

Bulletin

Entomological Society of Canada
Société d'entomologie du Canada

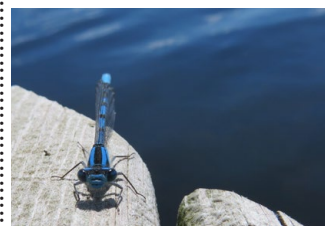
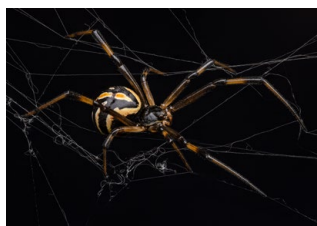
Volume 53
Number / numéro 3



September / septembre 2021

Published quarterly by the
Entomological Society of Canada

Publication trimestrielle par la
Société d'entomologie du Canada



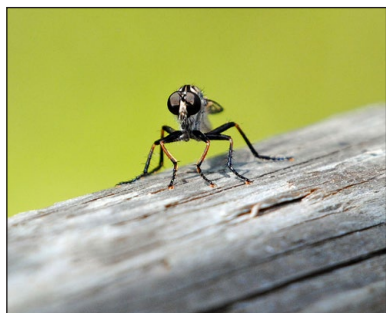
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La légende des photos de la couverture se situe sur la couverture arrière.



Robber fly in the Subfamily Asilinae (Diptera: Asilidae),
photo taken at Trout Creek Point [Summerland, British
Columbia, Canada]

Une mouche à toison de la sous-famille Asilinae
(Diptera : Asilidae) photographiée à Trout Creek Point
[Summerland, Colombie-Britannique, Canada]
[Photo: Robyn DeYoung]



Volunteers, our great strength!

One of the main reasons the Entomological Society of Canada has such a long and vibrant history is the incredible dedication displayed by members who volunteer their time and talent to ensure the Society is run smoothly. The fact is that we are largely a volunteer-run society, and while that presents some challenges it also brings many benefits: for a number of us, contributing to the ESC dovetails nicely with our professional goals and activities and provides significant personal gratification and satisfaction.

It can be a great feeling to contribute to something greater than yourself, and an incredible honour to serve a society with as much history and value to Canadian entomology as the ESC. While we don't usually volunteer our time for personal recognition, it is very important for us as a society to recognize and celebrate our members who do contribute in significant ways. And in recent memory, I would be hard pressed to think of someone who has contributed more than Cedric Gillott, our *Bulletin* Editor.

Cedric has served the ESC in a number of capacities over the years, and has been editing the *Bulletin* since 2010, a remarkable contribution! Alas the time has come for Cedric to move on to other things, but first, on behalf of the ESC, I want to offer my

Les bénévoles, notre grande force!

L'une des principales raisons pour lesquelles la Société d'entomologie du Canada a une histoire aussi longue et dynamique est le dévouement incroyable dont font preuve les membres qui offrent leur temps et leur talent pour assurer le bon fonctionnement de la Société. Le fait est que nous sommes en grande partie une société gérée par des bénévoles, et bien que cela présente certains défis, cela apporte également de nombreux avantages : pour un certain nombre d'entre nous, la contribution à la SEC s'inscrit parfaitement dans le cadre de nos objectifs et activités professionnels et apporte une gratification et une satisfaction personnelles importantes.

Contribuer à quelque chose de plus grand que soi peut être un grand sentiment, et c'est un honneur incroyable de servir une société qui a autant d'histoire et de valeur pour l'entomologie canadienne que la SEC. Bien que nous n'ayons pas l'habitude de donner de notre temps pour une reconnaissance personnelle, il est très important pour nous, en tant que société, de reconnaître et de célébrer nos membres qui contribuent de manière significative. Ces derniers temps, il me serait difficile de penser à quelqu'un qui a contribué davantage que Cedric Gillott, notre rédacteur en chef du bulletin.

Cedric a servi la SEC dans un certain nombre de fonctions au fil des ans, et a édité le *Bulletin* depuis 2010, une contribution remarquable! Hélas, le temps est venu pour Cedric de passer à autre chose, mais tout d'abord, au nom de la SEC, je tiens à offrir mes sincères remerciements à Cedric pour tout le temps, les efforts et l'énergie qu'il a investis en notre nom. Je souhaite également adresser mes remerciements personnels à Cedric pour la bonne humeur avec laquelle il s'est acquitté de ses fonctions, et surtout pour ses compétences et sa générosité en tant que brasseur amateur et pour les délicieuses

sincere thanks to Cedric for all the time, effort and energy he has put in on our behalf. And I wish to offer my personal thanks to Cedric for the cheerful way he has dispensed his duties, and especially for his skill and generosity as a homebrewer and for the delightful pints we've occasionally shared through this journey. COVID has interfered with the latter recently, but I certainly hope we get a chance to soon share a pint again! Thank you, Cedric!

Another member who has contributed significantly over the past year is our Treasurer, Ward Strong. Ward took over as the first treasurer not based in Ottawa which presented some challenges, but he has been effective, efficient and hard working, and in general, a joy to work with. Unfortunately for us, Ward has other upcoming commitments and plans, and that means he will step down from his role in November 2021. Ward, on behalf of the ESC I want to offer my sincere thanks for carrying out your treasurer duties with diligence, care and enthusiasm. We will miss you on Executive Council, and we wish you well in your new adventures.

Of course, this now means that we are seeking replacements for Ward and Cedric: if you, or anyone you know has any interest in either position (Treasurer or *Bulletin* Editor) please contact me at ESCPresident@esc-sec.ca. For those possibly interested in the position of *Bulletin* Editor, you should know that Donna Giberson, our incredibly capable *Bulletin* Assistant Editor is not leaving (Thank you, Donna!) This should immensely help facilitate the transition for our new editor.

The highlight of the year for the ESC is without a doubt our Joint Annual Meeting (JAM), which notably, is also mostly organized by volunteers. And the volunteers making up the local organizing committee for our 2021 JAM in Ontario have been incredibly hard at work, first planning a full in-person meeting, then having to abandon that plan and switch to a full virtual meeting rather late in the game. Special thanks and

pintes que nous avons parfois partagées au cours de ce parcours. La COVID a perturbé ce dernier point récemment, mais j'espère bien que nous aurons l'occasion de partager à nouveau une pinte! Merci, Cedric!

Un autre membre qui a apporté une contribution importante au cours de la dernière année est notre trésorier, Ward Strong. Ward a été le premier trésorier à ne pas être basé à Ottawa, ce qui a présenté quelques défis, mais il a été efficace, efficient et travaillant, et c'est un plaisir de travailler avec lui. Malheureusement pour nous, Ward a d'autres engagements et projets à venir, ce qui signifie qu'il se retirera de son rôle en novembre 2021. Ward, au nom de la SEC, je tiens à te remercier sincèrement de t'être acquitté de tes fonctions de trésorier avec diligence, soin et enthousiasme. Tu nous manqueras au Conseil exécutif, et nous te souhaitons bonne chance dans tes nouvelles aventures.

Bien sûr, cela signifie maintenant que nous cherchons des remplaçants pour Ward et Cedric : si vous, ou quelqu'un que vous connaissez est intéressé par l'un ou l'autre de ces postes (trésorier ou rédacteur du Bulletin), veuillez me contacter à ESCPresident@esc-sec.ca. Pour ceux qui seraient intéressés par le poste de rédacteur du Bulletin, sachez que Donna Giberson, notre rédactrice adjointe incroyablement compétente, ne nous quittera pas (merci, Donna!). Cela devrait grandement faciliter la transition pour notre nouveau rédacteur.

Le point culminant de l'année pour la SEC est sans aucun doute notre réunion annuelle conjointe, qui est aussi principalement organisée par des bénévoles. Les bénévoles qui constituent le comité organisateur local de notre réunion annuelle conjointe de 2021 en Ontario ont travaillé d'arrache-pied. Ils ont d'abord planifié une réunion conjointe entièrement en personne, puis ont dû abandonner ce plan et opter pour une réunion entièrement virtuelle assez tard dans le processus. Nous tenons à remercier tout particulièrement les coprésidents de la réunion, Amro Zayed et Miriam Richards, pour leur leadership et leur travail acharné afin que nous puissions tirer le meilleur parti possible de notre situation parfois confuse et en constante

acknowledgement to the meeting co-chairs Amro Zayed and Miriam Richards for their leadership and hard work to ensure that we make the very best we can out of our confusing and ever-changing circumstances.

This will be our first ever virtual joint annual meeting, and I'm very excited by the prospect. While I think we'd all prefer to be able to meet face to face, the virtual format gives us an opportunity to include a larger number of attendees than we could possibly accommodate at an in-person meeting, is more affordable to attend (lower registration rates, no travel expenses) and represents a low financial risk for the ESC. If you haven't registered yet for the conference, which takes place from 15–18 November 2021, please do so at: <https://www.entsocont.ca/escso-2021-jam-english.html> (French URL: <https://www.entsocont.ca/escso-2021-rac-franccedilais.html>).

And speaking of in-person meetings, in 2022 we are planning our first in-person meeting since 2019! As I'm sure you are aware, plans are underway to meet with the Entomological Society of America and the Entomological Society of British Columbia in Vancouver at the Trade and Convention Centre. This will be a similar meeting to the one held there in 2018, and if you were able to attend in 2018 you know what a fabulous facility and gorgeous location this is! Unlike in 2018, there will be some virtual content at the 2022 conference. The details around this and the overall program are being planned now, and the ESC has a strong presence on the planning committee with Felix Sperling, Chris MacQuarrie and myself representing the ESC.

We still have some uncertainty around what our JAMs will look like in the years ahead. We'd like to be able to assume that the future will look like the past, but that may not be the case. It's quite possible that conference travel will become increasingly restricted for government employees for a range of reasons, that climate change will reduce the amount of travel we all do regardless of where we

évolution.

Il s'agira de notre toute première réunion annuelle conjointe virtuelle, et je suis très enthousiaste à cette idée. Même si je pense que nous préférerions tous pouvoir nous rencontrer en personne, le format virtuel nous permet d'inclure un plus grand nombre de participants que pour une réunion en personne, il est plus abordable (tarifs d'inscription plus bas, pas de frais de déplacement) et représente un faible risque financier pour la SEC. Si vous n'êtes pas encore inscrit à la conférence, qui aura lieu du 15–18 novembre 2021, veuillez le faire à l'adresse suivante : <https://www.entsocont.ca/escso-2021-jam-english.html> (URL français : <https://www.entsocont.ca/escso-2021-rac-franccedilais.html>).

Et en parlant de réunions en personne, en 2022, nous prévoyons notre première réunion en personne depuis 2019! Comme vous le savez certainement, des plans sont en cours pour rencontrer la Société d'entomologie d'Amérique et la Société d'entomologie de la Colombie-Britannique à Vancouver au Centre des congrès. Il s'agira d'une réunion similaire à celle qui s'y est tenue en 2018, et si vous avez pu y assister en 2018, vous savez à quel point il s'agit d'une installation fabuleuse et d'un endroit magnifique! Contrairement à 2018, la conférence de 2022 comportera du contenu virtuel. Les détails de ce contenu et du programme général sont en cours de planification, et la SEC a une forte présence au sein du comité de planification avec, comme représentants de la SEC, Felix Sperling, Chris MacQuarrie et moi-même.

Nous sommes toujours dans l'incertitude quant à la forme que prendront nos réunions annuelles conjointes dans les années à venir. Nous aimerions pouvoir supposer que l'avenir ressemblera au passé, mais cela pourrait ne pas être le cas. Il est tout à fait possible que les voyages de conférence deviennent de plus en plus restreints pour les fonctionnaires pour toute une série de raisons, que le changement climatique réduise le nombre de voyages que nous effectuons tous, quel que soit notre lieu de travail, et que les progrès de la vidéo et des technologies virtuelles facilitent la participation à des événements sans déplacement.

are employed, and that increases in video and virtual technologies make it easier to attend events without travel.

To explore these possibilities and possible ramifications, the ESC Executive Council will be meeting with our Regional Directors and Regional Presidents and Vice-presidents in late 2021 or early 2022 to think about how we might organize and structure joint annual meetings in the future. We will have had the experience of a fully virtual JAM by then, and all of us will likely have attended more conferences with other societies and have a better sense of what has worked and what has not.

Regardless of the changes ahead, I am confident that the ESC will remain a vibrant, essential part of the Canadian entomological landscape and that we will be able to adapt to any challenges that come our way. I'm confident, because I've had the pleasure of meeting and working with so many of you, our members. You are what makes this society special, and I know you will step up to meet any challenges that come our way. And for that I thank you in advance.

Afin d'explorer ces possibilités et leurs éventuelles ramifications, le Conseil exécutif de la SEC rencontrera nos directeurs régionaux et nos présidents et vice-présidents régionaux à la fin de 2021 ou au début de 2022 pour réfléchir à la manière dont nous pourrions organiser et structurer les réunions annuelles conjointes à l'avenir. Nous aurons alors fait l'expérience d'une réunion annuelle conjointe entièrement virtuelle, et nous aurons probablement tous assisté à davantage de conférences avec d'autres sociétés et aurons une meilleure idée de ce qui a fonctionné et de ce qui n'a pas fonctionné.

Quels que soient les changements à venir, je suis convaincu que la SEC restera un élément dynamique et essentiel du paysage entomologique canadien et que nous serons en mesure de nous adapter à tous les défis qui se présenteront à nous. Je suis confiant, car j'ai eu le plaisir de rencontrer et de travailler avec un grand nombre d'entre vous, nos membres. Vous êtes ce qui rend cette société spéciale, et je sais que vous serez à la hauteur des défis qui se présenteront à nous. Et pour cela, je vous remercie d'avance.



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Joint Annual Meeting 2021 / Reunion annuelle conjointe 2021

ESC/ESO 2021 JAM



**ESC-ESO
2021**

Please virtually join us for the 2021 Entomological Society of Canada and Entomological Society of Ontario's Joint Annual Meeting.

When: 15-18 November 2021

Where: The virtual meeting will be hosted by Showcare. A dedicated virtual meeting website will be announced in the Fall.

Dates to know:

Registration opened: July 5th

Presentation submission deadline: September 13th

Click [here](https://www.entsocont.ca/esceso-2021-jam-english.html) for more information on the theme of the meeting, keynotes speakers and planned symposia.

We hope to virtually see you in the fall!

<https://www.entsocont.ca/esceso-2021-jam-english.html>

ESC/ESO 2021 JAM



Venez en grand nombre virtuellement pour le congrès conjoint de la Société d'entomologie du Canada et de la Société Entomologique de l'Ontario

Date : du 15 au 18 novembre 2021

Lieu: La réunion virtuelle sera hébergée par Showcare. Un site Web dédié à la réunion virtuelle sera annoncé à l'automne.

Dates à retenir:

Début d'inscription: 5 juin

Date limite pour les soumissions de presentation: 13 septembre

[Cliquez ici](#) pour plus d'informations sur le thème de la réunion, les conférenciers et les symposiums prévus.

Nous espérons vous voir virtuellement à l'automne!

<https://www.entsocont.ca/esceso-2021-rac-francedilais.html>

STEP Corner / Le coin de la relève

Rowan French and Matt Muzzatti



Student and Early Professional Director: Call for Nominations

The Student and Early Professional (SEP) Director is a voting member of the ESC's Board of Directors. Our current SEP Director, Rachel Rix, recently stepped down from her position, and The Student and Early Professional Affairs Committee (SEPAC) would like to thank her for her extensive contributions over the past few years. Thank you Rachel! A new SEP Director will be elected to the Board at the next Annual Member Meeting in October and will serve a 3-year term. Stay tuned for election-related emails from SEPAC and ESC this fall!

Joint Annual Meeting

The ESC and the Entomological Society of Ontario will host their joint annual meeting from 15 to 18 November (see <https://www.entsocont.ca/esceso-2021-jam-english.html> for details). The theme of the meeting this year is "Strength in Diversity." The event will be virtual, and SEPAC is looking forward to hosting online versions of the Graduate Student Showcase (GSS) and assorted social events for students and early professionals. The presentation submission deadline, including applications to the GSS, is 13 September. Details for applying to the GSS can be found on all our social media pages or you can request information by contacting us at students@esc-sec.ca. We'd love to hear from you!

Le coin de la relève Administrateur étudiant et jeune professionnel : Appel à candidatures

L'administrateur étudiant et jeune professionnel est un membre votant du conseil d'administration de la SEC. L'actuelle administratrice, Rachel Rix, a récemment quitté son poste et le Comité des affaires étudiantes et des jeunes professionnels tient à la remercier pour son importante contribution au cours des dernières années. Merci Rachel! Un ou une nouvelle administrateur(trice) sera élu(e) au CA lors de la prochaine assemblée annuelle des membres en octobre et servira un mandat de 3 ans. Restez à l'affût des courriels du comité et de la SEC concernant les élections cet automne!

Réunion annuelle conjointe

La SEC et la Société d'entomologie de l'Ontario tiendront leur réunion annuelle conjointe du 15 au 18 novembre (voir <https://www.entsocont.ca/esceso-2021-rac-franccedilais.html> pour plus de détails). Le thème de la réunion de cette année est « La force est dans la diversité ». L'événement sera virtuel, et le comité des affaires étudiantes et des jeunes professionnels se réjouit d'accueillir des versions en ligne de la vitrine pour les étudiants des cycles supérieurs et de divers événements sociaux pour les étudiants et les jeunes professionnels. La date limite de soumission des présentations, y compris les candidatures à la vitrine, est fixée au 13 septembre. Les détails concernant les candidatures à la vitrine pour les étudiants sont disponibles sur toutes nos pages de médias sociaux ou vous pouvez demander des informations en nous contactant à students@esc-sec.ca. Nous sommes impatients de vous entendre!

