

# Bulletin

Entomological Society of Canada  
Société d'entomologie du Canada

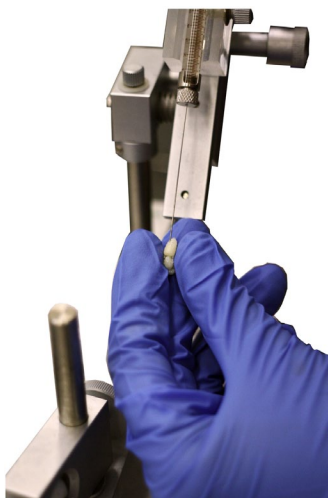
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Captions for cover photos can be found on the back cover.

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

Nicolas Chateil-Launay



Two lab-raised *Eumaeus godartii* (Lepidoptera: Lycaenidae) butterflies are almost ready to emerge at the Smithsonian Tropical Research Institute in Panama City (Smithsonian Tropical Research Institute, Panama City, Republic of Panama)

Deux papillons *Eumaeus godartii* (Lepidoptera: Lycaenidae) élevés en labo sont presque prêts à émerger au Smithsonian Tropical Research Institute à Panama (Institut Smithsonian Tropical Research, Panama, République du Panama)



UNBC

### Climate change - in more ways than one

Scientists in many, if not most, disciplines have been discussing the potential impacts of a warming global climate over the past decade. Glaciologists report on shrinking glaciers, for example, my office neighbour participated in a recent study predicting the outright disappearance of many glaciers in western North America in the foreseeable future (Clarke et al. 2015). As biologists and entomologists, we are acutely aware of the consequences of this trend as numerous organisms rapidly expand northward. In British Columbia, we have just gone through the worst mountain pine beetle outbreak in recorded history, and while climate change was not the sole contributor to its progression, the ideal climatic conditions certainly contributed. The result has been an unprecedented breach of the Rocky Mountains by this economically significant insect, which is now slowly spreading east across Alberta in areas with a historically unfavourable climate. For many entomologists, the devastation has led to opportunities for

### Les changements climatiques – de plus d’une façon

Les scientifiques de plusieurs, sinon de la plupart des disciplines ont discuté des impacts potentiels d’un réchauffement climatique durant la dernière décennie. Par exemple, les glaciologues rapportent la fonte des glaciers : mon voisin de bureau a participé à une récente étude prédisant la disparition complète de plusieurs glaciers dans l’ouest de l’Amérique du nord dans un avenir prévisible (Clarke et al. 2015). En tant que biologistes et entomologistes, nous sommes extrêmement conscients des conséquences de cette tendance puisque de nombreux organismes s’étendent rapidement vers le nord. En Colombie-Britannique, nous venons de traverser la pire épidémie de dendroctone du pin ponderosa de l’histoire écrite, et bien que les changements climatiques ne soient pas les seuls facteurs de sa progression, les conditions climatiques idéales y ont certainement contribuées. Le résultat en a été une brèche sans précédent dans les montagnes Rocheuses par cet insecte économiquement significatif, qui progresse maintenant lentement vers l’est au travers de l’Alberta dans des régions ayant un climat historiquement non favorable. Pour plusieurs entomologistes, la dévastation a mené à des opportunités d’emploi ou de recherche, mais pour les communautés qui dépendent de la ressource, les conséquences ont été beaucoup moins positives.

Cependant, le climat a également changé de d’autres façons. Pour la Société d’entomologie du Canada, ces autres changements ont généralement été négatifs. Je réfère évidemment au climat politique et économique, qui a changé dans la direction opposée, c’est-à-dire qui a considérablement refroidit. Les gouvernements aux niveaux fédéral et provincial sont devenus de plus en

employment or research, but for resource-dependent communities, the consequences have been less positive.

But climate has been changing in other ways as well. For the Entomological Society of Canada, these other changes have generally been negative. I am of course referring to the political and economic climate, which has changed in the opposite direction, that is, it is cooling considerably. Governments at both federal and provincial levels have become increasingly restrictive with their scientists and government resource managers, particularly when it comes to allowing their participation in conferences or in discussing issues with media. In British Columbia, media requests for interviews have been funneled through special provincial government media liaison officers, prompting many government employees to simply direct reporters to academics like myself. At the federal level, there has been a vocal debate about the ‘muzzling’ of scientists, particularly in the area of environmental stewardship. In times of an approaching planetary crisis, environmental protection legislation and ministries have been gutted, and funding has been constrained to the point where Canada has become a target of international criticism, when once we were leaders <http://thetyee.ca/News/2014/03/15/Environment-Canada-Cuts/>. The ESC has felt the consequences of these developments, as both membership (Timms 2014) and JAM attendance suffer, and the ability of members who are also government employees to participate fully in ESC activities is sometimes restricted.

