays pour déterminer les possibilités de créer de nouveaux réseaux de surveillance des insectes, notamment pour la détection des principales espèces d'insectes préoccupantes. Si vous acceptez de fournir des renseignements sur vos activités d'observation des insectes, veuillez prendre quelques minutes pour remplir le questionnaire à l'adresse suivante : <https://arcg.is/1yjzbW0>

Pour accéder à la version française du questionnaire, après avoir sélectionné « Open in browser », vous pouvez sélectionner votre langue préférée en utilisant le lien en haut à gauche de la page Web.

Au nom de la Communauté de pratique sur la surveillance des insectes, nous vous remercions!

Jaimie Schnell

Secrétariat, Conseil canadien de la santé des végétaux

cphcsecretariat@gmail.com

Advertising in the *Bulletin* / Publicité dans le Bulletin

The *Bulletin* welcomes enquiries regarding advertising within its pages.

For 2022, the advertising rates in the *Bulletin* have been set at \$235/annum for a half-page advertisement, and \$410/annum for a full-page advertisement, in each of the March, June, September and December issues.

For further information, please contact the *Bulletin* Editor (roitberg@sfu.ca).

Le *Bulletin* accueille les demandes de publicité dans ses pages.

Pour 2022, les tarifs publicitaires du *Bulletin* ont été fixés à 235 \$/an pour une demi-page et à 410 \$/an pour une page entière dans chacun des numéros de mars, juin, septembre et décembre.

Pour de plus amples informations, veuillez contacter le rédacteur du *Bulletin* (roitberg@sfu.ca).



S. McCann

Dock spider (*Dolomedes tenebrosus*) in the sun.

List of Contents: Regional Journals / Table des matières : Revues des sociétés régionales

Contents of regional society journals

This regular feature highlights research published in the five regional society journals that include peer-reviewed papers. It should be noted that some regional society journals are not published on a regular basis and may not always include peer-reviewed articles.

Contenu des revues des sociétés régionales

Cette rubrique régulière met en lumière la recherche publiée dans les cinq revues des sociétés régionales qui incluent des articles révisés par les pairs. Veuillez noter que certaines revues des sociétés régionales ne sont pas publiées sur une base régulière et peuvent ne pas toujours inclure des articles évalués par les pairs.



Journal of the Entomological Society of Ontario Volume 153 (2022)

<https://journal.lib.uoguelph.ca/index.php/eso/index>

Giroux, M., Legault, A., and Bede. J.C. 2022. Flesh flies (Diptera: Sarcophagidae) attracted to dog-day cicada (*Neotibicen canicularis* (Harris) Hemiptera: Cicadidae) carcasses in Québec, Canada. 153: 1–9. <https://journal.lib.uoguelph.ca/index.php/eso/article/view/6846/6621>

Levesque-Beaudin, V. 2022. Extracting arthropods from bird nests: a compact, budget friendly trap design. JESO. 153: 1–8. <https://journal.lib.uoguelph.ca/index.php/eso/article/view/6802/6579>



Journal of the Acadian Entomological Society Volume 18 (May 2022)

<https://www.acadianes.ca/journal.php>

Klymko J and Anderson K. 2022. First records of the invasive beech leaf-mining weevil (*Orchestes fagi*) in New Brunswick and Prince Edward Island, Canada 18: 23–25.

http://acadianes.org/journal/papers/klymko_18_23-25.pdf

Gallant, D., Lessard, F., and Mook, I. 2022. Attraction of adult Silphidae and Staphylinidae (Coleoptera) to river otter latrines. 18: 18–22.

http://acadianes.org/journal/papers/gallant_18_18-21.pdf

Havill, N., Dickson, S., Kanoti, A., Parisio, M., Weimer, J., and Zembrzuski, D. 2022. Mass deposition of hemlock woolly adelgid sexuparae on New England beaches. 18: 14–17.

http://acadianes.org/journal/papers/havill_18_14-17.pdf

Webster, R., Sweeney, J., Lewis, J., Klymko, J., Martens-Carpenter, G., Giasson, M., Voscout, L., Chapman, C., Hillier, N.K., Anderson, R., and Smith, M. 2022. Additions to the Coleoptera fauna of New Brunswick, Nova Scotia, and Prince Edward Island, Canada. 18: 1–13.