Aperçu de la recherche

Nous continuons de faire connaître les publications des étudiants des cycles supérieurs

Research Roundup

We continue to publicize graduate student publications to the wider entomological community through our Research Roundup initiative. Check out the ESC blog, [Facebook](#), and [Twitter](#) pages for the most recent featured articles. 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@gmail.com. We look forward to hearing from you!

Rowan and Matt

à l'ensemble de la communauté entomologique grâce à notre initiative Aperçu de la recherche. Consultez le blogue, la page [Facebook](#) et le compte [Twitter](#) de la SEC pour connaître les articles les plus récents. Si vous souhaitez que votre article récemment publié soit mis en vedette, envoyez-nous un courriel à students@esc-sec.ca. Pour 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 est toujours prêt à accueillir de nouveaux membres! Le bénévolat pour ce comité est une excellente façon de s'impliquer dans la Société et de promouvoir l'entomologie à travers le 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 et mattmuzzatti@gmail.com. Nous avons hâte d'avoir de vos nouvelles!

Rowan et 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

The Entomological Society of British Columbia will hold its Annual General Meeting and Symposium on-line this year on **19–21 October 2021**. Those wishing to present, or simply attend, should check the ESBC website (www.entsocbc.ca) for more information and registration details.

The position of ESBC web editor will soon change hands. Brian

Muselle has been the web editor for the Society since 2016, providing his dedicated expertise throughout the course of his master's degree at UBC Okanagan, and continuing after his thesis defence in 2019. Setting up online conference registrations, multiple social media feeds, near constant updates, and dealing with countless public enquiries is not a simple task, but is integral to the smooth functioning of our Society. Brian has managed it all with outstanding grace and professionalism, providing a valuable service to our Entomological community. Thank you, Brian, for all your hard work! Long-time ESBC member Adam Blake will be taking the reins as web editor in the coming months.

In the latest issue of our Society's newsletter (<http://entsocbc.ca/publications/boreus-newsletter/>), our current President Wim van Herk shared his insights on conducting entomological research during the pandemic. It is worth repeating here as I think it will resonate with many readers of the *Bulletin*:

Having a field day...

The last 15 months have been quite a miserably difficult time to do research. Many of us were forced to work from home, a lot of lab and field projects were cancelled, insect colonies had to be maintained in bathrooms and garages and on patios (where some had their samples eaten by bears), fridges and freezers at home were stocked with an array of little critters, smelly insect samples were processed on kitchen counters, etc. Stressful for those trying to meet project deadlines and satisfy commitments made to industry, or trying to adhere to ever-changing regulations and restrictions from management without cancelling all research, or trying to write or suffer through endless virtual meetings in (non-soundproofed) houses shared with hyper pre-teens supposedly engaged in online learning—not to mention trying to do Zoom meetings while toilet training toddlers and during the kids' (obligatory) *fortississimo* piano practice. Stressful, too, for grad students, anxious to complete a last year of work, graduate, and move on in life. Dickens' description of living in "the worst of times" (which, by the way, he also cheerily describes as an "age of foolishness", "season of darkness", and "winter of despair") has come to mind as an apt description of the year of the Covid, but maybe we'll look back on this period some day and see some sunny bits. These there were. If anything, these last months have made me appreciate the privilege of working with a team of great colleagues, in research, industry, and on the farm; the value of working with brilliant and dedicated (co-op and grad) students; the sheer joy of data; and how great it is to have a chance to get out to the field. Being able to get out of my basement and meet up with growers and set up some studies in the field has been one of the most liberating and therapeutic experiences of the last year. I was lucky this spring to work in the Okanagan and Pemberton valleys again (Figure 1). These are areas where some of the native click beetle pest species still occur in high numbers, and have not yet been displaced by the invasive species that predominate on Vancouver Island or in the Fraser Valley. As many as five co-occurring species in one unique site in Pemberton, located well out of cell phone coverage and well beyond signs warning us not to feed the local grizzly population. Work doesn't get much better than that. Field work, of course, never quite goes as planned. I assured my student Emily she would likely only need to travel (from Abbotsford) to the southern Okanagan to collect beetles for her thesis work in April this year. Four weeks of trap checks, that should be all, I said. Eminently doable. It lasted fourteen, and some *creativity* was required to conduct the weekly checks. And sometimes she and Kendal drove three hours to a site only to find a bear in their research plot and in no hurry to leave (and some chewed up traps). And a fair number of things don't work out at all, or work very differently than expected, but *c'est la vie*. I'm hoping we can beat this disease, that restrictions ease soon, and that all of us can get back to teaching and committing science and research as usual, and that we all had some good sunny bits these last months. I for one will never take the chance to have a field day for granted again.

Wim van Herk, ESBC President

Figure 1.

A. Northernmost site in Pemberton valley—ideal location for at least five pest elaterid pest species, grizzlies, moose, and mountain goats.

B. Emily Lemke and Kendal Singleton (MPM students, SFU) in the field—working with enthusiastic, dedicated students is invaluable for keeping up morale.

C. Kendal setting up light traps for click beetles in Pemberton.

D. Light traps at night—almost too much fun.

E. Trapping in Oliver, in a site I had last visited in 2003—pretty much nothing beats working with great farmers who also love research.

F. Except... for processing beetle samples with little helpers at home ...



Lastly, out of pure entomological interest, I've included a photo (Figure 2) of a recent visitor to our lab in Victoria.

Figure 2: A female ponderous borer (*Trichocnemis spiculatus*, LeConte 1851) perched on the wrist of Thompson Hyggen, a co-op student at the Pacific Forestry Centre. With a body length of 6.5cm, this must surely be one of the biggest beetles in Canada.



Entomological Society of Alberta

The ESA held a spring board meeting on 26 May 2021. The AGM will be held in the Fall, most likely online in October, with dates to be determined.

Big thanks to our outreach coordinator, Ilan Domnich, for his promotion of NAIAD and for his regular presentations to promote entomology to Edmonton

Public Schools via their Career Pathways initiative. In addition, Ilan, together with Past-President, Sarah McPike, created a "Bug Safari" activity to encourage non-entomologists to get outside and explore insects in their backyards.



Acadian Entomological Society

The 2021 AGM has been cancelled because of COVID-19. There will be a virtual business meeting in August, and we look forward to meeting together as usual next summer at the 2022 AGM.

Matt Muzzatti — optimizing yield of farmed crickets

Carleton University PhD student and Co-chair of SEPAC, Matt Muzzatti, was [interviewed by Robyn Bresnahan on CBC radio](#) this past April. Matt shared insights into his research which is focused on applying nutritional geometry to determine the optimal dietary ratios of protein and carbohydrate that maximize growth and body size in industrially raised crickets (*Gryllobates sigillatus*). Crickets are a sustainable superfood – they are generally high in protein and vitamins, and their production requires considerably fewer resources than other protein sources such as beef or chicken. North America has seen a burgeoning interest in entomophagy, and Ontario-based insect protein companies such as Entomo Farms are driving this industry forward. A primary goal of agricultural research is to increase yield, but cricket farms struggle with how best to do this at a scale of billions of crickets required for a farming environment without the costs of additional labour. Matt, under the supervision of Drs Sue Bertram and Heath MacMillan, is determined to directly link research with industrial application to help cricket farms improve yield.

After the radio interview and accompanying [CBC web article](#), Matt was also interviewed by [CTV News](#) and [OMNI Italian News](#). Click the links to learn more about Matt's research.



F. Xu

2021 ESC Award Recipients / Récipiendaires des prix SEC



Gail S. Anderson Gold Medal Award / Médaille d'or

The ESC Gold Medal recognizes outstanding achievement in Canadian entomology. The recipient of the 2021 ESC Gold Medal is Dr Gail S. Anderson of Simon Fraser University (SFU).

In 1992, by special arrangement with the BC Coroner's Office and SFU, Dr Gail Anderson was appointed as Canada's first academic Forensic Entomologist. Over three decades, she built a high-profile research program, conducted entomological investigations of 250 homicides and other criminal cases, and played a key role in establishing SFU's Centre for Forensic Research. Since 2002 she has held a prestigious Burnaby Mountain Endowed Professorship.

After graduating from Manchester University in 1983, Dr Anderson earned a Master of Pest Management Degree in 1986 from SFU and her PhD in 1992. Her research on hypersensitivity to *Culicoides* (no-see-ums) bites in horses earned her the Canadian Wild Horse Society Award and culminated in the world's first successful demonstration of immunotherapy in horses.

Then opportunity came knocking. One of her PhD supervisors, Dr John H. Borden, was asked by the BC Coroners Service if he could find a student interested in forensic entomology. After interning in 14 homicide investigations, she had a job! Since 1988, she has submitted an average

La médaille d'or de la SEC reconnaît les réalisations exceptionnelles en entomologie au Canada. La récipiendaire de la médaille d'or de la SEC pour 2021 est Dre Gail S. Anderson de l'Université Simon Fraser (SFU). En 1992, grâce à une entente spéciale entre le Dirigeant du coroner de la Colombie-Britannique et SFU, Dre Gail Anderson a été nommée la première entomologiste judiciaire universitaire du Canada. Pendant trois décennies, elle a mis sur pied un programme de recherche de haut niveau, mené des enquêtes entomologiques sur 250 homicides et autres affaires criminelles, et joué un rôle clé dans la création du Centre de recherche médico-légale de SFU. Depuis 2002, elle est titulaire d'une prestigieuse chaire de Burnaby Mountain. Après avoir obtenu son diplôme de l'Université de Manchester en 1983, Dre Anderson a obtenu une maîtrise en gestion des ravageurs en 1986 à l'Université Simon Fraser et son doctorat en 1992. Ses recherches sur l'hypersensibilité des chevaux aux piqûres de *Culicoides* (brûlôts) lui ont valu le prix de la Société canadienne du cheval sauvage et ont abouti à la première démonstration réussie d'immunothérapie chez les chevaux.

Puis l'occasion s'est présentée. Le Service des coroners de la Colombie-Britannique a demandé à l'un de ses directeurs de thèse, Dr John H. Borden, s'il pouvait trouver un étudiant intéressé par l'entomologie médico-légale. Après avoir fait un stage dans 14 enquêtes sur des homicides, elle avait un emploi! Depuis 1988, elle a soumis en moyenne huit rapports annuels sur des cas d'entomologie médico-légale à de nombreux services de police. En tant qu'entomologiste judiciaire certifiée, elle a comparu 36 fois devant les tribunaux en tant que témoin expert. Elle a donné des ateliers d'entomologie judiciaire au Collège canadien de police à 24 reprises, à

of eight yearly Forensic Entomology Case Reports to numerous police agencies. As a Board-Certified Forensic Entomologist she has appeared in court 36 times as an expert witness. She has taught forensic entomology workshops at the Canadian Police College 24 times, to an estimated cumulative audience of approximately 1,200 senior police officers. She has also taught the principles of her science to wildlife officers, rangers and wardens in four provinces, the Yukon, eight US states and Mexico.

Dr Anderson's laboratory was the first in Canada devoted solely to Forensic Entomology and Carrion Ecology. With \$11,670,421 in external funding, she has shown that constant and fluctuating temperatures have different effects on insect development and survival. Her work has revealed that both arrival on and departure from corpses is earlier in northern than in southern regions of North America, and that burial with even the lightest covering alters colonizing insects from calliphorids to muscids. She developed a standard protocol used across Canada to disclose major differences in carrion communities and insect succession. She has investigated the effects of fire on insect activity in bodies found in buildings or vehicles that have been set ablaze, compared insect colonization of corpses in enclosed structures versus in the open and worked with Ocean Networks Canada using remotely operated submarines to investigate decomposition of corpses submerged in fresh and salt water.

Dr Anderson has published 2 books (both in 2nd edition), 54 peer-reviewed papers, 26 invited refereed chapters and 3 sections in books, 10 non-refereed journal articles, 2 edited booklets, 13 technical reports, 21 invited chapter and book reviews and an instructional video on techniques in forensic entomology. She has given 36 keynote plenary talks and 349 additional invited talks in 8 countries. Dr. Anderson has been featured in 316 media appearances, several of which reported on her testimony for high-profile cases including the Whistler sled dog massacre, the mysterious human feet washing up on BC's beaches, the Robert Pickton trial and the Kirsten Blaize Lobato wrongful conviction case.

Dr Anderson has mentored many graduate

un auditoire cumulé d'environ 1 200 officiers supérieurs de police. Elle a également enseigné les principes de sa science à des agents de protection de la faune, des gardes forestiers et des gardiens dans quatre provinces, au Yukon, dans huit États américains et au Mexique.

Le laboratoire de Dre Anderson a été le premier au Canada à se consacrer uniquement à l'entomologie médico-légale et à l'écologie des charognes. Grâce à un financement externe de 11 670 421 \$, elle a démontré que les températures constantes et fluctuantes ont des effets différents sur le développement et la survie des insectes. Ses travaux ont révélé que l'arrivée sur les cadavres et le départ de ceux-ci sont plus précoces dans les régions septentrionales que dans les régions méridionales de l'Amérique du Nord, et que l'enterrement, même avec la couverture la plus légère, modifie les insectes colonisateurs, des calliphoridés aux muscides. Elle a développé un protocole standard utilisé à travers le Canada pour révéler les différences majeures dans les communautés de charognards et la succession des insectes. Elle a étudié les effets du feu sur l'activité des insectes dans les cadavres trouvés dans des bâtiments ou des véhicules incendiés, comparé la colonisation par les insectes de cadavres dans des structures fermées par rapport à des structures ouvertes et travaillé avec Ocean Networks Canada en utilisant des sous-marins télécommandés pour étudier la décomposition de cadavres immergés dans l'eau douce et l'eau salée.

Dre Anderson a publié deux livres (tous deux en 2^e édition), 54 articles évalués par des pairs, 26 chapitres évalués par un comité de lecture et 3 sections de livres, 10 articles de journaux non révisés par les pairs, deux livrets édités, 13 rapports techniques, 21 critiques de chapitres et de livres, ainsi qu'une vidéo d'instructions sur les techniques d'entomologie médico-légale. Elle a donné 36 conférences plénières principales et 349 autres conférences invitées dans 8 pays. Dre Anderson a fait l'objet de 316 apparitions dans les médias, dont plusieurs portaient sur son témoignage dans des affaires très médiatisées, notamment le massacre des chiens de traîneau de Whistler, les mystérieux pieds humains échoués sur les plages de la Colombie-Britannique, le procès de Robert Pickton et l'affaire de condamnation injustifiée de Kirsten Blaize Lobato.

Dre Anderson a servi de mentor à de nombreux

and undergraduate students and has participated generously in science outreach to high-school students, aboriginal youth and seniors. She has taught six undergraduate courses in Criminology, including a highly popular course that she developed in Forensic Entomology. Externally her extraordinary service includes many posts with the Entomological Society of Canada (President 2019-2020), the American Board of Forensic Entomology (Chair 2013-2015), the North American Forensic Entomology Association (President 2009-2010), the Canadian Society of Forensic Sciences (President 2008), and the Entomological Society of B.C. (President 1995-1996 and 2002-2003).

Dr Anderson received the Outstanding Alumni Award for Academic Achievement from SFU in 1995. In 1998, she was selected as one of the Top 40 under 40 in Canada. In 1999 she received the YWCA Women of Distinction Award for Science and Technology and was listed by Time Magazine as one of the Leaders for the 21st Century. The Vancouver Sun honoured her as 1 of the 100 Most Influential Women in BC in 2010 and 1 of 6 most influential scientists in BC in 2015. Her research on a national forensic entomology database was selected in 2000 by the Canadian Police Research Centre as one of their top 10 funded projects. Dr Anderson was made a Fellow of the American Academy of Forensic Sciences in 1991. The Canadian Society of Forensic Sciences elected her as a Fellow in 1991 and granted her the prestigious Derome Award in 2001. Finally, the American Academy of Forensic Sciences Pathology and Biology presented Dr Anderson with their 2017 Achievement Award in the Life Sciences.

Dr Gail S. Anderson stands out for her pioneering professional and research accomplishments, her outreach contributions to scientific bodies and communities, her teaching and mentorship, and her service as a leader at the highest level in scientific and professional associations. The Entomological Society of Canada is proud to celebrate her as the 2021 Gold Medalist.

étudiants de premier et de deuxième cycles et a participé généreusement à des activités de sensibilisation aux sciences auprès d'élèves du secondaire, de jeunes Autochtones et de personnes âgées. Elle a enseigné six cours de premier cycle en criminologie, y compris un cours très demandé qu'elle a développé en entomologie judiciaire. Sur le plan externe, son service extraordinaire comprend de nombreux postes au sein de la Société d'entomologie du Canada (présidente 2019-2020), du Conseil américain d'entomologie judiciaire (présidente 2013-2015), de l'Association nord-américaine de l'entomologie judiciaire (présidente 2009-2010), de la Société canadienne des sciences judiciaires (présidente 2008) et de la Société d'entomologie de la C.-B. (présidente 1995-1996 et 2002-2003).