Government belt-tightening also has a trickle-down effect on education in general, and academia in particular. Government funding envelopes are often constrained in various ways by placing very specific outcome requirements on grants. Academics have even started resorting to crowd funding to finance their research. Students and non-government

plus contraignants avec leurs scientifiques et gestionnaires, particulièrement concernant la participation à des conférences ou pour discuter de certains sujets dans les médias. En Colombie-Britannique, les requêtes des médias pour des entrevues sont dirigées vers des officiers de liaisons médiatiques du gouvernement provincial, encourageant plusieurs employés gouvernementaux à simplement diriger les journalistes vers les gens du milieu académique tel que moi-même. Au niveau fédéral, il y a eu des débats concernant le « musèlement » des scientifiques, particulièrement dans le domaine de la gestion environnementale. En ces temps de crise planétaire imminente, la législation sur la protection de l’environnement et les ministères ont été rasés et le financement a été restreint au point où le Canada est devenu la cible de critiques internationales, alors que nous avons déjà été des meneurs <http://thetyee.ca/News/2014/03/15/Environment-Canada-Cuts/>. La SEC a ressenti les conséquences de ces développements puisque autant les adhésions (Timms 2014) que la participation à la réunion annuelle a souffert, et la capacité des membres qui sont employés par le gouvernement à participer pleinement aux activités de la SEC a parfois été restreinte.

Le fait que le gouvernement se serre la ceinture a également eu des effets sur l’éducation en général, et le monde universitaire en particulier. L’enveloppe financière du gouvernement a été réduite de différentes façons en plaçant des exigences très spécifiques sur les subventions. Les professeurs ont même commencé à recourir au financement participatif afin de financer leurs recherches. Les étudiants et les sources de financements non-gouvernementales couvrent maintenant une plus grande proportion des coûts universitaires que jamais <http://cfs-fcee.ca/wp-content/uploads/sites/2/2013/11/Fact-Sheet-Funding-2013-11-En.pdf>. Dans un environnement financier qui se resserre, les universités sont de plus en plus menées comme des

funding sources are now covering more of the cost of universities than ever before <http://cfs-fcee.ca/wp-content/uploads/sites/2/2013/11/Fact-Sheet-Funding-2013-11-En.pdf>. In a tightening financial environment, universities are increasingly run like businesses, and students are now called ‘clients’! If you google “Universities are not businesses” you can see that this is an international phenomenon. Meanwhile, university administrations are getting larger, are paid more than ever, and hence consuming a larger share of available funding (<http://historynewsnetwork.org/article/156375>), again impacting on resources that could be available to allow students and faculty to travel to conferences.

Why am I bringing these issues up in this forum? I am because all these factors are affecting the ESC both directly and indirectly. Just like plants and animals have to adjust to a changing climate, so do we. As ESC Presidents have highlighted in *Up Front* over the past few years, we are well on the way to reconfigure the ESC so it can hopefully thrive for another 150+ years, but this is only possible if we can attract new members to replace old-timers like myself who are on the way out. Education, research and social media will play important roles in promoting and communicating the importance of entomology, and the ESC should have a presence in all of those areas. If entomology and entomologists are deemed important, there will be employment opportunities. As a member of the ESC, you have a role to play by promoting both the discipline and the ESC. To paraphrase the famous statement made by another President, John F. Kennedy, at his January 1961 inaugural address: “Ask not what the ESC can do for you; ask what you can do for the ESC”. Get engaged by encouraging students and colleagues to join, and offer your services on one of the many committees. Check out the ESC web pages

entreprises, et les étudiants sont maintenant appelés « clients »! Si vous cherchez sur Google « Les universités ne sont pas des entreprises » ou « Universities are not businesses », vous verrez qu’il s’agit d’un phénomène international. Pendant ce temps, l’administration de l’université prend de l’ampleur, est payée plus chère que jamais, et donc consomme une plus grande portion du financement disponible (<http://historynewsnetwork.org/article/156375>), encore une fois ayant un impact sur les ressources qui pourraient être disponibles pour permettre aux étudiants et professeurs de se rendre à des conférences.

Pourquoi est-ce que j’amène ces aspects dans ce forum? Parce que tous ces facteurs affectent la SEC directement et indirectement. Tout comme les plantes et les animaux doivent s’ajuster à un climat changeant, nous le devons aussi. Comme les présidents de la SEC l’ont mis en exergue dans l’Avant-propos durant les dernières années, nous sommes en voie de reconfigurer la SEC afin qu’elle prospère encore, nous l’espérons, pour au moins un autre 150 ans, mais cela n’est possible que si nous attirons des nouveaux membres pour remplacer les vieux de la vieille comme moi-même qui sont sur la voie de sortie. L’éducation, la recherche et les médias sociaux vont jouer un rôle important pour promouvoir et communiquer l’importance de l’entomologie, et la SEC devrait être présente dans tous ces domaines. Si l’entomologie et les entomologistes sont considérés comme importants, il y aura des opportunités d’emploi. En tant que membre de la SEC, vous avez un rôle à jouer en promouvant autant la discipline que la SEC. Pour paraphraser la fameuse déclaration faite par un autre président, John F. Kennedy, lors de son discours inaugural de janvier 1961 : « Ne demandez pas ce que la SEC peut faire pour vous; demandez ce que vous pouvez faire pour la SEC ». Impliquez-vous en encourageant les étudiants et collègues à adhérer, et offrez