http://acadianes.org/journal/papers/webster_18_1-13.pdf



Canadian Weed Science Society

Société canadienne de malherbologie

CWSS-SCM Newsletter

The Society has recently adopted a new style for its newsletter so that there is no longer a Table of Contents. To see what's new in Canadian weed science since the last *Bulletin*, go to: <https://weedscience.ca/newsletters/>

- | | |
|-------|---|
| March | https://secureservercdn.net/192.169.220.85/c8x.545.myftpupload.com/wp-content/uploads/2022/03/3march-2022-newsletter.pdf |
| May | https://secureservercdn.net/192.169.220.85/c8x.545.myftpupload.com/wp-content/uploads/2022/05/5may-2022-newsletter.pdf |





THE CANADIAN PHYTOPATHOLOGICAL SOCIETY
LA SOCIÉTÉ CANADIENNE DE PHYTOPATHOLOGIE

CPS-SCP News

VOL. 66, NO. 2 (June 2022)

<https://phytopath.ca/wp-content/uploads/2022/06/CPS-SCP-News-66-2-June2022.pdf>

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<https://biologicalsurvey.ca/publications/newsletters/>

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Meeting announcements / Réunions futures

In view of the COVID-19 situation, readers should check the meeting website to ascertain if the conference is still proceeding and, if so, in what format.

International Conference on Applied Entomology and Zoology

Tokyo, Japan, 8-9 September 2022

<https://waset.org/applied-entomology-and-zoology-conference-in-september-2022-in-tokyo>

Annual Meeting, Royal Entomological Society

University Of Lincoln, UK, 13-16 September 2022

<https://www.royensoc.co.uk/event/ento22/>

Ecology of Aphidophaga 15

Catalonia, Spain, 19–23 September 2022

<https://aphidophaga15.udl.cat/>

7th International Entomophagous Insects Conference

Buenos Aires, Argentina, 17-21 October 2022 Postponed until 2023

<https://ieic2022.org/>

Joint Annual Meeting of the Entomological Society of Canada, Entomological Society of America, and the Entomological Society of British Columbia

Vancouver, BC, 13–16 November 2022

<https://entsoc.org/events/annual-meeting>

Entomological Society of America International Branch, 2023 Virtual Symposium

24–26 April 2023

(no website to date)

Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Saskatchewan

Saskatoon, 15–18 October 2023

(no website to date)

XII European Congress of Entomology

Crete, Greece, 16–20 October 2023

www.ece2023.com

Entomology 23 (Annual Meeting of the Entomological Society of America)

National Harbor, Maryland, 5–8 November 2023

(no website to date)

XXVII International Congress of Entomology / Le XXVII International Congress of Entomology

Kyoto, Japan, 25-30 August 2024 / 25-30 Août 2024

<https://ice2024.org>

Readers are invited to send the Bulletin Editor notices of entomological meetings of international, national or Canadian regional interest for inclusion in this list.

Les lecteurs sont invités à envoyer au rédacteur en chef des annonces de réunions entomologiques internationales, nationales ou régionales intéressantes afin de les inclure dans cette liste.

Bulletin of the Entomological Society of Canada

Editor: Bernard Roitberg
Assistant Editor: Donna Giberson

The *Bulletin of the Entomological Society of Canada*, published since 1969, presents quarterly entomological news, opportunities and information, details of Society business, matters of wider scientific importance and book reviews.

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The Entomological Society of Canada was founded in 1863 primarily to study, advance and promote entomology. It supports entomology through publications, meetings, advocacy and other activities.

Send correspondence to:
Bernard D Roitberg,
Bulletin Editor
Department of Biological Sciences,
Simon Fraser University,
Burnaby, BC V5A 1S6
E-mail: roitberg@sfu.ca

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Submission deadline for the next issue: 31 October 2022



Bulletin de la Société d'entomologie du Canada

Rédacteur: Bernard Roitberg
Rédactrice adjointe: Donna Giberson

Le *Bulletin de la Société d'entomologie du Canada*, publié depuis 1969, présente trimestriellement des informations entomologiques, des occasions, des renseignements sur les opérations de la Société, des dossiers scientifiques d'importance et des analyses d'ouvrages.