Dre Anderson a reçu le Prix d'excellence des anciens étudiants de la SFU pour leurs réalisations académiques exceptionnelles en 1995. En 1998, elle a été sélectionnée parmi les 40 meilleures personnes de moins de 40 ans au Canada. En 1999, elle a reçu le Prix des femmes de mérites en sciences et technologie de la YWCA et a été citée par le Time Magazine comme l'un des leaders du 21^e siècle. Le Vancouver Sun l'a classée parmi les 100 femmes les plus influentes de la Colombie-Britannique en 2010 et parmi les six scientifiques les plus influents de la Colombie-Britannique en 2015. Ses recherches sur une base de données nationale d'entomologie médico-légale ont été sélectionnées en 2000 par le Centre canadien de recherches policières comme l'un de leurs 10 principaux projets financés. Dre Anderson a été nommée membre de l'Académie américaine des sciences judiciaires en 1991. La Société canadienne des sciences judiciaires l'a élue membre en 1991 et lui a décerné le prestigieux prix Derome en 2001. Enfin, l'Académie américaine des sciences judiciaires Pathologie et Biologie a décerné à Dre Anderson son Prix de réalisations en sciences de la vie 2017.

Dre Gail S. Anderson se distingue par ses réalisations professionnelles et ses recherches avant-gardistes, ses contributions de sensibilisation aux organismes et aux communautés scientifiques, son enseignement et son mentorat, et son service en tant que leader au plus haut niveau dans les associations scientifiques et professionnelles. La Société d'entomologie du Canada est fière de la célébrer en tant que médaillée d'or 2021.



Sheila Colla C. Gordon Hewitt Award / Prix C. Gordon Hewitt

Sheila Colla est la r  cipiendaire 2021 du prix C. Gordon Hewitt de la Soci  t   d'entomologie du Canada. Ce prix est d  cern   chaque ann  e    une personne ayant apport   une contribution exceptionnelle    l'entomologie au Canada et ayant obtenu son doctorat au cours des 12 ann  es pr  c  dentes.

Sheila Colla 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.

Dr Colla is an Associate Professor in the Faculty of Environmental Studies at York University. She is the author of numerous peer-reviewed papers (40), books (2), and book chapters (2) that have amassed >2990 citations. Dr Colla has supervised 17 graduate students and 3 honours students, and has won over \$2 million in grants, awards, and fellowships. She is a world leader in the conservation of pollinators, particularly bumblebees, and she has successfully translated her research into political action and policy changes. Moreover, Dr Colla has used her platform as one of Canada's leading biodiversity researchers to advocate for equity, inclusion, and diversity in all aspects of her career and life.

Dr Colla's PhD research combined field collections and observational data with museum specimen data ranging back nearly 100 years to document the precipitous decline of several bumblebee species in Canada, particularly the rusty-patched bumblebee, *Bombus affinis*. Dr Colla's research has also explored causative agents for these observed declines, and her work on the biology and health of *B. affinis* resulted in her being awarded the opportunity to produce the COSEWIC status report for this species while

Dre Colla est professeure agr  g  e    la Facult   des   tudes environnementales de l'Universit   York. Elle est auteure de nombreux articles   valu  s par des pairs (40), de livres (2) et de chapitres de livres (2) qui ont fait l'objet de plus de 2 990 citations. Dre Colla a supervis   17   tudiants des cycles sup  rieurs et 3   tudiants du programme de sp  cialisation, et a obtenu plus de 2 millions de dollars en subventions, prix et bourses. Elle est un leader mondial dans le domaine de la conservation des pollinisateurs, en particulier des bourdons, et elle a r  ussi    traduire ses recherches en actions politiques et en changements de politiques. De plus, Dre Colla a utilis   sa plateforme en tant que l'une des principales chercheuses en biodiversit   du Canada pour d  fendre l'  quit  , l'inclusion et la diversit   dans tous les aspects de sa carri  re et de sa vie.

Dans le cadre de ses travaux de recherche doctorale, Dre Colla a combin   des collectes sur le terrain et des donn  es d'observation avec des donn  es de sp  cimens de mus  e remontant    pr  s de 100 ans pour documenter le d  clin pr  cipit   de plusieurs esp  ces de bourdons au Canada, en particulier le bourdon    taches rousses, *Bombus affinis*. Les recherches de Dre Colla ont   galement port   sur les agents responsables de ces d  clins observ  s, et ses travaux sur la biologie et la sant   de *B. affinis* lui ont permis de produire le rapport de situation du COSEPAC pour cette esp  ce alors qu'elle   tait encore   tudiante au doctorat. Ce rapport et les contributions    la recherche

she was still a PhD student. This report and Dr Colla's research contributions were directly responsible for the rusty-patched bumblebee becoming the first hymenopteran pollinator to be listed under the Canadian Species At Risk Act as a Schedule 1 protected species, officially listed as Endangered in 2012. Following the listing of the rusty-patched bumblebee, Dr Colla continued her research and advocacy for this and other Canadian bumblebees, providing primary data for an international collaborative framework for studying and understanding the impacts of global climate change on the distribution and conservation of bumblebees. She and her collaborators have shown that bumblebee ranges in both North America and Europe are shrinking in response to climate change and have investigated the mechanisms contributing to bumblebee declines.

Dr Colla's dedication to bumblebee biology and conservation extends well beyond the academy. She has co-authored two award-winning books on the bumblebees of North America, which make bumblebee identification available and accessible to more than just specialists. She has partnered with non-profit organizations such as the Xerces Society for Invertebrate Conservation and Wildlife Preservation Canada as a Founding Partner of the Bumblebee Watch program, which has recruited nearly 5 000 backyard bumblebee scientists to share observations and records of bumblebees since its launch in 2014. Dr Colla and her students are also exploring the impact that participant involvement in community science has on both natural history research and on public understanding and appreciation for biodiversity, including impacts on support for new governmental policies relating to pollinator health and conservation. While maintaining a world-class scientific research program, Dr Colla also makes time to communicate the importance of insect pollinators with the public, through outreach events and media interviews. She has connected with an estimated 10 000 individuals (both adults and children) by giving 87 public talks and workshops since 2015. Dr Colla has also made numerous

de Dre Colla ont été directement responsables du fait que le bourdon à taches rousses est devenu le premier pollinisateur hyménoptère à être inscrit sur la liste des espèces protégées de l'annexe 1 de la Loi canadienne sur les espèces en péril, et officiellement inscrit comme espèce en voie de disparition en 2012. Après l'inscription du bourdon à taches rousses, Dre Colla a poursuivi ses recherches et sa défense de ce bourdon et d'autres bourdons canadiens, en fournissant des données primaires pour un cadre de collaboration internationale visant à étudier et à comprendre les impacts du changement climatique mondial sur la répartition et la conservation des bourdons. Avec ses collaborateurs, elle a montré que les zones de répartition des bourdons, tant en Amérique du Nord qu'en Europe, se rétrécissent en raison du changement climatique et a étudié les mécanismes qui contribuent au déclin des bourdons.

Le dévouement de Dre Colla à la biologie et à la conservation des bourdons s'étend bien au-delà de la communauté universitaire. Elle est coauteure de deux ouvrages primés sur les bourdons d'Amérique du Nord, qui rendent l'identification des bourdons disponible et accessible à un public plus large que les seuls spécialistes. Elle s'est associée à des organisations à but non lucratif telles que la Société Xerces pour la conservation des invertébrés et Conservation de la faune Canada en tant que partenaire fondatrice du programme Bumblebee Watch, qui a recruté près de 5 000 observateurs de bourdons pour partager des observations et des enregistrements de bourdons depuis son lancement en 2014. Dre Colla et ses étudiants explorent également l'impact de la participation à la science communautaire à la fois sur la recherche en histoire naturelle et sur la compréhension et l'appréciation de la biodiversité par le public, y compris les impacts sur le soutien aux nouvelles politiques gouvernementales relatives à la santé et à la conservation des pollinisateurs. Tout en maintenant un programme de recherche scientifique de classe mondiale, Dre Colla prend également le temps de communiquer l'importance des insectes pollinisateurs au public, par le biais d'événements de

appearances advocating for bees and other pollinators in printed news and on television and radio programs in Canada and the United States.

In summary, Dr Colla has made outstanding contributions to entomological research, conservation, education, and outreach in Canada and beyond. Her dedication to translating her research into political advocacy and action, communicating science in accessible formats like field guides, and involvement of community members in research all have made important, tangible impacts on insect conservation and the public perception of insects.

sensibilisation et d'entrevues avec les médias. Elle est entrée en contact avec environ 10 000 personnes (adultes et enfants) en donnant 87 conférences et ateliers publics depuis 2015. Dre Colla a également fait de nombreuses apparitions pour défendre les abeilles et les autres pollinisateurs dans la presse écrite et dans des émissions de télévision et de radio au Canada et aux États-Unis.

En résumé, Dre Colla a apporté une contribution exceptionnelle à la recherche entomologique, à la conservation, à l'éducation et à la sensibilisation au Canada et ailleurs. Son dévouement à traduire ses recherches en actions et en plaidoyers politiques, à communiquer la science dans des formats accessibles comme les guides de terrain, et à impliquer les membres de la communauté dans la recherche ont tous eu des impacts importants et tangibles sur la conservation des insectes et la perception du public à leur égard.



Peggy Dixon Fellow / Membre associé

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. Dr Peggy Dixon has been elected Fellow in 2021.

Dr Peggy Dixon recently retired as a Research Scientist with Agriculture and Agri-Food Canada (AAFC). She began her career with the federal government in Kentville, Nova Scotia (1989-91), spent a year as a Special Advisor on Integrated

Le statut de membre associé de la Société d'entomologie du Canada est accordé par la Société pour 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. Dre Peggy Dixon a été élue membre associée en 2021.

Dre Peggy Dixon a récemment pris sa retraite en tant que chercheuse scientifique à Agriculture et Agroalimentaire Canada (AAC). Elle a commencé sa carrière au gouvernement fédéral à Kentville, en Nouvelle-Écosse (1989-91), a ensuite passé un an comme conseillère spéciale en lutte intégrée contre les ravageurs à l'administration centrale d'AAC à Ottawa, en Ontario (1991-92), et a travaillé à Saint-Jean de Terre-Neuve, de 1992 à 2021. Ses recherches ont contribué à l'amélioration des systèmes de lutte

Pest Management (IPM) at national AAFC headquarters in Ottawa, Ontario (1991-92), and worked in St. John's, Newfoundland from 1992 until 2021. Her research has contributed to improved IPM systems for berry crops, feed crops, and horticulture. As a Special Advisor, she served on departmental committees, prepared reports and gave presentations to the Minister and Deputy Minister of Agriculture to inform a national strategy on IPM.

For almost 30 years, Peggy has been unstinting in her time and support for both the ESC and the Acadian Entomological Society (AES). She joined the ESC in the early 1990s, serving on the Board as Secretary from 1994-97. She rejoined the Board as a member of the Executive from 2004-08, serving as President in 2006-07. She joined the Board a third time as the Regional Director for the Acadian Entomological Society 2018-19. She has Chaired the ESC's Science Policy Committee and the Achievement Awards Committee, and served on the ESC's ad hoc Strategic Review Committee. As a member of the AES, Peggy served as President (2010-11) and was a member of the organizing committee for several AES annual meetings.

As an Adjunct Professor at Memorial University and at Acadia University, Peggy supervised graduate students, served as an External Examiner on thesis defense committees, participated in PhD comprehensives and on student committees, and gave invited guest lectures. She served as an invited reviewer for provincial, national, and international research programs, and also for numerous international journals (including *The Canadian Entomologist* [TCE]). In 2020, she co-guest edited a Special Issue (11 papers) in *TCE* on spotted winged drosophila.

In 2002, Peggy received a Commemorative Medal for the Golden Jubilee of HM Queen Elizabeth II (for excellence in pest management research). In 2007 and 2021, she received AAFC Gold Harvest Awards for excellence (in pest management research and career achievement) and also an ESC Service Award upon completing her term as ESC President. In August 2015, the AES conferred upon her the status of Honorary Member.

antiparasitaire intégrée pour les cultures de petits fruits, les cultures fourragères et l'horticulture. En tant que conseillère spéciale, elle a siégé à des comités ministériels, préparé des rapports et fait des présentations au ministre et au sous-ministre de l'Agriculture afin d'informer la stratégie nationale sur la lutte intégrée.

Pendant près de 30 ans, Peggy n'a pas ménagé son temps et son soutien à la SEC et à la Société acadienne d'entomologie (SAE). Elle s'est jointe à la SEC au début des années 1990 et a siégé au CA en tant que secrétaire de 1994 à 1997. Elle est revenue au CA en tant que membre de l'exécutif de 2004 à 2008, et a été présidente en 2006-2007. Elle a rejoint le CA une troisième fois en tant que directrice régionale de la Société acadienne d'entomologie 2018-19. Elle a présidé le comité de la politique scientifique et le comité des prix d'excellence de la SEC, et a fait partie du comité ad hoc d'examen stratégique de la SEC. En tant que membre de la SAE, Peggy a été présidente (2010-2011) et a fait partie du comité d'organisation de plusieurs réunions annuelles de la SAE.

En tant que professeure associée à l'Université Memorial et à l'Université Acadia, Peggy a supervisé des étudiants des cycles supérieurs, a servi comme examinatrice externe dans des comités de soutenance de thèse, a participé à des examens de synthèse de doctorat et à des comités d'étudiants, et a donné des conférences invitées. Elle a été examinatrice invitée pour des programmes de recherche provinciaux, nationaux et internationaux, ainsi que pour de nombreuses revues internationales (dont *The Canadian Entomologist* [TCE]). En 2020, elle a coédité un numéro spécial (11 articles) de TCE sur la drosophile à ailes tachetées.

En 2002, Peggy a reçu une médaille commémorative pour le jubilé d'or de Sa Majesté la reine Elizabeth II (pour excellence dans la recherche sur la lutte contre les ravageurs). En 2007 et 2021, elle a reçu les Prix Moisson d'or d'AAC pour l'excellence (dans la recherche sur la lutte contre les ravageurs et l'accomplissement de sa carrière) ainsi qu'un prix de service de la SEC à la fin de son mandat de présidente de la SEC. En août 2015, la SAE lui a conféré le statut de membre honoraire.



Rick Cavin (left) received a framed print from Hume Douglas (right) this summer on behalf of the Entomological Societies of Canada and Ontario. The print by Carim Nahaboo features the carabid beetle *Dyschirius criddlei* Fall. Rick Cavin (à gauche) a reçu cet été une gravure encadrée des mains de Hume Douglas (à droite) au nom des Sociétés d'entomologie du Canada et de l'Ontario. La gravure de Carim Nahaboo représente le coléoptère carabe.

The annual Norman Criddle Award recognizes the contribution of an outstanding non-professional entomologist to the furtherance of entomology in Canada. The 2021 recipient is Rick Cavin.

Rick has been a major force for improving the knowledge of butterflies in Ontario and Quebec, for which he richly deserves the Award. Rick is a photographer and naturalist based in Ottawa. He has been photographing butterflies for more than a decade, building knowledge of butterfly distributions through fieldwork, extensive verification of digital observation records, and active community leadership. His website (www.ontariobutterflies.ca) details most species occurring in the region. Rick's images from across Ontario (and beyond) have appeared in *The Royal Ontario Museum Field Guide to Butterflies of Ontario*, *The Butterflies of Algonquin Provincial Park*, and his self-published *Pocket Guide to Butterflies of Southern and Eastern Ontario* (and similar guides for Southern Quebec, and the Maritimes).

One of Rick's best-known discoveries is a

Rick Cavin Norman Criddle Award / Prix Norman Criddle

Ce prix annuel Norman Criddle récompense la contribution d'un entomologiste non professionnel exceptionnel à l'avancement de l'entomologie au Canada. Le lauréat de 2021 est Rick Cavin.

Rick a joué un rôle majeur dans l'amélioration des connaissances sur les papillons en Ontario et au Québec, ce qui lui vaut de recevoir ce prix. Rick est un photographe et un naturaliste basé à Ottawa. Il photographie les papillons depuis plus d'une décennie et a approfondi ses connaissances sur la répartition des papillons par le biais de travaux sur le terrain, d'une vérification approfondie des données d'observation numérique et d'un leadership communautaire actif. Son site web (www.ontariobutterflies.ca) présente la plupart des espèces présentes dans la région. Des images de Rick provenant de tout l'Ontario (et d'ailleurs) ont été publiées dans *The Royal Ontario Museum Field Guide to Butterflies of Ontario*, *The Butterflies of Algonquin Provincial Park* et dans son guide de poche autoédité intitulé *Pocket Guide to Butterflies of Southern and Eastern Ontario* (et des guides similaires pour le sud du Québec et les Maritimes).

L'une des découvertes les plus connues de Rick est une expansion de la répartition du lutin des tourbières, une espèce vulnérable considérée comme gravement menacée en Ontario. En recherchant des sites supplémentaires entre 2016 et 2021, Rick (ainsi que d'autres personnes) a fait passer le nombre de populations connues de 3 à 15, y compris des populations situées à près de 300 km à l'ouest des sites précédemment connus. De plus, Rick vérifie les identifications de

range extension for the bog elphin butterfly, a globally vulnerable species, considered critically endangered in Ontario. Searching additional sites between 2016 and 2021, he (and now others) have increased the number of known populations from 3 to 15, including populations nearly 300 km west of previously known sites. Also, Rick verifies identifications for over 30 000 citizen science observations annually to ensure data integrity for the Ontario Butterfly Atlas. As part of this work, he also communicates with many butterfly enthusiasts to coordinate efforts to document little known butterflies and promote good observation practices.

plus de 30 000 observations scientifiques citoyennes chaque année afin d'assurer l'intégrité des données pour l'Atlas des papillons de l'Ontario. Dans le cadre de ce travail, il communique également avec de nombreux amateurs de papillons afin de coordonner les efforts visant à documenter les papillons peu connus et à promouvoir les bonnes pratiques d'observation.