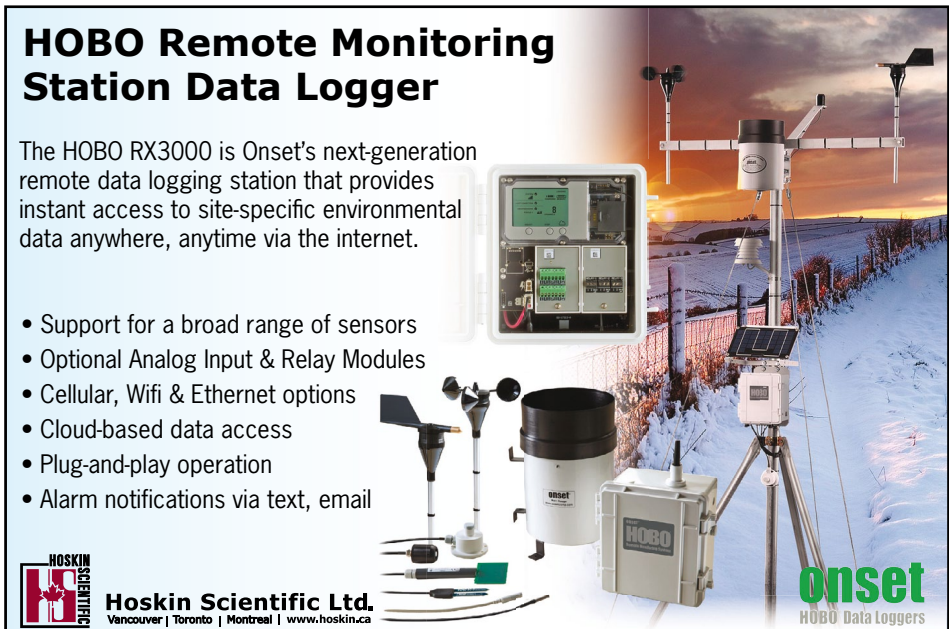
and give us feedback as to what is good and what needs improvement. What would make you view the ESC web site on a regular basis? Please help make the ESC even better. We would love to hear from you!

vos services sur un des nombreux comités. Consultez le site Internet de la SEC et donnez-nous un retour sur ce qui est bien, et ce qui doit être amélioré. Qu'est-ce qui vous ferait consulter le site Internet de la SEC sur une base régulière? Merci d'aider la SEC à devenir encore meilleure. Nous adorons avoir de vos nouvelles!

## References

Clarke, G.K.C., A.H. Jarosch, F.S. Anslow, V. Radić, and B. Menounos. 2015. Projected deglaciation of western Canada in the twenty-first century. *Nature Geoscience*, **8**: 372–377.

Timms, L. 2014. Why do we call ourselves entomologists? Persistence and adaptation in Canadian entomological societies over 150 years. *Bulletin of the Entomological Society of Canada*, **46**: 74-85.



### HOB0 Remote Monitoring Station Data Logger

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# The student wing / L'aile étudiante

Paul Abram and Joanna Konopka



## Research Roundup

Our Research Roundup initiative to help publicize graduate student publications to the wider entomological community has been a great success so far. The ESC Student Affairs Committee (SAC) has been contacting Canadian graduate students with recent publications in an area of entomology, and featuring them on ESC Students Facebook, Twitter, and ESC Blog.

Check out the [ESC blog](#) for most recent featured articles.

If you want your recently published article featured (or we missed yours last month!), send us an email at [entsoccan.students@gmail.com](mailto:entsoccan.students@gmail.com)

For regular updates on new Canadian entomological research, you can join the ESC Students Facebook page or follow us on Twitter @esc\_students.

## Call for Graduate Student Showcase (GSS) applications

Are you close to finishing your degree and have exciting results to share? If so, then consider submitting an application for the GSS, which will be held during the ESC-SEQ JAM in Montreal (see [Call for Papers](#)). This is an excellent chance to highlight what you have done over the course of your degree.

The GSS is considered a high profile opportunity, and allows for presenting a more in depth research overview by graduate students who are close to finishing their

## Aperçu de la recherche

Notre nouvel aperçu de la recherche afin d'aider à publiciser les publications des étudiants gradués pour la communauté entomologique a eu un grand succès jusqu'à maintenant. Le comité des affaires étudiantes de la SEC a contacté des étudiants gradués canadiens ayant des publications récentes dans un domaine de l'entomologie, et les a mis en vedette sur la page Facebook des étudiants de la SEC, sur Twitter et sur le blogue de la SEC.

Consultez le [blogue de la SEC](#) pour les plus récents articles.

Si vous voulez que votre plus récent article publié soit mis en vedette (ou si nous avons manqué le vôtre le mois passé!), envoyez-nous un courriel à [entsoccan.students@gmail.com](mailto:entsoccan.students@gmail.com).

Pour des mises à jour régulièrement sur la nouvelle recherche entomologique canadienne, vous pouvez joindre la page Facebook des étudiants de la SEC ou nous suivre sur Twitter@esc\_students.

## Appel à soumission pour la Vitrine aux étudiants gradués

Êtes-vous sur le point de terminer votre diplôme et vous avez des résultats excitants à présenter? Si oui, considérer soumettre une application pour la vitrine aux étudiants gradués, qui se tiendra durant la réunion conjointe annuelle SEC-SEQ à Montréal (voir [l'appel à soumission](#)). Il s'agit d'une excellente opportunité de mettre en lumière ce que vous avez fait durant votre diplôme. La vitrine aux étudiants gradués est considérée comme une opportunité de haute visibilité, et permet une présentation plus en profondeur des recherches des étudiants gradués qui sont sur le point de terminer leur diplôme. Le processus de sélection est compétitif, et seulement cinq étudiants sont sélectionnés. Les candidats éligibles souhaitant être considérés pour la vitrine aux étudiants gradués doivent soumettre une application complète à [gsscommittee@gmail.com](mailto:gsscommittee@gmail.com), en suivant les [instructions](#).

degrees. The selection process is competitive, and only five students are selected to present at the GSS.