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La Société d'entomologie du Canada a été établie en 1863 principalement pour promouvoir l'étude et l'avancement de l'entomologie. Elle soutient l'entomologie par l'entremise de publications, de réunions et d'autres activités.

Envoyer vos soumissions à:
Bernard D Roitberg,
Bulletin Editor
Department of Biological Sciences,
Simon Fraser University,
Burnaby, BC V5A 1S6
courriel : roitberg@sfu.ca

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Droits d'auteur 2022 Société d'entomologie du Canada

**Date de tombée pour le prochain numéro:
31 octobre 2022**

Officers of affiliated Societies, 2021-2022

Dirigeants des Sociétés associées, 2021-2022

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Secretary	Lisa Lumley Alberta Biodiversity Monitoring Institute CW 405 Biological Sciences University of Alberta Edmonton AB, T6G 2E9 E-mail: esalberta@gmail.com http://www.entsocalberta.ca

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	,, continued

Secretary Jade Tanner
Department of Entomology, Univ. of Manitoba
12 Dafoe Road, Winnipeg, Manitoba R3T 2N2
E-mail: entsocmanitobasecretary@gmail.com
<http://home.cc.umanitoba.ca/esm/>

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Editor's note: Society Directors and Officers are reminded to check these lists, and submit corrections, including the names and positions of new officers.



A Well-Oiled Machine

I begin my first Last Word with an issuance of gratitude. For more than a decade, Cedric Gillott has devoted time and energy to editing the *Bulletin*. Along with current Assistant Editor, Donna Giberson, he ensured that the *Bulletin* showed up on time and was error-free, informative, and entertaining. Thank you, Cedric, for a job well done and thank you and Donna for all the help you provided in ensuring a smooth transition for me. This is my first gig as a bulletin editor though I do have 8 years' experience as co-Editor In Chief for Ecological Entomology.

I admit to having had feelings of trepidation when I accepted the *Bulletin* baton from Cedric but I need not have worried. The *Bulletin* is a well-oiled machine, like an EV that requires only occasional maintenance. There is a template that we follow that ensures consistency across issues. That said, you can expect some changes, beginning in 2023. These changes will be in the form of new features.

The March 2023 issue will introduce, "The Backstory", wherein successful scientists provide background on projects or research programs. Science can often seem a little dry in journal form, however the *Bulletin* seems like a good place to add some of the interesting quirks that journals rarely allow.

Une machine bien huilée

Je commence mon premier Dernier Mot par un élan de gratitude. Pendant plus d'une décennie, Cedric Gillott a consacré temps et énergie à la rédaction du Bulletin. Avec l'actuelle rédactrice adjointe, Donna Giberson, il a veillé à ce que le Bulletin paraisse à temps et soit exempt d'erreurs, informatif et divertissant. Merci, Cedric, pour un travail bien fait, ainsi qu'à Donna, pour toute l'aide afin d'assurer une transition en douceur. C'est la première fois que j'occupe le poste de rédacteur en chef d'un bulletin, mais j'ai huit ans d'expérience en tant que corédauteur en chef d'*Ecological Entomology*.

J'admetts avoir éprouvé un sentiment d'appréhension lorsque j'ai accepté de prendre le relais de Cedric pour le Bulletin, mais je n'avais pas à m'inquiéter. Le Bulletin est une machine bien huilée, comme un véhicule électrique qui ne nécessite qu'un entretien occasionnel. Nous suivons un modèle qui garantit la cohérence entre les différents numéros. Cela dit, vous pouvez vous attendre à quelques changements, à partir de 2023. Ces changements prendront la forme de nouvelles rubriques.

Le numéro de mars 2023 présentera la rubrique « Historique », dans laquelle des scientifiques de renom décriront le contexte de projets ou de programmes de recherche. La science peut souvent sembler un peu aride dans les revues scientifiques, mais le Bulletin semble être un bon endroit pour ajouter certaines des particularités intéressantes que les revues permettent rarement.