Scott Gilmore Bert and John Carr Award / Prix Bert et John Carr

For 2021, a Carr Award has been presented to Scott Gilmore, an amateur entomologist based on Vancouver Island, British Columbia, and a Barcode Collection Manager with the Department of Fisheries and Oceans Canada. The award will cover the costs of visiting the Spencer Insect Collection at the University of British Columbia to examine important Elateridae material, to create pictorial keys to the Elateridae of British Columbia. A short synopsis of this project will be published in the *ESC Bulletin* in 2022.

En 2021, un prix Carr a été décerné à Scott Gilmore, entomologiste amateur basé sur l'île de Vancouver, en Colombie-Britannique, et gestionnaire de la collection de codes-barres de Pêches et Océans Canada. Le prix couvrira les coûts de la visite de la collection d'insectes Spencer à l'Université de la Colombie-Britannique pour examiner l'important matériel d'Elateridae, afin de créer des clés picturales des Elateridae de la Colombie-Britannique. Un bref synopsis de ce projet sera publié dans le *Bulletin* de la SEC en 2022.

Wider aspects of a career in entomology.

15. Scientific conferences

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 research and other entomological activities and some information about insects and their environments. This article recounts a few experiences and generalizations from my attendance at conferences.



Scientific conferences helped my career, not only through the informative and wide-ranging presentations but also through personal contacts and exposure to unfamiliar surroundings. National meetings are especially useful to foster individual connections and encourage cooperative work. International ones deal with a wider range of faunas and environments, and may reveal interesting differences among countries in social norms, scientific infrastructures, or approaches to education, for example.

The largest meetings, with thousands of participants, are the International Congresses of Entomology, held every 4 years. The great diversity of people and scientific topics is valuable, but numerous sessions must then run simultaneously. As a result, I missed presentations of interest, especially when different sessions were widely separated (as on a university campus) rather than in a more compact conference centre. In addition, people are hard to find at large meetings. It is a mistake not to talk to someone you encounter, because you may never see them again.

In contrast, smaller gatherings allow everyone to interact and attend each component. It is even possible to herd people together for a photograph (e.g., Figure 1).



Figure 1. Participants at the First International Symposium on the Ecophysiology of Ectotherms and Plants (ISEPEP) (Roskilde, Denmark, 2005), showing most of those attending from 14 countries.

H. Danks

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 cultures of host countries influence the organization and formality of conferences. Moreover, depending on national circumstances, organizers or participants may worry about cost. The difference among countries was brought into focus at the 1992 International Congress of Entomology in Beijing, China, where international visitors were housed in a facility designed for them. The price of meals there was consistent with typical prices in Europe and North America, but many times higher than outside its walls. Members of our symposium concluded too late that our Chinese colleague did not attend the symposium dinner because he could not afford it. Indeed, earnings in China for labour of all kinds are relatively low, and the conference hotel was abundantly staffed. For example, on each floor a young lady stood beside the elevator door. Her only visible role was to summon the elevator by pressing the button whenever a guest approached.

Smaller meetings have more options for accommodation. University student residences with shared bathrooms are one of the least costly. At one such meeting in England¹, each guest was provided with a small complimentary bar of soap (accompanied by a message touting that generosity!), a supply that was supposed to last for the whole stay. One American delegate assumed that soaps would be provided daily, as in North American hotels. Therefore, he failed to safeguard his allotment, and soon resorted to scavenging remnants from the showers.

Each international conference highlights characteristics of its location. The 1996 International Congress of Entomology in Florence was impressive for the many Italian Renaissance buildings (e.g., Figure 2)—although one colleague from Canada confessed to me that the experience of touring the city was so intense that after some hours he was overcome by “architectural fatigue.”



Figure 2. Examples of architecture in Florence (Firenze), Italy. L and R from top to bottom: Palazzo Pitti; Santa Maria del Fiore; Santa Croce; Santa Maria Novella; Ponte Vecchio; Piazza Repubblica; Chiesa Santo Spirito; Palazzo Vecchio.

¹Third European Workshop of Invertebrate Ecophysiology (Birmingham, England, 1998).

At the 2000 International Congress of Entomology in Brazil, a tour visited the nearby natural wonder of Iguassu Falls² (Figure 3). Unfortunately, such local attractions tempt a few people, even some sponsored by grants or other official funds, to spend most of their time sightseeing instead of attending the scientific programme!

Host countries have different climates, so conference information customarily includes expected weather conditions. The organizer of a July meeting in Dunedin, New Zealand³, emphasized that it would be cold (winter in the southern hemisphere). He feared that visitors from the southern United States, for example, might come dressed for summers in Florida. Repeated dire warnings led one forest entomologist from Quebec to bring the outfit that he used for fieldwork during the winter, including a pair of large insulated boots. Although snow might appear on the hills above Dunedin, the climates of Quebec City and Dunedin are strikingly different (Figure 4). The heavy winter gear was deployed only in the aircraft cabin, to avoid excess baggage fees.

Most nations consider food to be important at international conferences, to honour visitors and expose them to national cuisines. Nevertheless, local caterers do not always know the background of those attending. The opening mixer of a parasitology conference in Eastern Europe served a wide range of cold meats. The offerings were under-sampled, because many delegates knew them as a potential source of certain human parasites.

In Italy, formal meals have a complex structure (Figure 5). Delivering the many banquet courses over several hours at the International Congress in Florence was an impressive feat of organization, because diners were distributed across two floors of a large and venerable building.

In China, the banquet included unfamiliar delicacies. The first was explained by my dining companions as “lining of a cow’s stomach”, which I knew as tripe. Then came “birds’ feet”, and



Figure 3. Iguassu Falls, seen from the Brazilian side.

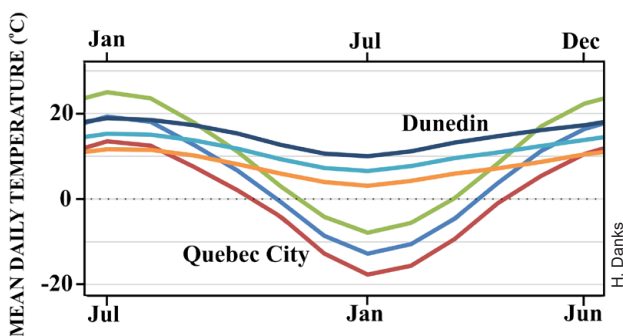


Figure 4. Annual patterns of temperature at Quebec City, Canada, and Dunedin, New Zealand (offset to align seasons). Plots for each location show long-term monthly means (1981–2010) of daily maximum, average, and minimum temperatures.

²Typically Iguassu in English, Iguacu (Portuguese) in Brazil, and Iguazú (Spanish) in Argentina.

³Second International Symposium on the Ecophysiology of Ectotherms and Plants (Dunedin, New Zealand, 2007).



Figure 5. Sample courses of a formal Italian meal. L and R from top to bottom (the order served): Aperitivo (aperitif drink, not shown) with appetisers; Antipasti (heavier appetizers: cold meats); Primo (first course: risotto); Secondo (second course, typically meat or seafood) and Contorno (side dish of vegetables); Insalata (salad, if not in Contorno); Formaggi e frutta (cheese and fruit); Dolce (dessert: tiramisu); Caffè (espresso) with Digestivo (digestive drink, not shown).

Figure 6. Some Chinese delicacies. L and R from top to bottom: Ginger-scallion tripe; Chicken feet; Sea cucumber; Snake soup; Duck tongues; Jellyfish.

sea cucumber (Figure 6). As other items continued to appear, it seemed wise to stop asking and simply eat them⁴.

Less formal meals were served at some smaller meetings. In Russia⁵, every meal, including breakfast, had a vegetable portion, but it was always the same thing: finely shredded hard vegetables. The shreds had a distinctive consistency, which reminded me of the layers just below the surface of compost. My comeuppance for this unkind characterization came soon enough, when I was stricken with dramatic (though unrelated) gastrointestinal disturbances!⁶

Security is a potential concern everywhere. Pickpockets are prevalent in crowded European cities, while many developing countries have more aggressive thieves. In Brazil, the International Congress at Iguassu Falls avoided these hazards because the town is relatively safe. In contrast, the organizers of a more specific entomological symposium that year in the large city of Rio de Janeiro advised attendees to carry at all times an additional dummy wallet, containing a little cash and a cancelled or expired credit card, to hand over “when” (not “if”!) they were robbed.

There were problems in Brazil nonetheless. Some people were relieved of currency under various pretexts, such as relocation on arrival to a more expensive hotel because the one booked was suddenly unavailable, an admission fee charged during a tour even though the guide had already collected the relevant amount, and unexpectedly high charges at the hotel checkout as the airport bus waited outside (early checkout was not allowed). At the Congress site, hours-long “booking” queues that were actually unnecessary reduced the number of delegates who might attend events to which they were entitled.

At an earlier Congress, a copy of a book published by the Biological Survey of Canada, *Arctic Arthropods*, was entrusted to a member of the ESC, who had agreed to publicize it. However, the copy was simply put out on a table for inspection, and was soon stolen. This publicity exercise confirmed that the book was worth owning ... at least if it was free!

Facilities for scientific presentations vary considerably among meetings of all kinds, even at dedicated conference centres. The best rooms have suitable proportions and acoustics, and are soundproofed or separated enough to muffle applause, speech enhanced by microphones, and other disruptive noises from adjacent rooms. In some North American hotels, the sliding partitions used to divide larger rooms into smaller ones provide inadequate soundproofing.

Most large conferences rent adequate facilities, but in Brazil many Congress sessions were disadvantaged by rooms that were long and thin, or partitioned into two by flimsy screens. Presenting and listening were unusually challenging in a space separated by a simple curtain from a busy parking garage.

The best programmes not only have well planned scientific elements, but also multiple ways for individuals to interact informally. Breaks for coffee or other refreshments during the scientific sessions are particularly important to foster interactions (even though the quality of the coffee varies widely!). Unwisely, these breaks are sometimes cancelled because of the cost, which can reach thousands of dollars at a substantial conference. Holding the breaks where posters are displayed is especially productive, provided the room is big enough for everyone to move around easily.

Interactions are also fostered by social functions—for all participants, as well as for students, society volunteers, and other groups. An additional very effective setting at the 1988 International Congress of Entomology in Vancouver was a large beer tent. It was staffed by engineering

⁴Later, I learned that there is a saying in China about the wide dietary choices of Cantonese people. Roughly transcribed, it reads: “Anything that walks, swims, crawls, or flies with its back to the sky is edible.”

⁵Fourth European Workshop of Invertebrate Ecophysiology (St Petersburg, Russia, 2001).

⁶However, a delegate from South Africa told me a few years later that she had dined out more than once on the strength of amusement generated by repeating my name for the dish.

students, who had organized similar facilities for past conferences. It was reported that the entomologists consumed so much more beer than people at previous conferences that additional supplies had to be ordered on an emergency basis. Profitable discussions among the participants must have been at unprecedented levels ...

“Virtual” conferences lack such personal interactions, and limit the opportunities for education and broadening of perspectives that arise when talks across a range of subjects, and diverse experts, are easily available in one location. Therefore, their value seems to me to be much diminished, although perhaps small virtual meetings of specialists are useful for the scientific content alone, because most participants would know each other already.

Of course, people hold additional informal gatherings at in-person conferences (e.g., Figure 7)⁷. Entomology may not be the only focus of discussion. After the formal talks at my first international conference, which was in my home town⁸, I invited a number of delegates to my apartment. Seating was limited, but the place had plenty of beer, at least until an entomologist from Finland almost exhausted the supply single-handed, even as he remained remarkably coherent about a range of topics, many of which were outside entomology... During meals at later meetings in Canada and Japan, some participants showed extraordinary interest in different techniques for using chopsticks.

Early in my career, before digital images were available, conference presentations were illustrated with slides (transparencies) (Figure 8) in a slide-projector (Figure 9).

These projectors had a few quirks. The bulbs failed much more frequently than at present, for example, and some cooling fans were noisy enough to block out the speaker's words from audience members sitting close to the projector. Norms in different countries created problems at international conferences, because slides that were warped, sealed with tape, or too thick (including older European images sandwiched between sheets of glass) would jam in the projector. Occasionally, the heat of the projector bulb damaged slides that were inside too long, or were too fragile (cf. Figure 10). An audience might gasp at the changing image, but usually the speaker was addressing the listeners and would be oblivious as a precious slide melted or incinerated.

Power Point was gradually adopted as standard, although early talks were disrupted if host



H. Danks

Figure 7. Informal gathering at a joint annual meeting of entomological societies (ESC and Acadian Entomological Society, Charlottetown, 2004).

⁷I once spent a long evening in conversation with a Canadian colleague whilst sampling the offerings of local public houses. He told me that the following day he went to an unusually early scientific session of major interest. Somewhat dishevelled and feeling rather grubby, he struggled into the room and took the only remaining seat. He was embarrassed to find himself next to a senior colleague of precise personality, who was always scrupulously clean and immaculately attired, and known to retire early to bed whatever the circumstances.

⁸Fourth International Symposium on the Chironomidae (Ottawa, Ontario, 1970).



Figure 8. Back (top) and front of a 5 cm x 5 cm slide (transparency), as used to project illustrations before digital images replaced them. The red dot was added to aid correct insertion of the slide (upside down, with the front or emulsion side facing the screen).

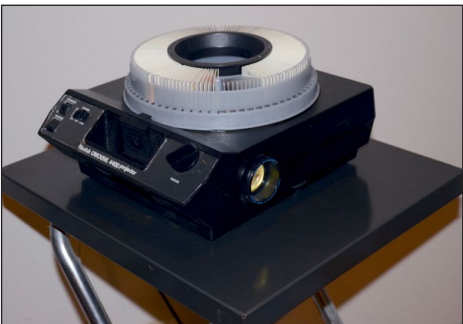


Figure 9. Kodak Carousel slide projector and magazine, the standard equipment for many years in most locations.

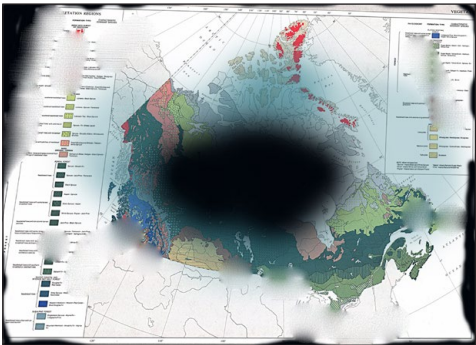


Figure 10. Slide burned and distorted by the heat of the projector bulb (simulated).

computers could not handle the file sizes or process special characters. It is now easier to generate images, but their effectiveness still varies, independent of scientific quality. Slides with too many entries remain illegible except to the speaker⁹. Moreover, digital images bring new dangers. For example, Power Point can automatically generate elaborate templates, but they are not always appropriate (Figure 11).

Whatever the quality of images, potential distractions include speakers who mumble, fidget, jingle keys, or use “um” and other fillers repeatedly. Such habits tend to increase in front of large audiences. At one meeting I attended, stressed

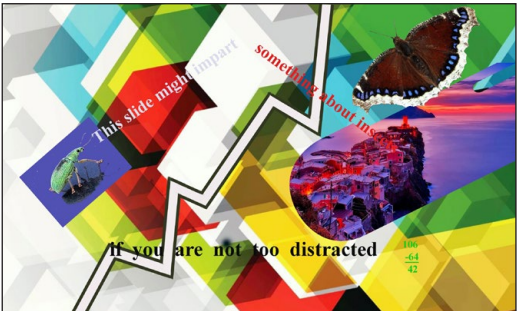


Figure 11. An exaggerated version of a poorly designed Power Point image that includes some of the distracting features of available templates.

⁹There was a simple way to test the legibility of a slide: if text on an original laid on the floor could be read by someone standing over it, the photographic transparency made from that original could be read by the audience.

listeners were able to dissipate their own nervous energy by constantly clicking retractable pens, thoughtfully provided for this purpose by the organizers! A more spectacular distraction was a speaker who shut his eyes to concentrate but continued to move around ... until he fell off the stage (happily without injury).

The balance of entomological topics at conferences continues to evolve. In particular, DNA analysis has increased, bringing valuable insights to several kinds of investigations. However, one consequence is that less attention is paid to natural history components, especially among those who now view molecules only in isolation from the living organisms they represent. In parallel, specialization has increased but travel funds are more limited, leading some researchers to attend special-interest conferences instead of general entomological ones.

More granting agencies than in the past expect explicit formal hypotheses and quantification. The requirements may help to focus research proposals, but lead some speakers into dull rationalizations rather than interesting scientific findings. Another change is that no one in rapidly moving fields describes ongoing work, but only what has already been published. For example, molecular biology is now less collegial and more cutthroat, because research can be completed rapidly only by well staffed laboratories with particularly expensive equipment—and unpublished ideas not only can, but will, be promptly followed up and pre-empted by better-funded scientists.

Session Chairs differ widely in ability and approach. Presenters adept at finding ways to extend their time can be constrained only by strict and well briefed Chairs. At a symposium I attended (part of a meeting with many simultaneous sessions), the projectionist had been instructed to turn off the projector at the time limit in case the speaker failed to heed requests to finish. This strategy was extremely effective in curtailing the bluster of one senior European professor ...