Eligible candidates who wish to be considered for the GSS must submit a completed application to [gsscommittee@gmail.com](mailto:gsscommittee@gmail.com), following the [Instructions](#).

The deadline for applications is **1 August 2015**.

## **Linnaean Games (ESC-SEQ JAM in Montreal)**

How well do you know your insects? Can you tell insect orders and families apart? How about immature stages and sexes?

If you want to test your skills and have some fun with your fellow ESC students, then you are in luck. During the upcoming ESC-SEQ JAM, the SAC will hold a fun version of the Linnaean Games that all students are asked to participate in.

This is meant to be a team social event, not a formal test of your taxonomic skills. We recognize that entomology encompasses many areas, not just taxonomy, so in the 'spirit of the games' we will try to also include questions from other study areas, including, but not limited to, insect ecology, physiology, and behaviour.

## **Getting involved with the ESC**

If you are interested in joining the SAC, or just have suggestions for new initiatives in the coming year, email us at [students@esc-sec.ca](mailto:students@esc-sec.ca)

We look forward to hearing from you,

Joanna and Paul

La date limite pour les applications est le **1<sup>er</sup> août 2015**.

## **Jeux linnéens (réunion conjointe annuelle SEC-SEQ à Montréal)**

Connaissez-vous bien vos insectes? Pouvez distinguer les ordres et familles d'insectes? Et qu'en est-il des stades immatures et des sexes?

Si vous voulez tester vos habiletés et vous amuser avec vos collègues étudiants de la SEC, vous êtes chanceux. Durant la prochaine réunion SEC-SEQ, le comité des affaires étudiantes tiendra une version amusante des jeux linnéens auxquels tous les étudiants sont invités à participer.

Cela se veut un événement social, pas un test formel de vos connaissances taxonomiques. Nous reconnaissons que l'entomologie comprend de nombreux domaines, pas seulement la taxonomie, alors dans l'esprit des jeux, nous essaierons d'inclure aussi des questions d'autres domaines, incluant mais ne se limitant pas à l'écologie, la physiologie et le comportement des insectes.

## **S'impliquer dans la SEC**

Si vous êtes intéressés à joindre le comité, ou si vous avez des suggestions pour de nouvelles initiatives dans la prochaine année, écrivez-nous à [students@esc-sec.ca](mailto:students@esc-sec.ca)

Nous avons hâte d'avoir de vos nouvelles,

Joanna et Paul





## Thesis Roundup / Foisonnement de thèses

If you or a student you know has recently defended an entomology-related thesis at a Canadian University, and would like notice of this accomplishment published here and on the ESC website, please email [students@esc-sec.ca](mailto:students@esc-sec.ca) with the relevant information (name, date, degree, thesis title, supervisor[s], and university).

Si vous, ou un étudiant que vous connaissez, a récemment soutenu sa thèse dans un domaine lié à l'entomologie dans une université canadienne, et que vous voulez publier l'avis de cette réalisation ici et sur le site web de la SEC, merci d'envoyer les informations pertinentes (nom, date, diplôme, titre de la thèse, directeur[s] et université) à [students@esc-sec.ca](mailto:students@esc-sec.ca).

**Balogh, Sharleen.** MSc, 2015. Host location and selection of lodgepole pine (*Pinus contorta*) by the Warren root collar weevil (*Hylobius warreni*). Co-supervisors: Staffan Lindgren and Dezene Huber, University of Northern British Columbia.

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## Dr Lloyd M. Dosedall Memorial Scholarship

The Entomological Society of Canada is proud to announce the launch of a new student award, the Dr Lloyd M. Dosedall Memorial Scholarship. To allow the first of these scholarships to be presented at the Joint Annual Meeting in November, a special deadline of 31 July has been set for 2015 applications for this award.

### ESC Dr Lloyd M. Dosedall Memorial Scholarship

The Lloyd Dosedall Memorial Scholarship was endowed by Teresa Height-Dosedall to honour the memory of Dr Lloyd M. Dosedall and commemorate his many contributions to crop protection, insect ecology, and aquatic entomology in Canada. Thus, the Entomological Society of Canada is offering up to two postgraduate awards annually of \$1,000 each to assist students conducting research in the area of "arthropod community ecology" –including biodiversity and cross-trophic interactions among plants, herbivores and their natural enemies. Preference will be given to those applicants with a focus on aquatic or agro-ecosystems (i.e., representative of the particular areas of Dr Dosedall's interest and dedication). The award will be made on the basis of documented evidence of high scholastic achievement, sustained accomplishment and an obvious interest in arthropod community ecology.

### Invitation for Applications

**Eligibility:** Applicant must be a full time postgraduate student in the field of arthropod community ecology, and studying at a degree granting institution in Canada at the time of application.

**Deadline** – 31 July 2015.

See instructions for application and evaluation procedures at <http://www.esc-sec.ca/studentawards.php>

**Note that the deadline date in this link of 16 February for application for ESC Awards does not apply to this new award in 2015.**

## Bourse commémorative Dr Lloyd M. Dosdall

La Société d'entomologie du Canada est fière d'annoncer le lancement d'une nouvelle bourse d'études, la bourse commémorative Dr Lloyd M. Dосdall. Pour permettre que la première de ces bourses soit attribuée à la réunion annuelle conjointe en Novembre, une date limite spéciale du 31 juillet a été fixée pour les applications pour cette bourse en 2015.