Le numéro de juin 2023 reprendra, en quelque sorte, une idée lancée par un ancien rédacteur en chef du Bulletin, Paul Fields, il y a quelque temps. Cette nouvelle

The June 2023 issue will, in a sense, reprise an idea initiated by former *Bulletin* Editor, Paul Fields some time ago. This new feature, which I call, “How Do They Do That?”, will provide, in plain English (or French), explanations of advanced technologies that are commonly employed by entomologists though not necessarily well understood by non-specialists. From my work with mathematical models, I recognize the importance of demystifying seemingly difficult subjects for advancing the science of entomology.

You can also expect to see some new short-run series. For example, we plan to run a series on Canada’s insect zoos during 2023 and 2024. Details to come.

Finally, while I am excited to introduce some of my ideas to you, I am also excited to hear and learn from you. Please contact me with proposals for possible contributions to the *Bulletin*, amateur or professional. The ESC is a warm, open society and we want to hear what you have to say with no character limits (within reason). You can reach me almost any time at roitberg@sfu.ca

Bernie

rubrique, que j’ai baptisée « Comment font-ils cela? », fournira, en langage clair en anglais (ou en français), des explications sur des technologies de pointe couramment utilisées par les entomologistes, mais qui ne sont pas nécessairement bien comprises par les non-spécialistes. Grâce à mon travail sur les modèles mathématiques, je reconnaiss l’importance de démystifier des sujets apparemment difficiles pour faire progresser la science de l’entomologie.

Vous pouvez également vous attendre à voir de nouvelles séries à court terme. Par exemple, nous prévoyons de diffuser une série sur les zoos d’insectes du Canada en 2023 et 2024. Les détails sont à venir.

Enfin, si je suis impatient de vous présenter certaines de mes idées, je suis également impatient d’entendre et d’apprendre de vous. N’hésitez pas à me contacter pour me soumettre des propositions de contributions éventuelles au Bulletin, qu’elles soient d’ordre amateur ou professionnel. La SEC est une société chaleureuse et ouverte et nous voulons entendre ce que vous avez à dire, sans limite de caractères (dans la limite du raisonnable). Vous pouvez me joindre presque à tout moment à l’adresse roitberg@sfu.ca.

Bernie



B. Rotberg

"Syrphid likes pollen", Diptera: Syrphidae, Vancouver, BC

Entomological Society of Canada, 2021-2022

Société d'entomologie du Canada, 2021-2022

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ESCPresident@esc-sec.ca

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Christian.MacQuarrie@NRCan-RNCan.gc.ca

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Université de Montréal, Montréal, QC
Colin.Favret@umontreal.ca

Past President / Président sortant

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Natural Resources Canada, Victoria, BC
wgriel@gmail.com

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christine.noronha@canada.ca

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emma.despland@concordia.ca

Kyle Bobiwash, Winnipeg, MB (2024)
Kyle.Bobiwash@umanitoba.ca

Regional Directors / Directeurs régionaux

Brian van Hezewijk, Victoria, BC (ESBC)
brian.vanhezewijk@canada.ca

Boyd Mori, Edmonton, AB (ESAB)
bmori@ualberta.ca

Danielle Stephens (Director representing ESS)
dts22@mail.usask.ca

Jason Gibbs, Winnipeg, MB (ESM)
jason.gibbs@umanitoba.ca

Rose Labb  , Harrow, ON (ESO)
roselyne.labbe@canada.ca

  tienne Normandin, Montreal, QC (SEQ)
etienne.normandin@gmail.com

Jess Vickruck, Fredericton, NB (AES)
jess.vickruck@agr.gc.ca

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MATTMUZZATTI@cmail.carleton.ca

Director for Equity, Diversity & Inclusion / Administrateur pour l'  quit  , la diversit   et l'inclusion

Sebastian Ibarra Jimenez, Vernon, BC
sebsibarra@gmail.com

Treasurer / Tr  sorier

Bryan Brunet
Agriculture and Agri-Food Canada, Ottawa ON
ESCTreasurer@esc-sec.ca

Co-Secretaries / Co-Scr  taires

Neil Holiday
University of Manitoba, Winnipeg, MB
Erin Campbell
Canadian Food Inspection Agency, Ottawa, ON
ESCSecretary@esc-sec.ca

Bulletin

Editor / R  dacteur

Bernard Roitberg
Simon Fraser University, Burnaby, BC
roitberg@sfu.ca

Asst. Editor / R  dactrice adj.