To avoid confusion among English speakers, family and given names are normally reversed for contributors from places such as China and Japan (e.g., Masaki Shinzō becomes Shinzō Masaki). However, Chairs unfamiliar with foreign languages frequently butcher individual names. For example, I have heard the Japanese professor Yamashita [Ya-ma-shi'ta¹⁰] introduced as Yah-mah-shee-tah, and the Czech scientist Košťál [approximately Kosh-ch-ahl¹¹] as Costal. Speakers should have been asked beforehand how to pronounce their names, but were gracious enough not to complain.

I was once surprised to hear a speaker using a foreign language, only to realize (after several minutes!) that the language was English, but with unusual rhythm and pronunciation. It was therefore instructive to give talks of my own that were not in English, when fluency, precision, idiom, and other elements normally taken for granted are compromised. Unexpectedly, I had a strange sensation of buzzing in my lips after speaking French for longer than usual, because the oral gymnastics required to produce the necessary sounds are different than for English—and seem more extreme!

My first paper in French (on insect-plant interactions in the Arctic) was at an annual meeting of the Société d'entomologie du Québec (SEQ). Afterwards, a member of the audience told me that he thought that my accent resembled that of Pierre Trudeau, Prime Minister of Canada for many years. At the time, the merits of that politician were being hotly debated, both inside and outside the province ... so had a compliment or the opposite been intended?!

Most scientific conferences contain formal opening and closing ceremonies. At the opening ceremony of a meeting of the SEQ, the visiting President of the ESC delivered positive greetings to the regional members, as was the custom. He did so in French, but had overestimated his

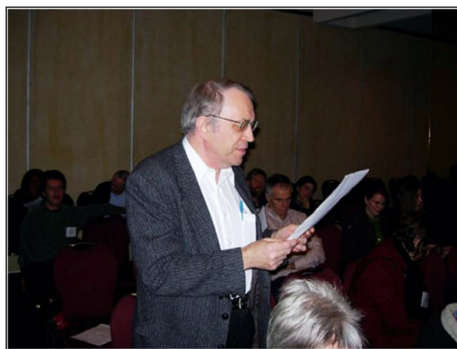
¹⁰Japanese syllables are short, and some vowels are devoiced between certain consonants.

¹¹In Czech, the diacritical marks soften the consonants š (to sh) and ť (to a cross between ch and the t in tutor), and lengthen the vowel à (as in father).

knowledge of the language and the accuracy of his pronunciation. The assembled members shifted uneasily in their seats as the language was tortured, but their discomfort was defused by the president of the SEQ. Speaking in French, he thanked the ESC president for his kind remarks, and added “they will be translated into French and published in the society’s bulletin”, a comment greeted by laughter as the members relaxed again. The ESC president smiled appreciatively too, having failed to understand what had been said!¹²

Many societies hold their Annual General Meetings during conferences. Customarily, resolutions (cf. Figure 12) thank local organizers for their great efforts in arranging all of the scientific and logistic elements. The burden on organizers also includes anxiety, which normally persists throughout: even the final event remains subject to Murphy’s Laws of Meetings.

The ESC’s Annual General Meeting is typically staid, but not always. Years ago, a long-term officer of the society, well known to the Governing Board, was installed as incoming President and took his place at the front of the room. He thanked the members and declared: “I’ll do my best!”, prompting a fellow long-term member of the Governing Board sitting in the audience to call out: “That’s not good enough!” This retort lifted the mood of the room, and the remaining business proceeded smoothly.



Entomological Society of Canada

Figure 12. Author Hugh Danks reading the resolutions at an Annual General Meeting of the ESC (Montreal, 2006)—as he was often asked to do, apparently because some members liked his articulation of “whereas”, “be it resolved”, and other formal expressions!

¹²Later, I asked the SEQ president privately if he thought that the remark might have been a little unkind. I don’t think so, he replied—but maybe daring [“osant”].



Fourth Addendum for Index to Biography of Entomologists in Canadian Publications, 2016-2020 / Quatrième Addenda à l'Index des Biographies des Entomologistes dans les Publications Canadiennes, 2016-2020

Cedric Gillott

Preparation of the original Index (see *Bull. Ent. Soc. Can.* **35**(1):17–48) was a massive undertaking, covering the period from 1869 to 2000. It came about when its authors (D.C. Eidt, P.W. Riegert, and E.C. Becker) recognized the need to develop a list of sources with biographical details of entomologists in Canada. Such a list, they felt, would be a valuable component of the Entomological Society of Canada's heritage. Subsequently, members of the Heritage Committee (C. Gillott, R. Lamb and J.-P. Bourassa) undertook the task of updating the Index at 5-year intervals (see *Bull. Ent. Soc. Can.* **39**(1):45–49 [2007], **44**(2):74–77 [2012], and **48**(2): 64–67). The development of these Addenda was much simpler and more straightforward than that of the original contribution, not only because of the shorter time periods covered but also because almost all the Canadian periodicals searched for entomological biographies had become available on the internet. Very rarely, biographical information was found *only* on a society's web page and did not appear in printed form. The last comment applies equally to the present version.

La préparation de l'index original (voir *Bull. Ent. Soc. Can.* **35**(1):17-48) a été une entreprise de grande envergure, couvrant la période de 1869 à 2000. Elle a vu le jour lorsque ses auteurs (D.C. Eidt, P.W. Riegert et E.C. Becker) ont compris la nécessité de dresser une liste de sources contenant des détails biographiques sur les entomologistes du Canada. Ils ont estimé qu'une telle liste serait un élément précieux du patrimoine de la Société d'entomologie du Canada. Par la suite, les membres du Comité du patrimoine (C. Gillott, R. Lamb et J.-P. Bourassa) ont entrepris de mettre à jour l'index à tous les 5 ans (voir *Bull. Ent. Soc. Can.* **39**(1):45-49 [2007], **44**(2):74-77 [2012], et **48**(2) : 64-67). L'élaboration de ces addendas a été beaucoup plus simple et facile que celle de la contribution originale, non seulement en raison des périodes de temps couvertes plus courtes, mais aussi parce que presque tous les périodiques canadiens recherchés pour les biographies entomologiques étaient devenus disponibles sur Internet. Dans de très rares cas, l'information biographique se trouvait uniquement sur la page Web d'une société et n'apparaissait pas sous forme imprimée. Ce dernier constat s'applique également à la présente version.

Sources, with abbreviations used / Sources, avec les abréviations utilisées

Compared to previous Addenda, this version was compiled from fewer regional society publications and websites. However, an important additional source was Hugh Danks' history of the Biological Survey of Canada (BSCH, below). The following sources yielded significant biographical material:

Comparativement aux addendas précédents, cette version a été compilée à partir de moins de publications et de sites Web de sociétés régionales. Cependant, une source supplémentaire importante a été l'histoire de la Commission biologique du Canada de Hugh Danks (BSCH, ci-dessous). Les sources suivantes ont fourni des données biographiques importantes :

- Abc** Entomological Society of Alberta web site – F.S. Carr Awardees (available on line at / disponible en ligne sur <https://entsocalberta.ca/for-members/awards/frederick-s-carr-award/recipients/>)
- Abh** Entomological Society of Alberta web site – honorary members (available on line at / disponible en ligne sur <https://entsocalberta.ca/for-members/honorary-members/>)
- An** *Antennae* (available on line at / disponible en ligne sur <https://seq.ca/bulletin-antennae/>)
- Bo** *Boreus* (available on-line at / disponible en ligne sur <http://entsocbc.ca/publications/boreus-newsletter/>)
- BSCH** *The Biological Survey of Canada: A Personal History* (H.V. Danks 2016) (available on line at / disponible en ligne sur http://biologicalsurvey.ca/public/Bsc/Controller/Page/Danks2016_BSCHHistory.pdf)
- Bu** *Bulletin of the Entomological Society of Canada* (available on line at / disponible en ligne sur <https://esc-sec.ca/publications/bulletin/>)
- JBC** *Journal of the Entomological Society of British Columbia* (available on line at / disponible en ligne sur <https://journal.entsocbc.ca/index.php/journal/index>)
- Mn** *Newsletter of the Entomological Society of Manitoba* (available on line at / disponible en ligne sur <https://home.cc.umanitoba.ca/~fieldspg/newsletter.html>)
- Mp** *Proceedings of the Entomological Society of Manitoba* (available on line at / disponible en ligne sur <https://home.cc.umanitoba.ca/~fieldspg/proceedings.html>)
- On** *Newsletter of the Entomological Society of Ontario* (available on line at / disponible en ligne sur <https://www.entsocont.ca/newsletter.html>)

Index of biographies / Index des biographies

For this addendum, ESC Regional Directors provided assistance in determining the biographical entries included in publications and websites of their regional societies. Included are all articles that contain significant biographical information: major honours and awards, appointments, obituaries, retirements, and profiles. In a change from earlier Addenda and the original Index, I have consistently included an individual's commonly used first name.

Pour cet addenda, les directeurs régionaux de la SEC ont aidé à déterminer les entrées biographiques incluses dans les publications et les sites Web de leurs sociétés régionales. Sont inclus tous les articles qui contiennent des informations biographiques significatives : distinctions et prix importants, nominations, nécrologies, retraites et profils. Contrairement aux addendas précédents et à l'index original, j'ai toujours inclus le prénom usuel d'une personne.

A

Acorn John **Abc**
Aitken Gregory **On** 22(1):8; **On** 23(1):6
Anderson Robert S. **BSCH** 42
Anweiler Gary **Abc**
B
Ball George E. **BSCH** 17; **Bu** 51(2):102
Baute Tracey **On** 23(1):7; **On** 23(2):5
Behan-Pelletier Valerie M. **Bu** 48(3):106;
BSCH 43
Belton Peter **Bo** 39(1):18; **JBC** 116:69; **Bu** 51(2):113
Bennett Robert **Bo** 38(2):14
Bercha Robert **Abc**

Beresford David **On** 22(1):4; **On** 22(2):4
Bird Charles D. **Abc**
Boivin Guy **Bu** 48(3):97
Bousfield Edward L. **BSCH** 18
Brodeur Jacques **Bu** 50(3):100; **An** 27(1):16
Brossard Georges **An** 26(3):16; **Bu** 52(4):211
Brunelle Paul-Michael **Bu** 52(2):118
Brunet Bryan **On** 24(1):7
Buckle Donald J. **Abc**
Buddle Christopher M. **BSCH** 43
Burke Erica **Bu** 51(3):150
Burke Jordan L. **Bu** 52(1):54
Byers J. Robert **Abh**

C

- Cannings Robert A. **BSCH** 43
 Charron Jonathan **Bu** 52(2):90
 Clifford Hugh F. **Bu** 51(3):163
 Colla Sheila **On** 23(1):5
 Comeau André **BSCH** 18
 Cooper George S. **BSCH** 10
 Corrigan James E. **Bu** 51(2):108; **On** 24(1):20
 Craig C. Harvey **Bu** 51(2):112
 Craig Douglas A. **Bu** 52(2):113
 Criddle Norman **Mp** 2019:31
 Currie Douglas C. **BSCH** 44
 Cusson Michel **An** 25(1): 8; **Bu** 52(3):151

D

- Danks Hugh V. **BSCH** 13; **Bu** 50(3):102
 Davey Kenneth G. **BSCH** 18; **Bu** 49(3):117
 DeBoo Robert F. **Bo** 36(2):41
 Demianyk Colin **Mn** 45(1):11
 deWaard Jeremy **On** 23(1):8; **On** 23(2):6
 Doane John F. **Bu** 52(3):163
 Dogterom Margriet **Bo** 39(2):50
 Dolezal Aleksandra **On** 24(1):10; **On** 24(2):7
 Dolson Sarah **On** 21(1):11; **On** 22(2):4
 Douglas Hume **On** 25(1):6
 Downes J. Antony **BSCH** 3
 Doyon Josée **An** 26(1):6

E

- Eidt Douglas C. **BSCH** 19
 Evans William G. **Bu** 48(3):113

F

- Fields Paul G. **Bu** 50(3):105
 Finlayson Thelma **Bu** 49(1):18; **Bo** 36(2):39;
JBC 113: 105
 Finnamore Albert T. **BSCH** 44
 Fleming Kaitlyn **On** 21(1): 10; **On** 22(1): 10;
On 23(1): 9; **On** 23(2):7
 Floate Kevin D. **BSCH** 44
 Foottit Robert G. **BSCH** 44
 Francoeur André **BSCH** 19
 Friend William G. **Bu** 51(1):52
 Fry Ken **Abh**

G

- Galloway Terry D. **BSCH** 45
 Garipey Tara **Bu** 49(3):107
 Gerber George H. **Bu** 48(2):68; **Mn** 42(2,3):4;
Mp 2015:13
 Gervais Amelie **An** 23(1):11
 Giberson Donna J. **BSCH** 45

- Gillott Cedric **Bu** 48(3):107
 Gooding Ronald H. **Bu** 52(2):117
 Gries Gerhard **Bu** 49(3):102; **Bu** 51(3):148
 Guidotti Antonia **On** 21(1):5; **On** 21(2):5; **On** 22(1):11

H

- Harper Paul-Pierre **An** 26(3):18; **Bu** 51(4):233
 Heming Bruce S. **Bu** 50(4):186
 Hinks Christopher F. **Bu** 49(1):21
 Hodges Ronald W. **Bu** 50(1):34
 Hossie Thomas **On** 25(1):7
 Howden Anne E. **Bu** 48(4):167; **Bo** 36(2):42
 Huber John T. **BSCH** 45
 Humble Leland M. **Bo** 40(2):43; **JBC** 117:75;
Bu 52(4):203

J

- Jaeger Christi **On** 25(1):9; **On** 25(2):6
 Johns Robert **Bu** 50(3):101

K

- Keiran Monique **Bu** 50(3):106
 Kelleher James S. **Bu** 49(2):66
 Kelton Leonard A. **Bu** 48(2):69
 Kevan D. Keith McE. **BSCH** 7
 Keyghobadi Nusha **On** 22(1):5
 Kits Joel **On** 21(1):7; **On** 21(2):7
 Krivda Walter **Bu** 51(1):54; **Mn** 45(1):7
 Kullik Ziggy **On** 24(1):8; **On** 24(2):6

L

- Labbé Roselyne **On** 21(1):8; **On** 25(2):8
 Labrie Geneviève **An** 25(1):7
 Langor David W. **BSCH** 45
 Larrivée Maxim **An** 26(3):12
 Larson David J. **BSCH** 46
 Larson Ruby **Abc**
 Lawton Todd **Bu** 49(4):133; **Mn** 44(1):5
 Le Tirant Stéphane **An** 24(1):13
 Leech Robin **Bu** 48(4):163
 Lehmkuhl Dennis M. **BSCH** 46
 Lindo Zöe **Bu** 51(3):146
 Loschiavo Samuel R. **Bu** 50(4):185; **Mn** 45(1):6
 Lyle Marlee-Ann **On** 25(1):13; **On** 25(2):7

M

- MacDonald Caitlyn **On** 23(1):10
 MacIvor Scott **On** 25(1):10
 MacKell Sarah **Bu** 52(2):89
 MacLeod Malcolm N. **Bu** 51(3):161
 Marshall Steven A. **BSCH** 46

- Marshall Valin G. **BSCH** 47
 Martel Véronique **An** 24(1):12; **Bu** 49(1):9;
Bu 52(1):66
 Mason Peter G. **Bu** 51(3):144
 Matthews John V.Jr. **BSCH** 20
 McAlpine J. Francis **Bu** 52(1):56
 McCorquodale David B. **BSCH** 47
 McIntock John J. **BSCH** 19
 Miller Meredith **On** 24(1):6; **On** 24(2):5
 Mlynarek Julia **On** 22(1):7; **On** 22(2):5
 Molin Ana D. **Bu** 49(4):135
 Morris Raymond F. **BSCH** 20
 Munroe Eugene G. **BSCH** 7
 Muzzatti Matthew **On** 25(1):12
O
 Olfert Owen **Bu** 49(3):117; **Bu** 50(3):108
 Owen Vanessa **On** 25(1):14
P
 Proverbs Maurice D. **Bu** 51(4):231
R
 Richards Kenneth W. **Bu** 52(2):110
 Richards Miriam **On** 22(1):9; **On** 22(2):5
 Ring Richard A. **BSCH** 48
 Roe Amanda **On** 21(1):6; **On** 21(2):6; **On** 24(1):4; **On** 24(2):4
 Rosenberg David M. **BSCH** 20
 Roughley Robert E. **BSCH** 48
S
 Saether Ole A. **BSCH** 20
 Scott Catherine **On** 21(1):9; **On** 21(2):8
 Scott Jan **Abc**
 Scudder Geoffrey G.E. **BSCH** 21
 Shemanchuk Joseph A. **Abh**
 Sherin Linley **On** 25(1):11
 Shorthouse Joseph D. **BSCH** 41
 Sippell William L. **Bu** 51(3):162
 Smith Alex **On** 25(1):5; **On** 25(2):4
 Smith Ian M. **BSCH** 21
 Solecki Anna **Bu** 49(1):8
 Spence John R. **Bu** 50(3):104; **BSCH** 48
 Sperling Felix A.H. **BSCH** 49
 Sweeney Jon D. **BSCH** 49
T
 Thickett Carolyn **On** 24(1):9
 Thompson Graham **On** 24(1):5
 Thormin Terry **Abc**
 Thorsteinson Asgeir J. **Bu** 49(1):16
 Tomlin Alan D. **BSCH** 22
V
 Vincent Charles **Bu** 49(3):117; **Bu** 50(1):6; **Bu** 50(4):172; **Bu** 52(1):9
 Volney W. Jan A. **Bu** 50(1):31
W
 Weir Colin **Bu** 52(3):154
 Wheeler Terry A. **BSCH** 50; **Bu** 49(4):157
 White Noel **Mn** 45(1):11
 Wiggins, Glenn B. **BSCH** 22
 Williams D. Dudley **BSCH** 50
 Winchester Neville N. **BSCH** 50
 Wood D. Montgomery **Bu** 52(4):206
 Wyatt Gerard R. **Bu** 51(3):166
 Wylie H. Glenn **Bu** 48(1):16; **Mn** 42(1):6; **Mp** 2015:5
Y
 Young Andrew **On** 25(1):8; **On** 25(2):5
Z
 Zayed Amro **Bu** 48(3):102; **On** 22(1):6; **On** 23(1):4; **On** 23(2):4



Many will remember the summer of 2021 for our cautious overtures towards normalcy after many months of turmoil from the Covid-19 pandemic. It will be hard to think of life being normal, however, for friends and colleagues of David Rosenberg. Dave passed away on 25 June. He is survived by his wife Trudy, brother Nathan, kids Tina (and Scott), Lee (and Sara), and grandchildren Aaron, Rayne and Zoey. Dave was known for his honesty and integrity, his quick wit and sense of humour, his “salty” language, and his commitment to his family and his career.