### Bourse commémorative Dr Lloyd M. Dосdall de la SEC

La bourse Lloyd Dосdall a été dotée par Teresa Height-Dосdall afin d'honorer la mémoire de Dr Lloyd M. Dосdall et de commémorer ses nombreuses contributions à la protection des cultures, l'écologie des insectes et l'entomologie aquatique au Canada. Ainsi, la Société d'entomologie du Canada offre jusqu'à deux bourses annuelles pour études supérieures de 1000\$ chacune afin d'aider des étudiants à mener leurs recherches dans le domaine de « l'écologie des communautés d'arthropodes » - incluant la biodiversité et les interactions inter-trophiques entre les plantes, les herbivores et leurs ennemis naturels. La préférence sera donnée aux candidats qui travaillent sur les systèmes aquatiques ou les agroécosystèmes (i.e. représentatifs des domaines particuliers d'intérêt et de dévouement de Dr Dосdall). La bourse sera octroyée sur la base de preuves documentées d'excellente réussite scolaire, de réalisations soutenues et d'intérêt évident pour l'écologie des communautés d'arthropodes.

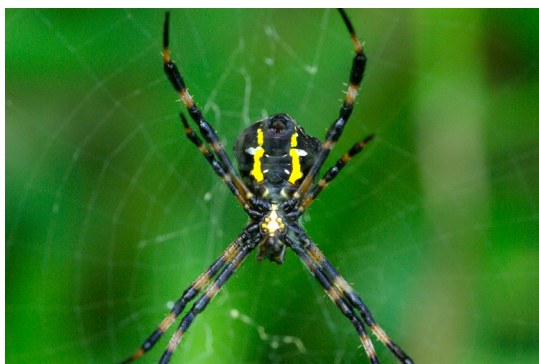
### Invitation à postuler

Éligibilité : Les candidats doivent être étudiants gradués à temps plein dans le domaine de l'écologie des communautés d'arthropodes, et doivent étudier dans une institution octroyant des diplômes au Canada au moment de l'application.

**Date limite** – 31 juillet 2015.

Voir les instructions pour les procédures d'application et d'évaluation sur <http://www.esc-sec.ca/f-studentawards.php>

**Veillez prendre note que la date limite du 16 février pour postuler aux prix de la SEC sur ce lien ne s'applique pas à ce nouveau prix en 2015.**



Olivier Lalonde

*Argiope appensa*

# People in the news / Gens qui font les manchettes

## Robin Leech receives awards

Long-time ESC member Robin Leech (Edmonton) scooped an impressive trio of awards at the 2014 and 2015 Annual General Meetings of the Alberta Society of Professional Biologists (ASPB) for his recent publications.

The article written by Joanne Bovee and Robin Leech titled '*Araneus gemmoides* (Araneae: Araneidae) death by a parasitoid (Hymenoptera: Ichneumonidae)', published in the *Bulletin* (June 2014, p. 86) received the Peggy Thompson Publication Award at the 2015 AGM as the top scientific paper by an ASPB member in the category of reviewed scientific publication. At the same meeting, the paper by Al Popil and Robin Leech on the 'Green tortoise beetle, a.k.a. thistle tortoise beetle' received the Peggy Thompson Publication Award in the category of publications communicating biological information to the general public.

These recent successes follow a similar accolade last year when the chapter 'Spiders (Arachnida: Araneae) of the Canadian Prairies' published in January 2014 (authors Hector Carcamo, Jaime Pinzon, Robin Leech and John Spence) in Volume 3 of *Arthropods of Canadian Grasslands* received the Peggy Thompson Publication Award in the category of reviewed scientific publication.



Lorie J. Taylor Leech



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## THE JOINT ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF CANADA AND THE ENTOMOLOGICAL SOCIETY OF QUEBEC

The Marriott Château Champlain, Montréal, Québec  
 Sunday 8 November – Wednesday 11 November 2015

Here is an update on the 2015 JAM. For details of accommodation, see the March 2015 Bulletin (p. 10) or visit the 2015 JAM website ([http://www.seq.qc.ca/activites/reunions/SEQ-ESC\\_2015/index\\_eng.asp](http://www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/index_eng.asp)).

### Registration Fees

Category	Early (before or on 1 Sept)	Late (after 1 Sept)
Regular member	450	550
Student member	195	295
Retired/emeritus member	195	295
Early professional member	338	413
Non-member	500	630
Single day registration member		175
Single day registration retired member		100
Single day registration student member		100
Single day registration early professional member		131
Single day registration non-member		225
Extra banquet tickets		86 (before 25 Oct)

### Registration

The website is now open for registration.

Please visit the website to register for the meeting.

[http://www.seq.qc.ca/activites/reunions/SEQ-ESC\\_2015/registration.asp](http://www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/registration.asp)

Early registration ends 1 **September 2015**.

For further information, please contact Mario Bonneau ([mario.bonneau@ville.montreal.qc.ca](mailto:mario.bonneau@ville.montreal.qc.ca)) or Jade Savage ([jsavage@ubishops.ca](mailto:jsavage@ubishops.ca)).