Donna Giberson
U. Prince Edward Island, Charlottetown, PE
giberson@upei.ca

Webmaster / Webmestre

Cass Chowdhury
Simon Fraser University, Burnaby, BC
cass_chowdhury@sfsu.ca

The Canadian Entomologist

Editors-in-Chief / R  dacteurs / R  dactrices en chef

Dezene Huber, U.Northern British Columbia
Prince George, BC
Suzanne Blatt, AAFC, Kentville, NS
Amanda Roe, NRCan, Sault Ste. Marie, ON
editor@esc-sec.ca

Canadian Journal of Arthropod Identification

Editor-in-Chief / R  dactrice en chef

Heather Proctor
University of Alberta, Edmonton, AB
hproctor@ualberta.ca

Head Office / Si  ge social

Entomological Society of Canada
386 Broadway, Suite 503
Winnipeg, MB, R3C 3R6 Canada
Tel: 1-888.821.8387; +1-204.282.9823
Fax: +1-204.947.9767
E-mail: info@esc-sec.ca www.esc-sec.ca/
www.esc-sec.ca/fr/

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Entomological Society of Canada
Société d'entomologie du Canada
386 Broadway
Suite 503
Winnipeg, MB
R3C 3R6
E-mail: info@esc-sec.ca

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Front cover/Page couverture:

1. The face of a male leafcutter bee (*Megachile* sp.), resting on a yarrow inflorescence on a cold day in spring.
Le visage d'un mâle d'une abeille découpeuse (*Megachile* sp.) se reposant sur une inflorescence de millefeuille lors d'une froide journée de printemps.
Photo: Bob Lalonde
2. Mountain ash sawfly (*Pristiphora geniculata*) larvae feeding gregariously on host foliage (Vancouver, British Columbia). Larves de la tenthredine du sorbier (*Pristiphora geniculata*) se nourrissant en groupe sur le feuillage de leur plante hôte (Vancouver, Colombie-Britannique).
Photo: Debra Wertman
3. Hickory tussock moth (*Lophocampa caryae*) in Centreville, Ontario.
Halysidote du caryer (*Lophocampa caryae*) à Centreville, Ontario.
Photo: Andrea Brauner
4. White tiger moth (*Spilosoma congrua*, family Erebidae). I found this beautiful tiger moth on the glass window at the Carins building at Brock University Ontario Canada.
Spilosoma congrua, de la famille des Erebidae. J'ai trouvé ce magnifique papillon sur une fenêtre du bâtiment Carins de l'Université de Brock en Ontario, Canada.
Photo: Lauren Nesbitt
5. The strawberry blossom weevil or *Anthonomus rubi* crawling over its namesake host, a strawberry flower (Agassiz, Canada). This invasive pest, originally from Europe, is now spread across the Fraser Valley of British Columbia, Canada.
L'anthonome du fraisier, ou *Anthonomus rubi*, rampant sur son hôte, une fleur de fraisier (Agassiz, Canada). Ce ravageur envahissant, originaire d'Europe, est maintenant répandu dans la vallée du Fraser en Colombie-Britannique, au Canada.
Photo: Warren Wong
6. Marsh beetle (Coleoptera: Scirtidae: *Prionocyphon limbatus* LeConte); South Skunk River, Iowa.
Scirtidé (Coleoptera: Scirtidae: *Prionocyphon limbatus* LeConte); South Skunk River, Iowa.
Photo: Gregory Courtney

Back cover/Quatrième de couverture:

- An inquisitive red-legged grasshopper (*Melanoplus femur-rubrum*) in tall grass (Aldergrove, British Columbia).
Un criquet à pattes rouges (*Melanoplus femur-rubrum*) se montre curieux dans les hautes herbes (Aldergrove, Colombie-Britannique).

Photo: Debra Wertman