Dave was an internationally known aquatic entomologist. He was a generous supervisor and mentor, and was recognized throughout his career with many awards, including The Gold Medal of the Entomological Society of Canada (1998), the North American Benthological Society (‘NABS’, now Society for Freshwater Science) Distinguished Service Award (2000), The K.H. Doan Publication Award for the Most Significant Publication of the Freshwater Institute (1984, 1998, 1999) and The Canadian Department of Fisheries and Oceans Prix d’Excellence (2000). He presented many prestigious plenary and invited lectures and was involved in many national and international collaborations. He served as the President of NABS in 1986 and was active in the Entomological Societies of Manitoba and Canada. He played an important role in the establishment and ongoing projects of the Biological Survey of Canada (Terrestrial Arthropods). His professional legacy can be seen in his nearly 150 publications (the full list will appear in an upcoming issue of the Proceedings of the Entomological Society of Manitoba), and in the remembrances of his friends and colleagues.

Dave grew up in Edmonton, where his parents owned a home-made ice cream parlour. He worked part-time in the store, as well as for various relatives with businesses in Edmonton before attending the University of Alberta. He received his Bachelor’s (1965) and PhD (1973) degrees from U of A. In his 2017 memoir (Rosenberg 2017), he described himself as a “failed veterinarian”, as he had initially planned to attend Vet College. Instead, he entered the Department of Entomology, and embarked on a decades-long career that would see him work on some of the most important environmental issues of our time, from pesticides (his PhD work) to pipelines, impoundments, acidification, and river health. His career was characterized by participation in large projects, and it is worth spending some time exploring these, as well as the connections that arose from them.

In 1971, before he even finished his PhD, he was recruited to work on the Mackenzie Valley Pipeline Study, based out of the Freshwater Institute of the Department of Fisheries and Oceans (DFO) in Winnipeg. Dave and Trudy, his life partner of more than 55 years, packed up everything and moved to Winnipeg, in preparation for heading north in the spring. This was to be a large study evaluating potential impacts of a proposed oil pipeline along the Mackenzie River from the Beaufort Sea to markets in the south and Dave’s focus would be the benthic invertebrates in tributaries along the Mackenzie mainstem (from Great Slave Lake to the Delta; ~1738km!). He was tasked with identifying the main environmental problems associated with construction and operation of a pipeline (e.g., increased sedimentation and oil spills), and with cataloguing the species of freshwater plants and invertebrates in the area. Either one of these goals would be daunting to most people, much less both, and he carried them out while also finishing his dissertation work! Details of the study and the taxa list can be seen in Brunskill et al. 1975 and Wiens et al. 1975.

The Mackenzie River Pipeline Project introduced Dave to his long-time side-kick Allen Wiens, and set up a partnership that lasted more than 25 years. Al and Dave met at the Fisheries camp in Yellowknife, where Al was scouting locations for the benthic invertebrate studies, and Dave



C. Resh

David M. Rosenberg
(1943 – 2021)

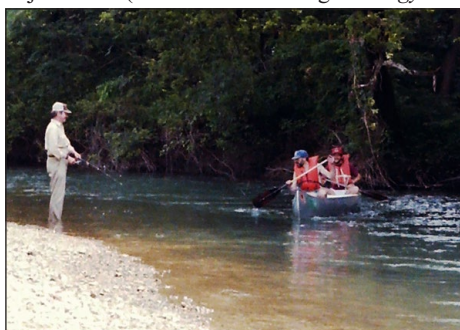
persuaded him to choose the Fort Simpson area as a study base, giving access to several Mackenzie River tributaries near there. This year on 23 March, Dave and Al marked 50 years from the time that Al first began working as his Biologist. Trudy (a teacher) was able to join Dave in Fort Simpson each summer once the school term ended, and then returned with Dave to Winnipeg at the end of each summer.

In his 2017 memoir, Dave commented that his career-long partnership with Al stemmed from how well they complemented each other: Al's outdoor skills and ability to fix nearly anything made him a perfect companion to the more academically oriented Dave. In contrast, Al describes Dave as a "consummate camper" who had his priorities right on their trips to the field. Al remembers winter camping (on the ice in a double-walled tent) near Fort Simpson during one winter sampling trip. They took turns running and emptying the 24-hour drift nets set under the ice of the Martin River, but Dave took charge of the cooking. He arrived on site with pre-marinated T-bone steaks to cook on the Coleman stove. After digging out a large snowdrift to provide shelter for the stove, Dave cooked Al's steak first (it was delicious!) then set in on his own, which he liked very rare. It was almost done when one of the icicles attached to his moustache melted off and fell into the frying pan with a "pssss" sound. When he sliced into the steak he said, "Damn it all, the steam over-cooked my steak!" [though it should be noted that his language may have been a bit saltier than reported here].

It was during this period that Dave met Vince Resh, who became a longstanding collaborator and friend. Dave accepted an invitation to participate in a workshop on sampling benthic invertebrates at the ESC meeting in Banff (1973), to which Vince was also invited. They became fast friends, collaborating on several research projects and two major books (Resh and Rosenberg: *Ecology of Aquatic Insects*, 1984, and Rosenberg and Resh, *Freshwater biomonitoring and benthic macroinvertebrates*, 1993). Donna Giberson remembers the book collaborations as her introduction to Dave's well-known "salty language" when she was a graduate student working with him at the Freshwater Institute in the 1980s. In May 1984, Vince persuaded Dave to join him on a post-conference canoe trip following the NABS meeting in Kansas, with Dave under the impression that they would be discussing the book along the way. That didn't happen, but at least no-one got wet! They co-wrote or co-edited 30 papers, chapters, and reports over their career.

After the Mackenzie Pipeline project wound down, Dave moved his research focus to the Churchill Diversion project in northern Manitoba. This was another large project, assessing impacts of a Manitoba Hydro Megaproject impounding Southern Indian Lake (SIL) and diverting the Churchill River into the Nelson River to provide stable flows for the hydro-electric dams on the Nelson. The assessment project was a huge team effort involving researchers working on hydrology and fisheries as well as aquatic flora and invertebrates, and an important result from the study was identifying the link between mercury bioaccumulation and formation of permafrost-surrounded reservoirs (summarized in Hecky et al. 1984, Rosenberg et al. 1985). Dave and Al, along with groups of summer and grad students, made regular 13-hour treks to SIL from 1975 to 1991 to assess invertebrate responses to flooding in the lake and along the diversion route, as well as in the "dewatered" Churchill River downstream.

Donna remembers a life-lesson from her first trip collecting Ekman dredge samples from the lake with Dave and Al. These dredges, equipped with spring-loaded closable jaws, are designed to sink into the mud and snap shut when struck by a "messenger" sent down a rope to the trigger



D. Giberson

Dave and Vince caught in a bit of an eddy while canoeing past another noted benthic biologist, Tom Waters who was trying his luck with the fishing.

mechanism. Theoretically, the operator just pulls up the dredge and empties it into a net to strain out the invertebrates. In reality, the dredge was usually stuck tight in the mud, resisting all attempts to pull it up. After watching her struggle for a bit, Dave and Al told Donna to hold the rope tightly and brace herself, while they proceeded to gently rock the boat from side to side. In no time, the rocking motion of the boat broke the suction of the mud around the dredge, and it came free. Dave's lesson? "The most important thing in life, Donna, is learning just when to rock the boat".

The SIL project introduced Dave to another important collaborator and long-time friend – Bob Newbury. Bob is a hydrologist who, in addition to his work on the Churchill River Diversion study, has long been involved in river and stream restoration work. Bob remembers a camp they set up on the lake on one sampling trip. Bob's young son Peter was with him and introduced Dave to hammering up a tent frame shelter, leaving Bob to note that "his profound talents lay in other areas". Making things for Dave became a small way to repay him for his affectionate friendship. They had a lot of laughs over the last one (a set of dreidels with buy, sell, hold, lose labels) after Dave sent a copy of his investment advice book. Their lasting relationship was not in science.

As is clear from the reminiscences in this tribute, Dave's strong sense of professionalism in research did not preclude light-hearted fun as well, and most of us whose lives were touched by Dave remember many such moments. Dave himself includes many funny stories of his time working on various projects in his 2017 memoir. Bob remembers Dave demonstrating his bubble blowing ability on a trip with visiting Russian and Chinese permafrost scientists to SIL. During one of Bob's stream hydrology workshops at Wilson Creek (on the Manitoba Escarpment, near the town of McCreary), Dave noticed a Dave's Septic Service truck on the road. He quickly staged a photo with the workshop participants, quipping that it could be a possible alternative career for him.

It was probably impossible for someone to work at the Freshwater Institute in Winnipeg and not also be drawn into work at the Experimental Lakes Area (ELA), a research facility east of Winnipeg near the border with Ontario (Hecky et al. 1994). Dave worked on two projects at ELA from 1991 to 1997: a peatland acidification project and a reservoir project. The peatland acidification project involved assessing chironomid responses to acidifying a poor fen, and was part of the larger group of studies on ecological effects of acidification. The Experimental Lakes Reservoir Project looked at the evolution of greenhouse gases and mercury release from flooded peatlands. Dave's role in this study was assessing responses of benthic invertebrates to the flooding, and the role of benthic invertebrates in the uptake and concentration of methyl mercury.

While Dave was still working on ELA projects, Trefor Reynoldson (then with Environment



Dave and Al on Southern Indian Lake during the 1987 Whole Lake Survey.

D. Giberson



Dave blowing bubbles at SIL.

R. Newbury



A "possible alternative career" for Dave, at the Wilson Creek Stream Hydrology workshop. From left: Dave Rosenberg, Bob Newbury, John Flannagan, Dave Burton, Donna Giberson, Brian Heise, Dave Benson?, Dale Wrubleski, Dan Soluk, and Margaret Friesen.

R. Newbury

Canada) invited him, along with Vince Resh, to participate in the Fraser River Biomonitoring Project, which became his last major project as a Canadian government researcher. Dave first met Trefor back in 1974, when Trefor was working to update the Alberta stream monitoring program; he remembers the interaction with Dave as “gracious and helpful to a couple of neophyte government biologists”. Fast forward to the 1990s, when they both participated in a workshop to develop a large reference condition study on the Great Lakes, defining biological indicators and numerical criteria using benthic invertebrates. The premise behind this approach is that a baseline or natural state can be defined through multivariate analysis of biotic and physical/chemical variables in a large number of undisturbed or “reference” sites. Other sites of interest can then be compared to the reference condition to identify disturbed sites, to determine the causes of perturbations, and suggest remediation.

The Fraser River Biomonitoring Project was part of the Fraser River Action Plan, a large Federal Government Green Plan initiative centred in British Columbia. The goal was to design and test a river monitoring project similar to the Great Lakes project that could be applied elsewhere in the country, and it ultimately resulted in the now widely applied CABIN (Canadian Aquatic Biomonitoring Network) protocol for assessing river health in Canada. Over 250 river sites were sampled annually by helicopter over a short period of time, resulting in long, tiring days for the teams. Dave was known for his work ethic and ability to spend long hours in the field or lab, but cheerfully reported in his 2017 memoir that grad student Stephanie Sylvestre (now Strachan) referred to Trefor, Vince, and Dave as the “Geriatric Team”, a possible reference to the fact that he was starting to slow down a bit.

Trefor remembers working closely with Dave between the project’s inception in 1994 to the final publication in 2001 (Reynoldson et al. 2001). Both Dave (in his memoir) and Trefor remember one day when they were scouting sites to use for their pilot study, when their guide (a technician lent to them from Environment Canada) said that he would have fired them if they had worked for him, as they kept stopping at restaurants, tourist shops, and sightseeing venues. Vince in particular was hunting for moccasins to take home to California. However, they were “re-hired” next day, after they put in a long day testing and ground-truthing their methods in their pilot stream, leaving the technician exhausted in the process.

Clearly, the story of Dave’s involvement in successive large bioassessment projects is also a story of collaborators that became firm friends with Dave and Trudy. In addition to Trefor, the large Fraser River project led to work with Richard Norris, who was involved in a similar large stream monitoring project in Australia and had helped with the planning of the Fraser River study. As a direct result of this project, Dave was invited to Australia in 1996 and to Oxford University in 1997 to present research on scientific collaboration and the Fraser River project. Trefor especially remembers the Oxford trip and the chance to show the team his home jaunts in north Wales.

Several common themes emerge from colleagues and friends when talking about Dave. Discussions were always lively and covered a variety of topics, and were endlessly entertaining (or at least, never boring!). Al Wiens notes that Dave had a very good memory and he read a lot, giving plenty of scope for discussions in the plane going to Fort Simpson (or later, on the 13-hour drives to South Indian Lake in northern Manitoba). Trefor remembers falling off rocks into the stream when processing samples as he was laughing so hard from listening to Dave’s stories.

Another common theme in reminiscences was food. Dave enjoyed cooking and was a great cook (including camp



Dave and Trefor processing samples on a tributary of the Fraser River.

A. Wiens

cooking throughout his many field trips), and many of the stories in his 2017 memoir involved food. Both Dave (in his memoir) and Trefor recalled an excellent Italian restaurant in Lillooet, British Columbia that they enjoyed for 3 nights. After complimenting the chef on the meals, the chef offered to prepare them a special meal with ingredients that would have to be ordered from Vancouver, therefore requiring a commitment prior to the meal. Dave begged off and opted for Chinese (Dave remembers being teased for not wanting to exceed his meal per diem, but Trefor thought he had just had enough Italian meals after 3 nights in a row).

Dave was involved with students throughout his career, thanks to his long connection as Adjunct Professor in the Department of Entomology at the University of Manitoba. His input and advice in 1978 for Terry Galloway's incipient new course in Aquatic Entomology was instrumental in solidifying its content and direction. Dave was a regular invited speaker in the course over a span of almost 35 years. He served as supervisor or committee member on several student committees and was generous with his time and advice, often delivered in the pithy language for which he was famous. He was a strong believer in getting the results and the message out and imparted that to his students, who benefitted greatly from his encouragement and support. For a graduate course he taught in 1979 on environmental impact assessments during a sabbatical year at UC Berkeley, he encouraged the students to produce a major article on the topic, with all the students in the class as co-authors (Rosenberg et al. 1981).

Dave's other professional "hat", and arguably the one that had the greatest impact on freshwater science, was as an editor and mentor to students and colleagues on scientific writing. He served as a reviewer for many journals and government technical report series, and was on the editorial boards of the *Journal of the North American Benthological Society* (*J-NABS*, now *Freshwater Science*), *Canadian Journal of Fisheries and Aquatic Sciences*, *Freshwater Biology*, and *Journal of Aquatic Ecosystem Health*. As time went on, more people at the Freshwater Institute asked him to review the manuscripts of their work prior to sending it to a journal. Dave also offered his editorial instruction and services to any graduate student in the Department of Entomology at the University of Manitoba as they prepared their thesis and manuscripts. He viewed each submission as being the best work of a researcher who had spent considerable time and effort producing the manuscript, and therefore believed his best effort should be directed to examining the work. He edited the manuscripts for clarity, brevity, possible omissions, and alternate conclusions. His red pencil was busy, and many an author or student must have looked in dismay at the corrections and suggestions on their manuscript. But Dave was fair in his editing and was completely willing to listen to rebuttals by authors. His editing style was certainly extended to manuscripts submitted to him by Al or his students. Dave, having his name on the paper, wanted to make sure that everything was perfect, and he wore his red pencil to a nub on some of those papers. Vince noted that disagreements emerged in the many articles they wrote or edited together; generally, Dave wanted the writing to be more concise and Vince wanted to keep in what Dave disparagingly called "unnecessary flowers". Compromises resulted from a mixture of cajoling and ultimatums (and more salty language!), but always led to both being satisfied with the final product. Bob Newbury wrote a chapter on stream hydrology for the book Dave and Vince edited on ecology of aquatic insects (Resh and Rosenberg 1984), and says that Dave introduced him to the art of editing in a draft of a chapter for the now famous book. To his amusement, Bob asked him if the mysterious editing symbols were doodles, perhaps brought on by the boring hydraulics topic. Dave was especially particular about reference citations. Donna remembers going through a massive stack of papers, one by one, with Al (in the days before widespread pdf versions) for her PhD thesis and research papers, checking each title, author, issue and page numbers for every reference listed.