### Symposia

Entomology museums in Canada: status, concerns, and potential  
Host associations and the diversification of insects  
Egg parasitoids in forestry: perspectives and constraints  
Canada and its insect fauna: 35 years later  
The changing landscape of chemical ecology  
Arctic entomology: past, present and future  
Impact of invasive insects on the Canadian landscape  
In memory of Lloyd Dossdall: ecology, diversity and management of insects in agroecosystems  
The causes and consequences of arthropod diversity in a changing world  
Arthropod biodiversity informatics in the Anthropocene

### Call for abstracts

The call for abstracts is now open:

[http://seq.qc.ca/activites/reunions/seq-esc\\_2015/call\\_for\\_papers.asp](http://seq.qc.ca/activites/reunions/seq-esc_2015/call_for_papers.asp)

For further information, please contact Patrick James ([patrick.ma.james@gmail.com](mailto:patrick.ma.james@gmail.com)).

### Activities

Several activities will occur during the meeting:

#### Opening reception

An opening reception will be held at the Montreal Insectarium with an insect identification contest.

#### Photo contest: Arthropods of Canada

As part of its 2015 congress, SEQ launches its annual competition under the theme “Arthropods of Canada”. Photos submitted (maximum 3 per participant) must have been taken in Canada. It is not necessary to be a member of the SEQ or the ESC to enter the contest.

Each high resolution picture (1500x1800 pixels minimum) must be submitted no later than **30 September 2015** to the following address: [sarah.loboda@gmail.com](mailto:sarah.loboda@gmail.com), indicating the name of the specimen, the place and date.

The photographs will be displayed during the SEQ-ESC conference in Montreal and a popular vote will lead to the selection of the winners. By entering the contest, you give permission to use your photos on the SEQ website or other promotional materials. The winning photos will be used on the cover of the *Antennae* magazine. The contest organizer reserves the right to remove any picture judged out of context.

#### Drawing contest: Draw me a bug

Children (or immediate family) members of the SEQ or the SEC aged between 4 and 12 years are invited to participate and send their drawings with their name, age and the name of the family member who is a member of SEQ or ESC.

Finalists will be selected and winners will be selected by a popular vote at the annual meeting which will take place from 8 to 11 November 2015. Winners will be awarded a prize at the closing ceremony of the meeting.

The drawings will be mainly selected based on their originality.

Drawings must be submitted no later than **30 September 2015** to the following address:

Sarah Loboda, 397 Saint-Germain Est, Rimouski, Quebec, G5L1C9.

### Lunch and learn sessions

This year, there will be two Lunch & Learn sessions. The first workshop on “Publishing” will consist of a panel of authors, reviewers and Editors that will answer questions from students and engage in an informal discussion. The second workshop on “Vulgarization of Entomology” will be presented by the animators of the Insectarium.

### Linnean games

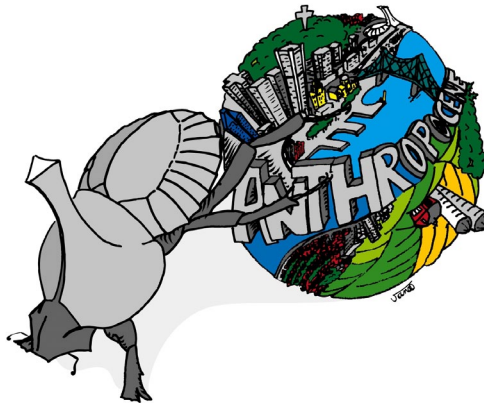
During the Student Mixer, students will be invited to participate to the Linnean games.

### Students’ Silent Auction

The Student Affairs Committee is organizing a Silent Auction to be held during JAM 2015. All funds raised through the Silent Auction are donated to the ESC Student Scholarships and Awards fund. Please bring books or other items (trinkets, artwork, jewellery, field gear, t-shirts, etc.) related to entomology and drop them off at the Silent Auction tables.

Do not forget to join us on Facebook (<https://www.facebook.com/JAMESCSEQ2015MTL>) and Twitter (<https://twitter.com/hashtag/ESCJAM2015?src=hash>)

**FOR MORE INFORMATION VISIT THE WEBSITE :** [http://www.seq.qc.ca/activites/reunions/SEQ-ESC\\_2015/index\\_eng.asp](http://www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/index_eng.asp)





**RÉUNION ANNUELLE CONJOINTE DE LA SOCIÉTÉ  
D'ENTOMOLOGIE DU CANADA ET DE LA SOCIÉTÉ  
D'ENTOMOLOGIE DU QUÉBEC**

Au Marriott Château Champlain, Montréal, Québec  
Dimanche 8 novembre – mercredi 11 novembre 2015

Ceci est une mise à jour concernant la Réunion Annuelle Conjointe 2015. Pour les détails concernant l'hébergement, voir le bulletin de la SEC de Mars 2015 (p. 11) ou visitez le site internet à la page : [http://www.seq.qc.ca/activites/reunions/SEQ-ESC\\_2015/index\\_eng.asp](http://www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/index_eng.asp)

**Frais d'inscription**

Catégorie	Au plus tard le 1 sept	Après le 1 sept
Membre régulier	450	550
Membre étudiant	195	295
Membre à la retraite / émérite	195	295
Membre nouveau professionnel	338	413
Non-membre	500	630
Inscription 1 journée, membre	175	
Inscription 1 journée, membre à la retraite	100	
Inscription 1 journée, membre étudiant	100	
Inscription 1 journée, membre nouveau professionnel	131	
Inscription 1 journée, non-membre	225	
Billet supplémentaire pour le banquet	86 (date limite 25 oct)	

**Inscriptions**

Le site internet est maintenant ouvert pour les inscriptions.