In 1997, Dave became Managing Editor for *J-NABS*, a position he held until 2005. He worked with NABS Business Manager Irwin Polls (another firm friend), and the two of them could always be found holding court at the *J-NABS* table at society meetings. Dave remarked in his 2017 memoir that a Managing Editor needs the "wisdom of Solomon, the patience of Job, and a willingness to do little else but work on the Journal". But David always went above and beyond for his work on the

Journal, providing detailed suggestions on how to improve the clarity of manuscripts even after they were accepted, and mentoring Associate Editors to take on leadership roles in a variety of journals.

Dave retired from DFO in 2001, though he continued to go in to the Freshwater Institute for several years as Scientist Emeritus, finishing up projects and continuing work on *J-NABS*. His NABS colleagues marked his retirement with a dinner at the NABS meeting in Keystone Colorado that brought together a diverse group of people whose lives Dave had touched over the years. After his retirement, Dave kept in touch with people through email and phone calls, through visits to Winnipeg, and through his regular winter travel to Palm Springs. He also wrote and self-published three memoirs, published in 2017, 2019, and 2020.

Sorting through our reminiscences of Dave has been a journey of sorts. Dave's mentoring, personally and scientifically, has touched us all. The Dave we remember used humour, was known for salty talk, and could blow bubbles and cook steaks on the Coleman stove on an icy river. And he also set an example to generations of freshwater scientists on integrity, science communication, and above all, just when to rock the boat.



Retirement dinner for Dave at the NABS meeting in Keystone Colorado. From left: Irwin Polls, Joseph Culp, Richard Norris, Rich Merritt, Gary Lamberti, Dave Rosenberg, Trudy Rosenberg, Jan Ciborowski, Donna Giberson, Vince Resh, Trefor Reynoldson.

Donna Giberson (Sechelt, BC), Allen Wiens (Winnipeg), Terry Galloway (Winnipeg), Vince Resh (Berkeley), Trefor Reynoldson (Canada Creek, NS), and Bob Newbury (Lake Country, BC).

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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 président du comité des publications (Deepa Pureswaran, deepa.pureswaran@canada.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. and Vogt, R. [Eds.]. 2021. Insect Pheromone Biochemistry and Molecular Biology. Elsevier Inc. ISBN: 978-0-12-819628-1. [e-book].
- Curtain, C.G. and Allen, T.F.H. [Eds.]. 2018. Complex Ecology: Foundational Perspectives on Dynamic Approaches to Ecology and Conservation. Cambridge University Press. ISBN: 9781108235754 [paperback].
- Dale, M.R.T. 2017. Applying Graph Theory in Ecological Research. Cambridge University Press. ISBN: 9781316105450 [paperback].
- Danks, H.V. 2017. The Biological Survey of Canada: A Personal History. Biological Survey of Canada. ISBN: 978-0-9689321-9-3 [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., Klikman, J.A. and Marchini, S. 2019. Human-Wildlife interactions. Turning Conflict into Coexistence. Cambridge University Press. ISBN: 978-1-108-40258-3 [paperback].
- Gibson, D.J. and Newman, J.A. [Eds.]. 2019. Grasslands and Climate Change. Ecological Reviews. Cambridge University Press. ISBN 978-1-316-64677-9 [paperback].

- Kaufman, A.B., Bashaw, M.J. and Maple, T.L. [Eds.]. 2019. Scientific Foundations of Zoos and Aquariums: Their Role in Conservation and Research. Cambridge University Press. ISBN 978-1-316-64865-0 [paperback].
- 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.
- Leidner, A.K. and Buchanan, G.M. [Eds.]. 2018. Satellite Remote Sensing for Conservation Action: Case Studies from Aquatic and Terrestrial Ecosystems. Cambridge University Press. ISBN 978-1-10845670-8 [paperback].
- Pettorelli, N., Durant, S.M. and du Toit, J.T. [Eds.]. 2019. Rewilding. Cambridge University Press. ISBN 978-1-108-46012-5 [paperback].
- Pohl, G.R. et al. 2018. Annotated Checklist of the Moths and Butterflies (Lepidoptera) of Canada and Alaska. Pensoft *Series Faunistica* No 118. ISBN 978-954-642-909-4 [e-book].
- Saguez, J. 2017. Guide d'identification des vers fil-de-fer dans les grandes cultures au Québec. Centre de recherche sur les grains. ISBN: 978-2-9813604-5-8 [e-book].
- Skevington, J., Locke, M.M., Young, A.D., Moran, K., Crins, W.J. and Marshall S.A. 2019. Field Guide to the Flower Flies of Northeastern North America. Princeton University Press. ISBN 978-0-691-18940-6 [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., and Tompkins, D. [Eds.]. 2019. Wildlife Disease Ecology. Linking theory to data and application. Cambridge University Press. 978-1316-50190-0 [paperback].



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Book review / Critique de livre

Pollinators & Pollination: Nature and Society. Ollerton, J. 2021. Pelagic Publishing, Exeter, UK. Paperback 286 pp. ISBN 9781784272289. CAN\$42.00, paperback.

There are concerns about a “Pollinator Crisis” in the international media and Canada has been a pioneer in the message. One of our very first examples stemmed from the insecticide-induced demise of pollinating bees on lowbush blueberry fields in New Brunswick in the 1970s. Dr Ollerton recognizes and cites that pioneering work, but his book focuses on pollinator diversity in Western Europe with some side trips to research sites in Brazil and the Canary Islands.

What we would like readers to consider, though, is that Dr Ollerton’s opus offers information and explanations that are applicable and adaptable to Canadian concerns that continue to follow from the Canadian Pollination Initiative (NSERC-CANPOLIN). When Ollerton writes about the populations and diversity of pollinators visiting flowers in home gardens, urban green spaces and agricultural landscapes in England, Canadians can wonder how that relates to the pollination processes in our own anthropogenic landscapes as well as our native ecosystems.

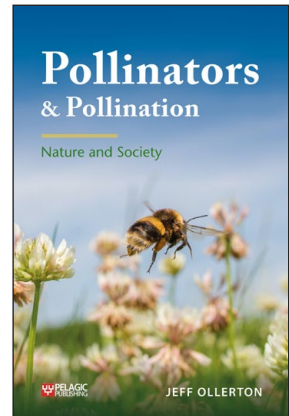
At 286 pages this book contains 14 interlinked chapters. Dr Ollerton makes them accessible and appealing. First, he explains the topic, providing context and a little history. Then, he provides evidence in more detail about the research he, his graduate students and colleagues have done on that same subject. The sum total of the information is backed up with 31 pages of peer-reviewed publications well worth exploring for its comprehensiveness. Each chapter ends with a look into the future asking “What more needs to be done?”

More importantly, Dr Ollerton asks his readers to confront some truisms. Is there *really* a pollinator crisis... *everywhere*? And here’s one of our favourites. Is the expense and design of a new wildflower meadow a better investment for increasing pollinator abundance compared to conserving abandoned and weedy industrial sites? The latter tend to be rife with bee diversity and abundance in the cities of Guelph, Cambridge, and Kitchener-Waterloo. We are grateful for chapters with titles like “The Significance of Gardens” or “The Politics of Pollination.” The movements of several bee species from continental Europe into and colonizing Britain, without any human help (e.g., *Bombus hypnorum*), justify our current attention to shifts in pollinator diversity and pollination relationships in Canada with respect to climate change and other forces. Lastly, citizen scientists will be grateful for tips on how to study and record the efficiency of pollinators around their own homes.

The book is illustrated with numerous photographs and diagrams. Most are in color. The graphs, tables and paired photographs are so easy to follow and convincing, they are often more informative than the expected photos of this animal on that flower.

Jeff Ollerton has been studying pollinators for over 30 years. We, the reviewers, are impressed that our contemporary decided to take such an enriched approach to so many interdisciplinary efforts.

Peter Bernhardt (The Missouri Botanical Gardens, Saint Louis) and Peter Kevan (International Commission for Plant-Pollinator Relationships, Cambridge, Ontario)



Highlights of the recent Board of Directors meeting

The Board of Directors of the Entomological Society of Canada met by videoconference on Tuesday 29 June 2021. Since the April Board meeting, pandemic conditions had dictated a switch of the 2021 Joint Annual Meeting (JAM) with the Entomological Society of Ontario from an in-person meeting to an exclusively online meeting. This was because, at the time registration and paper submission would have had to begin, few people would be able to commit to travelling to a meeting and giving a presentation in November. The Board learned that the hotel had exercised its right to retain the deposit, but that it was hoped that the online meeting would generate sufficient surplus to compensate for this. A contract had been signed with a company that would provide virtual hosting of the online meeting, and the registration and paper submission website would open on 6 July. Arrangements were made to publicize these dates and the new arrangements widely.

First Vice-President, Felix Sperling reported that there had been two program planning meetings for the 2022 JAM to be held in Vancouver with the Entomological Societies of America and British Columbia. The theme of the meeting has been established: “Entomology as Inspiration” with cultural, artistic and scientific aspects of “Inspiration” to be featured in the plenary sessions. The meeting will be held from 13–16 November 2022, and the deadline for submission of symposia proposals is 28 February 2022. The Board heard brief updates on progress in organization of JAM 2023 (Saskatoon) and JAM 2024 (Province of Québec) and voted to accept an invitation from the Entomological Society of Alberta to meet there in fall of 2025.

Second Vice-President, Chris MacQuarrie, provided a summary of responses to the survey of ESC membership, for which 179 responses were received. He highlighted responses to questions about the future of JAMs: more than 56% of respondents favoured hybrid annual meetings, with about 22% favouring the continuation of in-person-only annual meetings; fewer than 8% favoured meetings that are exclusively online. Responses to questions about the ESC list of insect common names were discussed: most respondents were aware of the list and favoured continuation of the list in its present form. The Board received information on the methods by which respondents received their information about the ESC, and asked for a more fine scale analysis of responses to determine whether Emails and the *Bulletin*, the channels most frequently used by survey respondents, were less utilized by younger members of the Society.

In a report to the Board, the Equity, Diversity and Inclusion (EDI) Committee challenged the Board to consider ways in which the Truth and Reconciliation Commission’s *Call to Action* could be implemented by the ESC. The Board approved funding for three activities proposed by the EDI Committee. Funding will provide for professional support in the development and analysis of EDI-focussed questions in the next ESC membership survey, organization of an online EDI event intended to inform all ESC members about the challenges faced by entomologists in minority groups, and a micro-grants program to be used by members of the entomological community to share their experiences in facing barriers related to diversity.

The Board approved the 2021–2022 ESC budget as presented by ESC Treasurer, Ward Strong. The Board approved in principle the proposal from the Student and Early Professional Affairs Committee on the mechanism to be used by that Committee in selecting a nominee for the position of Student and Early Professional Director. The proposal was referred to the ESC’s Bylaws, Rules and Regulations Committee for incorporation in the Committee Guidelines for final approval.

The Board received a report from Étienne Normandin, Chair of the Public Education

Committee, on the 2021 National Insect Appreciation Day (NAIAD). Because of the pandemic, NAIAD celebrations were completely online; there were almost 400 posts on social media related to NAIAD, most of them focussed on the Insect Picture Challenge. There was also a “Pass the net” challenge on Twitter, which featured Federal Government entomologists describing what they do in their work. It is hoped that next year, in-person activities can be mounted, and that the regional entomological societies will participate in organizing these in association with NAIAD.

ESC Secretary, Neil Holliday, provided the Board with a report on ESC membership trends over the last decade. The Society’s membership has shown neither an increasing nor decreasing trend, with membership typically between 450 and 500, albeit with wide annual fluctuations. Years of low membership have been associated with glitches in renewal software, or with annual meetings that were cancelled or unattractive because of high costs and travel difficulties. About 33% of eligible members auto-renew their membership, and it appeared members should be reminded of this convenient option. Entomology Enthusiast membership has been available in 2020 and in 2021, and has increased steadily, so that by March of 2021 there were 43 Entomology Enthusiast members; retention from the previous year was high. Finally, it was noted that the proportions of Emeritus members and of Student members subscribing to *The Canadian Entomologist* have increased to about 40% from about 25% five years ago.

Following the receipt of the results of the membership survey concerning the format of future JAMs, and previous discussions by the Board on this topic, the Board approved a proposal by the Executive Council to undertake a process of strategic planning for JAMs of the future. This process will begin after the experiences of online JAM 2021. It will start with a “Future of JAMs”-focussed meeting of the Entomological Societies in Canada (ESC and the seven affiliated regional entomological societies) during winter 2021–22, to be followed by a similarly focussed meeting of the ESC Board.

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 Secretary, Neil Holliday (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 au secrétaire, Neil Holliday (voir le troisième de couverture pour les informations de contact), le plus tôt.

Annual Financial Statements

The 2020-21 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 2020-21 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 financiers.

71st Annual Meeting of Members and Board of Directors Meetings

The Annual Meeting of Members of the Entomological Society of Canada will be held by videoconference on Tuesday 19 October 2021, beginning at 2:00 PM Central Daylight Time. The meeting of the incoming Board of Directors will take place by videoconference immediately following the end of the Annual Meeting of Members. The meeting of the outgoing Board of Directors will take place in the weeks preceding the Annual Meeting of Members; participants in this Board meeting will be polled in September 2021 to determine the most suitable dates and times. Matters for consideration at any of the above meetings should be sent to Neil Holliday, Secretary of the Entomological Society of Canada (see inside back cover for contact details).

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

L'assemblée annuelle des membres de la Société d'entomologie du Canada se tiendra par vidéoconférence le mardi 19 octobre 2021 à 14 h, heure avancée du Centre. La réunion du nouveau Conseil d'administration aura lieu par vidéoconférence immédiatement après la fin de l'assemblée annuelle des membres. La réunion du conseil d'administration sortant aura lieu dans les semaines précédant l'assemblée annuelle des membres; les participants à cette réunion du conseil d'administration seront consultés en septembre 2021 pour déterminer les dates et heures les plus appropriées. Les sujets à traiter lors de l'une des réunions ci-dessus doivent être envoyés à Neil Holliday, secrétaire de la Société d'entomologie du Canada (voir les coordonnées à l'endos de la couverture arrière).

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/>.

Call for Nominees: ESC Achievement Awards

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 grant acquisition, 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, Chris MacQuarrie (cjkmacquarrie@gmail.com), if you have any questions about eligibility or the nomination process.

Gold Medal and C. Gordon Hewitt Award

Both awards are for outstanding entomological contributions in Canada by an individual, but the nominees for the C. Gordon Hewitt Award must have successfully defended their doctoral thesis in the 12 years ending on December 31 of the year in which the Award is received. Parental, compassionate or medical leave is not counted as part of the 12-year period; however, such periods must be identified in the letter from the nominator.

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). Verified communication from a recognized email address will be accepted in lieu of a signature. 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; number of articles in refereed journals, books, book chapters, patents; editorial activities; teaching

Appel à candidature: Prix d'excellence de la SEC

Connaissez-vous un entomologiste respecté qui mérite une reconnaissance pour ses contributions remarquables à sa science au Canada? Cette personne est-elle leader dans son champ d'étude par ses succès en publication, brevets, travail éditorial et/ ou obtention de subventions, enseignement, mentorat d'étudiants, ou par son implication bénévole auprès de la SEC et d'autres sociétés/ organisations? Si oui, veuillez considérer de nommer cette personne pour un des prix d'excellence de notre Société. N'hésitez pas à contacter le président du comité des prix d'excellence, Chris MacQuarrie (cjkmacquarrie@gmail.com) si vous avez des questions sur l'éligibilité ou le processus de nomination.

Médaille d'or et prix C. Gordon Hewitt

Les deux prix sont pour des contributions entomologiques exceptionnelles au Canada par un individu, mais les candidats pour le prix C. Gordon Hewitt doivent avoir soutenu avec succès leur thèse de doctorat dans les 12 dernières années au 31 décembre de l'année de remise du prix. Les congés parentaux, de soignant ou de maladie ne comptent pas dans la période de 12 ans : ces périodes doivent cependant être identifiées dans la lettre de présentation.

Les candidatures doivent être soumises par des membres de la SEC, et doivent être signées par la personne qui soumet la candidature et par au moins une personne qui l'appuie (également membre de la SEC). Une communication vérifiée par une adresse courriel reconnue sera acceptée comme signature. Les candidatures doivent inclure les informations suivantes pour les deux prix : 1. Le nom et l'adresse du candidat; 2. Un énoncé des accomplissements pertinents (3-5 pages) qui peuvent inclure, mais ne se limitent pas à : le domaine de recherche et particulièrement les contributions majeures; le nombre d'articles dans des revues avec

history, numbers of graduate students, teaching awards; value of grants; involvement in ESC; active involvement and/or memberships in other Societies; entomological extension/community involvement; organizing of symposia or 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 will not prepare the documentation nor conduct research connected with it. Please send nominations by e-mail to the Chair of the Achievement Awards Committee, Chris MacQuarrie (cjkmacquarrie@gmail.com), no later than **28 February 2022**.

Honorary Members of the Entomological Society of Canada

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 members of the Society, and are to be sent by e-mail to the Chair of the Achievement Awards Committee, Chris MacQuarrie (cjkmacquarrie@gmail.com) no later than **28 February 2022**.

évaluation par les pairs, livres, chapitres de livres, brevets; activités éditoriales; historique d'enseignement, nombre d'étudiants diplômés, prix d'enseignement; valeur des subventions; implication au sein de la SEC; implication active et/ou adhésion à d'autres Sociétés; implication dans la communauté entomologique et vulgarisation; organisation de symposiums ou de 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 du comité des prix d'excellence, Chris MacQuarrie (cjkmacquarrie@gmail.com), au plus tard le 28 février 2022.

Membres honoraires de la Société d'entomologie du Canada

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 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 appuyées par au moins cinq membres de la Société, et doivent être envoyées par courriel au président du comité des prix d'excellence, Chris MacQuarrie (cjkmacquarrie@gmail.com), au plus tard le 28 février 2022.

Fellows of the Entomological Society of 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 members of the Society, and are to be sent by e-mail to the Chair of the Achievement Awards Committee, Chris MacQuarrie (cjkmacquarrie@gmail.com) no later than **28 February 2022**.

Wanted: Applicants for the Bert & John Carr Award

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, Chris MacQuarrie (cjkmacquarrie@gmail.com) no later than **28 February 2022**.

Fiduciaires de la Société d'entomologie du Canada

Les fiduciaires 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 (p.ex. recherche, enseignement, application ou administration), et ils seront jugés selon leur contribution et la stimulation du travail des autres, ainsi que par leurs efforts personnels.

Collectivement, les fiduciaires ne peuvent pas totaliser plus de 10% des membres actifs de la Société. Les nominations doivent être appuyées par au moins quatre membres de la Société, et doivent être envoyées par courriel au président du comité des prix d'excellence, Chris MacQuarrie (cjkmacquarrie@gmail.com), au plus tard le 28 février 2022.

Recherchés : Candidats pour le prix Bert & John Carr

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]) afin de soutenir des activités de recherche par des individus qui étudient la faunistique des insectes ou l'histoire naturelle et la taxonomie de la faune entomologique du Canada. La préférence sera donnée aux candidatures provenant d'amateurs, mais les candidatures d'étudiants ou d'autres individus seront considérées. Les candidatures devront inclure : 1. Le nom et l'adresse du candidat; 2. Un énoncé sur les activités de recherche qui seront entreprises par le candidat, incluant le coût estimé jusqu'à 1000\$; et 3. Un curriculum vitae à jour. Les candidatures doivent être envoyées par courriel au président du comité des prix d'excellence, Chris MacQuarrie (cjkmacquarrie@gmail.com), au plus tard le 28 février 2022.

Seeking next ESC Treasurer / À la recherche du prochain trésorier de la SEC

The Entomological Society of Canada is looking to fill the position of Treasurer, beginning in autumn 2021. Please note that the Treasurer is considered an officer of the Society and is expected to attend the annual meeting of the Governing Board. The Treasurer's cost of attending this meeting is covered by ESC in the event the Treasurer does not have funding from another source for such expenses.

The duties include, but are not limited to, custody of the Society's funds, reporting on the finances of the Society when required, submitting a budget to the June Board meeting, submitting an audited financial statement at the end of each financial year to the membership by posting it in the members' area of the Society's website, overseeing the day-to-day business operations of the ESC, coordinating the assembly of achievement awards and certificates, and serving as an ex officio member of several committees. Previous experience with financial reporting and/or accounting would be an advantage, as is a general knowledge of the affairs of the Society. Please express your interest in the position to the President, Bill Riel, by 30 September 2021 (ESCPresident@esc-sec.ca). The final selection will be made by an ad hoc committee convened by the President.

La Société d'entomologie du Canada cherche à combler le poste de trésorier, à compter de l'automne 2021. Veuillez noter que le trésorier est considéré comme un dirigeant de la Société et doit assister à la réunion annuelle du conseil d'administration. Les coûts pour assister à la réunion pour le trésorier sont couverts par la SEC dans le cas où le trésorier n'a pas de fonds d'une autre source pour ces dépenses.

Les tâches incluent, mais ne se limitent pas à la garde des fonds de la Société, la production des rapports sur les finances de la Société lorsque requis, la soumission d'un budget à la réunion du CA de juin, la soumission d'un état financier vérifié aux membres à la fin de chaque année financière en l'affichant dans la section des membres de la Société sur le site web, la supervision des opérations d'affaires de la SEC au jour le jour, à la coordination de l'assemblage des prix et certificats, et à servir comme membre ex officio de plusieurs comités. Une expérience passée dans la production de rapports financiers et/ ou en comptabilité serait un avantage, ainsi qu'une connaissance générale des affaires de la Société. Merci de manifester votre intérêt pour ce poste auprès du Président, Bill Riel, d'ici le 30 septembre 2021 (ESCPresident@esc-sec.ca). La sélection finale sera faite par un comité ad hoc convoqué par le Président.



Diagnostic Entomology Photography Workshop

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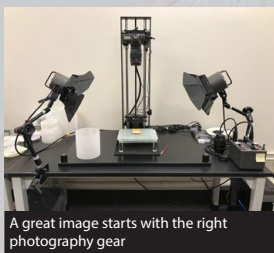
Specimen selection



Camera setup and software



Photography tips and tricks



Post-process editing



This workshop is intended for entomology photographers who are interested in honing their skills for diagnostic imaging for use in identification tools and keys. We will be covering the process from start to finish, and will cover pinned and slide-mounted specimens, and liquid-immersion photography for soft-bodied insects.

To register, please contact Hume Douglas at hume.douglas@AGR.GC.CA

To learn more about USDA's digital identification tools, please visit idtools.org

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 Acadian Entomological Society Volume 17 (2021)

Diverse heathland bee communities provide limited pollination services for lowbush blueberry species

Emily Walker, Alana Pindar, and Jeremy Lundholm

Pages 1-15 | [Full Text](#)

New Orthoptera records for Prince Edward Island and New Brunswick

John Klymko, Robert W. Harding, and Barry Cottam

Pages 16-19 | [Full Text](#)

Native bees (Hymenoptera; Apoidea) collected from Labrador, Canada

Barry Hicks and Cory Sheffield

Pages 20-24 | [Full Text](#)

The first record of *Polistes dominula* (Hymenoptera: Vespidae) in Newfoundland

Barry Hicks

Pages 25-28 | [Full Text](#)



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:

June <https://secureservercdn.net/192.169.220.85/c8x.545.myftpupload.com/wp-content/uploads/2021/06/june-2021-email-blast.pdf>

July <https://secureservercdn.net/192.169.220.85/c8x.545.myftpupload.com/wp-content/uploads/2021/07/July-2021-email-blast.pdf>





THE CANADIAN PHYTOPATHOLOGICAL SOCIETY
LA SOCIÉTÉ CANADIENNE DE PHYTOPATHOLOGIE

CPS-SCP News

VOL. 65, NO. 2 (June 2021)

<https://phytopath.ca/wp-content/uploads/2021/08/CPS-SCP-News-65-2-June2021.pdf>

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<https://biologicalsurvey.ca/newsletter/bsc.vol40.1.pdf>

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Meeting announcements / Réunions futures

Note: 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.

Entomological Society of British Columbia Annual Meeting and Symposium

Virtual meeting, 19–21 October 2021

www.entsocbc.ca

Entomological Society of America Annual Meeting

Denver, 31 October–3 November 2021

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

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

Virtual meeting, 14–17 November 2021

<https://www.entsocont.ca/escso-2021-jam-english.html>

<https://www.entsocont.ca/escso-2021-rac-franccedilais.html>

24th Meeting and Scientific Conference of the African Association of Insect Scientists: Insect Migration

Addis Ababa, Ethiopia, 22–26 November 2021

<https://aaisafrica.org/>

10th International IPM Symposium: Implementing IPM across Borders and Disciplines

Denver, 28 February–03 March 2022 (**NOTE: Postponed from March 2021**)

<https://ipmsymposium.org/2021/>

26th International Congress of Entomology (Entomology for our planet)

Helsinki, Finland, 17–22 July 2022 (**NOTE: New date**)

<https://ice2020helsinki.fi/>

XVI International Conference on Ephemeroptera and XXI International Symposium on Plecoptera

Fort Collins, Colorado, 24–31 July 2022 (**NOTE: Postponed from 2021**)

(no website to date)

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

Vancouver, 13–16 November 2022

(no website to date)

Readers are invited to send the 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

Bulletin of the Entomological Society of Canada

Editor: Cedric Gillott

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.

Published by the
Entomological Society of Canada
386 Broadway, Suite 503
Winnipeg, Manitoba R3C 3R6
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ISSN: 0071-0741

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Submission deadline for the next issue: 31 October 2021



Bulletin de la Société d'entomologie du Canada

Rédacteur: Cedric Gillott

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.

Publié par la
Société d'entomologie du Canada
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www.esc-sec.ca/fr/

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.

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ISSN: 0071-0741

Droits d'auteur 2021 Société d'entomologie du Canada

Date de tombée pour le prochain numéro: 31 octobre 2021

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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.



Insects and weather

One of the hottest and driest summers on record in Canada's western provinces has been perhaps the most newsworthy item in the media because of the devastation the arid conditions have caused by way of forest fires, especially in British Columbia, and a virtual crop failure in the Prairies. However, there has been little information on how insects are managing under these conditions (a matter that I shall now put right – based on observations from my own backyard!).

Let's start with the bane of summer barbeques, mosquitoes. Well, the good news is that in and around Saskatoon, which has seen almost no rain, there have been very few (weekly trap counts are perhaps 10% of the 10-year average). In contrast, Regina and surrounding areas 'benefitted' from several heavy thunder showers, creating temporary water bodies, ideal for breeding mosquitoes. As a result, mosquito numbers there rapidly leapt in late June (one early July weekly count was over 50x the long-term average!), though they have since fallen back to near-normal levels following continuation of the hot but now dry weather.

Other insects whose numbers seem very different to normal are small cabbage white butterflies (fewer), meadow fritillaries, yellow jackets, and bumblebees (all much more numerous). However, in any attempt to explain why this might be the case, it is necessary to consider the species' life cycles. For example, the yellow jackets and bumblebees that we are seeing are derived from colonies founded

Les insectes et la météo

L'un des étés les plus chauds et les plus secs jamais enregistrés dans les provinces de l'Ouest canadien a sans doute été l'élément le plus médiatisé en raison de la dévastation que les conditions arides ont causée par les incendies de forêt, surtout en Colombie-Britannique, et par la quasi absence de récoltes dans les Prairies. Cependant, il y a eu peu d'informations sur la façon dont les insectes se débrouillent dans ces conditions (une question que je vais maintenant rectifier – sur la base d'observations faites dans ma propre cour!).

Commençons par le fléau lors des barbeques d'été, les moustiques. La bonne nouvelle, c'est qu'à Saskatoon et dans ses environs, qui n'ont pratiquement pas connu de pluie, il y en a eu très peu (le nombre de captures hebdomadaires représente peut-être 10% de la moyenne décennale). En revanche, Regina et ses environs ont bénéficié de plusieurs averses orageuses, créant des plans d'eau temporaires, idéaux pour la reproduction des moustiques. En conséquence, le nombre de moustiques a rapidement augmenté à la fin du mois de juin (un dénombrement hebdomadaire au début du mois de juillet était plus de 50 fois supérieur à la moyenne à long terme), bien qu'il soit depuis retombé à des niveaux proches de la normale suite à la poursuite du temps chaud mais maintenant sec.

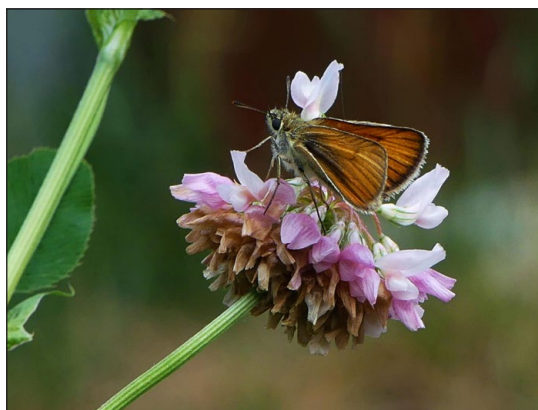
D'autres insectes dont le nombre semble très différent de la normale sont les piérides de la rave (moins nombreuses), les bolorias des prés, les guêpes et les bourdons (tous beaucoup plus nombreux). Toutefois, pour tenter d'en expliquer les raisons, il faut tenir compte du cycle de vie des espèces. Par exemple, les guêpes et les bourdons que nous observons sont issus de colonies fondées par des reines qui ont réussi à passer l'hiver (ce qui n'est

by queens that successfully overwintered (no simple feat in Saskatchewan). In other words, their increased numbers may have resulted from better overwintering survival of the queens, which typically seek out subterranean overwintering sites where winter's cold is ameliorated. The latter certainly would be aided by the record early snowfall (some 35 cm) that Saskatoon and area experienced on 8 November last year. This speculation is supported by the observation last spring of much above-normal numbers of two early butterflies, the mourning cloak and Milbert's tortoiseshell, which also overwinter as adults in protected locations.

Of course (and even assuming my simple observations are accurate), the truth as to why these examples are more/less numerous, is likely far more complicated. But as I used to tell my students "You can write anything about an insect and it's bound to be right – but you must tell me the species that does it that way"!

pas une mince affaire en Saskatchewan). En d'autres termes, l'augmentation de leur nombre peut résulter d'une meilleure survie hivernale des reines, qui recherchent généralement des sites d'hivernage souterrains où le froid de l'hiver est atténué. Ce dernier facteur a certainement été favorisé par la chute de neige précoce record (environ 35 cm) que Saskatoon et sa région ont connue le 8 novembre de l'année dernière. Cette hypothèse est étayée par l'observation, au printemps dernier, d'un nombre bien supérieur à la normale de deux papillons précoces, le morio et la petite vanesse, qui hivernent également à l'état adulte dans des endroits protégés.

Évidemment (et même en supposant que mes simples observations soient exactes), la vérité sur la raison pour laquelle ces exemples sont plus ou moins nombreux est probablement bien plus compliquée. Mais comme j'avais l'habitude de dire à mes étudiants : « Vous pouvez écrire n'importe quoi sur un insecte et ce sera forcément juste – mais vous devez me dire quelle espèce le fait de cette façon »!



D. Gibeaux

A European skipper *Thymelicus lineola* (Lepidoptera: Hesperidae), photographed in early July, 2021, while combining two summer activities: watching insects and visiting the Beer Farmers Craft Brewery, Pemberton, BC.

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Société d'entomologie du Canada, 2020-2021

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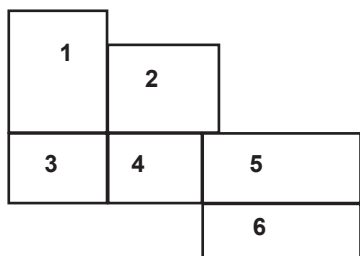
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Date of issue: September 2021 /
septembre 2021

ISSN: 0071-0741

Front cover/Page couverture:

1. A female *Cyphoderris monstrosa* (Orthoptera) found hanging out in a backyard [Summerland, British Columbia, Canada]
Une femelle *Cyphoderris monstrosa* (Orthoptera) trouvée dans une cour arrière [Summerland, Colombie-Britannique, Canada]
[Photo: Andrea Brauner]
2. Portrait of a male American rubyspot, *Hetaerina americana* (Odonata: Calopterygidae), photographed along the Châteauguay River on 13 August 2020. A small population of this colourful damselfly was discovered at this site, well north of its usual range, several years ago [Ste-Martine, Quebec, Canada]
Portrait d'un mâle de la courtisane d'Amérique (*Hetaerina americana*) (Odonata : Calopterygidae) photographié le long de la rivière Châteauguay le 13 août 2020. Une petite population de cette demoiselle colorée a été découverte sur ce site, bien au nord de sa distribution habituelle, il y a quelques années. [Sainte-Martine, Québec, Canada]
[Photo: Richard Yank]
3. Two male rhinoceros beetles (Xylotrupes: Dynastinae) preparing to 'fight.' Prize fighters are bred and bets are placed on which male will throw the other off a cylindrical piece of wood [Chiang Mai, Thailand]
Deux mâles scarabées rhinocéros (Xylotrupes, Dynastinae) se préparant à se « battre ». Les combattants sont issus d'élevage et les paris sont placés sur le mâle qui lancera l'autre sur un morceau de bois cylindrique. [Chiang Mai, Thaïlande]
[Photo: Matt Muzzatti]
4. Subadult female black widow spider (*Latrodectus* sp.) walking on her web [Tsawwassen, British Columbia, Canada]
Une femelle subadulte de la veuve noire (*Latrodectus* sp.) marchant sur sa toile. [Tsawwassen, Colombie-Britannique, Canada]
[Photo: Andreas Fischer]
5. *Enallagma civile* (Odonata: Coenagrionidae) watching the foot traffic along a boardwalk [Riding Mountain National Park, Manitoba, Canada]
Enallagma civile (Odonata : Coenagrionidae) observant la circulation piétonne le long d'un trottoir [Parc national Riding Mountain, Manitoba, Canada]
[Photo: Mel Hart]
6. Collecting insects and setting up pan traps on the dry slopes as part of the Biodiversity Galiano Project [Galiano Island, British Columbia, Canada]
Récolte d'insectes et installation de pièges à interception sur des pentes sèches dans le cadre du projet Biodiversité Galiano [Île Galiano, Colombie-Britannique, Canada]
[Photo: Chris Ratzlaff]

Back cover/Quatrième de couverture:

Samurai wasp, *Trissolcus japonicus* (Hymenoptera: Scelionidae), parasitising eggs of *Halyomorpha halys* [Delémont, Switzerland]
La guêpe samuraï, *Trissolcus japonicus* (Hymenoptera : Scelionidae), parasitant des oeufs de *Halyomorpha halys* [Delémont, Suisse]
[Photo: Tim Haye]