Visiter la page suivante pour vous inscrire à la réunion.

[http://www.seq.qc.ca/activites/reunions/SEQ-ESC\\_2015/registration.asp](http://www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/registration.asp)

Les inscriptions hâtives se terminent le **1 Septembre 2015**

Pour plus d'informations, SVP contactez Mario Bonneau ([mario.bonneau@ville.montreal.qc.ca](mailto:mario.bonneau@ville.montreal.qc.ca)) ou Jade Savage ([jsavage@ubishops.ca](mailto:jsavage@ubishops.ca)).

### Symposia

Entomology museums in Canada: status, concerns, and potential  
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Impact of invasive insects on the Canadian landscape  
In memory of Lloyd Dossdall: ecology, diversity and management of insects in agroecosystems  
The causes and consequences of arthropod diversity in a changing world  
Arthropod biodiversity informatics in the Anthropocene

### Appel à soumission

Vous pouvez maintenant soumettre vos présentations:  
[http://seq.qc.ca/activites/reunions/seq-esc\\_2015/appel.asp](http://seq.qc.ca/activites/reunions/seq-esc_2015/appel.asp)

Pour de plus amples informations, SVP contactez Patrick James ([patrick.ma.james@gmail.com](mailto:patrick.ma.james@gmail.com)).

### Activités

Plusieurs activités auront lieu pendant la réunion.

### Réception d'ouverture

La réception d'ouverture aura lieu à l'Insectarium de Montréal avec un concours d'identification d'insectes.

### Concours photos: Arthropodes du Canada.

La SEQ lance son concours annuel sous le thème « Les arthropodes du Canada ». Les photos soumises (maximum de 3 par participant) doivent avoir été prises au Canada. Il n'est pas nécessaire d'être membre de la SEQ ou de la SEC pour participer au concours. Chaque photo haute résolution (minimum 1500x1800 pixels) doit être soumise au plus tard le **30 septembre 2015** à l'adresse suivante : [sarah.loboda@gmail.com](mailto:sarah.loboda@gmail.com) en indiquant le nom du sujet photographié ainsi que le lieu et la date. Les photographies seront affichées lors du congrès et un vote populaire mènera à l'élection des lauréats. En participant au concours, vous donnez la permission à la SEQ d'intégrer vos photos à sa banque d'images pour utilisations diverses (site web, matériel promotionnel, etc). Les photos gagnantes seront utilisées sur la couverture de la revue *Antennae*. L'organisateur du concours se réserve le droit d'éliminer toute photo jugée hors contexte.

### Drawing contest: Draw me a bug

Les enfants (ou famille proche) des membres de la SEQ ou la SEC entre 4 et 12 ans sont invités à participer et envoyer leur dessin avec leur nom, leur âge et le nom du membre de la famille qui est membre de la SEQ ou la SEC.

Les finalistes seront retenus et le/la gagnant/e sera sélectionné/e par vote des membres lors de la rencontre annuelle qui aura lieu du 8 au 11 novembre 2015. Le/la gagnant/e se verra remettre un prix lors de la cérémonie de clôture de la réunion.

Les dessins seront sélectionnés en fonction de leur originalité.

Les dessins devront être soumis au plus tard le **30 Septembre 2015** à l'adresse suivante:

Sarah Loboda, 397 Saint-Germain Est, Rimouski, QC, G5L1C9.



### Diners-Discussion

Cette année, il y aura deux diners discussion. Le premier portera sur la “Publication” et regroupera un panel d’auteurs, de réviseurs et d’éditeurs qui engageront une discussion informelle et répondront aux questions des étudiants. Le second sera sur la “Vulgarisation de l’entomologie” et sera présenté par les animateurs de l’Insectarium.

### Jeux Linnéens

Pendant le coquetel étudiant, les étudiants seront invités à participer aux jeux Linnéens.

### Vente aux enchères par écrit

Le comité des affaires étudiantes organise une vente aux enchères par écrit durant la réunion conjointe annuelle 2015. Tous les fonds recueillis aideront à financer les bourses d’études et les prix d’excellence pour les étudiants de la SEC. N’hésitez pas à amener avec vous tout article ayant trait à l’entomologie (livres, art, bijoux, vêtements, ...) et à les déposer sur les tables prévues à cet effet.

Rejoignez-nous sur Facebook (<https://www.facebook.com/JAMESCSEQ2015MTL>) et Twitter (<https://twitter.com/hashtag/ESCJAM2015?src=hash>)

**POUR PLUS D’INFORMATIONS VISITEZ LE SITE DU CONGRÈS :** [http://seq.qc.ca/activites/reunions/seq-esc\\_2015/index\\_fr.asp](http://seq.qc.ca/activites/reunions/seq-esc_2015/index_fr.asp)



### Western black widows: unraveling a web of attraction, courtship, manipulation, and rivalry

Catherine Scott

Island View Beach, on the Saanich peninsula of Vancouver Island, British Columbia, is a beautiful place to go picnicking, dog-walking, bird-watching and bug-finding (Fig. 1). Despite its popularity among locals, most are surprised to learn that they are sharing the beach with black widows. Hobo spiders, giant house spiders, false black widows, and woodlouse hunters also commonly make their homes under the shelter of driftwood on the dunes, but western black widows (*Latrodectus hesperus*) are the dominant web-building spiders in the area. Most people never see them, however, because they are nocturnal, shy, and unaggressive. During the day, they stay hidden in retreats under the logs, but after dark they come out onto their webs and wait for insects, isopods, or other spiders to blunder into their silken traps. Male western black widows are variable in colour (Figs. 2 and 3) and much smaller than the more familiar black and red females. Once they mature, these males abandon their webs to wander the dunes in search of mates. My research examines the sexual communication system of these beautiful, fascinating spiders. I have been fortunate to have the opportunity to do field work at this wonderful site during my MSc.



Fig. 1. The field site on the lands of the Tsawout First Nation at Island View Beach. Almost every driftwood log on the beach provides shelter for at least one black widow, as well as many other arthropods.



Figs. 2 and 3. Diminutive male black widows vary dramatically in their colouration, which renders them rather cryptic as they traverse the coastal sand dunes in search of females.

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Catherine Scott recently completed her MSc in the Gries lab at Simon Fraser University, and will be starting a PhD in the Andrade lab at the University of Toronto-Scarborough in September 2015. She blogs about spiders at [www.SpiderBytes.org](http://www.SpiderBytes.org). The material presented here was taken in part from Catherine's paper in the Graduate Student Showcase at the 2014 Joint Annual Meeting in Saskatoon.

Female black widows build three-dimensional tangle webs that not only ensnare prey, but are also used for communication (Fig. 4). Pheromones on the silk attract potential mates at long range (Kasumovic and Andrade 2004), and trigger courtship behaviour by males upon contact. These chemical personal ads tell the male whether the female is well-fed or starving (indicating the risk of cannibalism), and if she has previously mated (MacLeod and Andrade 2014, Barrufaldi and Andrade 2015). This information may help him decide whether to enter a web and begin his courtship display, or move on in search of a more receptive female.



Fig. 4. A female hangs from her web during the night, waiting for her next meal, or a male. The capture web extends from a silken retreat under the driftwood, where she shelters during the day. Belying their name, females of this species rarely consume males, which are much smaller than their typical prey.



Fig. 5. Here a male is engaged in web reduction behaviour. He has destroyed a large section of the female's web, and is in the process of bundling it up and wrapping it with his own silk.

Web reduction is a curious part of the male's complex courtship repertoire, which includes sending vibratory signals through the web to the female. Soon after a male enters a female's web he often begins dismantling it, cutting and bundling up large sections, then wrapping them up with his own silk (Fig. 5). My collaborators and I wanted to find out if web reduction behaviour decreases the attractiveness of females' webs, as it does in the sierra dome spider, *Neriene litigiosa* (Watson 1986). The shrunken surface area of the web could minimize the release of attractive pheromones, or the added male's silk might carry its own pheromones that are repellent to other males.

To study the function of web reduction, we ran an experiment on the beach. We set out cages containing both intact and male-reduced webs and surrounded them with sticky traps to capture males that were attracted to the scent of the females' silk inside. In a single night we captured more than 200 mate-searching males outside the webs of 60 females, suggesting that competition for access to females is fierce. Reduced webs attracted far fewer males than intact webs, indicating that web reduction does in fact decrease the attractiveness of a female's web. It's not yet clear if this is a result of suppressing the female's silk pheromone emission, the addition

of male silk, or both, but we now understand more about the function of this behaviour. The male apparently uses web reduction to manipulate the female's attractive chemical signal, reducing the chances of rival males finding her web and competing for her affections.



Fig. 6. A male courting a female on her tangle web.

But the mystery of web reduction that inspired my MSc research is still far from solved. Another hypothesis for the function of this behaviour is that it is involved in intersexual communication. Throughout courtship, but especially during web reduction, male black widows deposit silk all over the female's web (Fig. 6). Before copulation, the male even binds the female's body with a silken "bridal veil". It may be that web reduction simultaneously allows the male to deter rivals and emit silk-borne pheromones that signal his quality to the female or induce her to become more sexually receptive. Alternatively (or additionally) web reduction could modify the structure of the web to improve transmission of the male's vibratory signals. Despite their popularity as research subjects, black widows provide many more opportunities for discovery! More details about their fascinating sexual communication system will soon be available in two upcoming publications, so watch for them if you're intrigued.

### Acknowledgements

I am very grateful to the Tsawout First Nation for their kind permission to work on their land and the Capital Regional District for granting permits to collect spiders from Island View Beach. Sean McCann provided the excellent photographs and, along with Devin Kirk, collaborated on this field study. This work was supported by a Natural Sciences and Engineering Research Council of Canada (NSERC) – Discovery Grant and by an NSERC – Industrial Research Chair to my supervisor Gerhard Gries, with Contech Enterprises Inc. and Global Forest Science as industrial sponsors.

### References

- Baruffaldi, L. and Andrade, M.C.B. 2015. Contact pheromones mediate male preference in black widow spiders: avoidance of hungry sexual cannibals? *Animal Behaviour*, **102**: 25–32.
- Kasumovic, M.M. and Andrade, M.C.B. 2004. Discrimination of airborne pheromones by mate-searching black widow males: species- and population-specific responses. *Canadian Journal of Zoology*, **82**: 1027–1034.
- MacLeod, E.C. and Andrade M.C.B. 2014. Strong, convergent male mate choice along two preference axes in field populations of black widow spiders. *Animal Behaviour*, **89**:163–169.
- Watson, P.J. 1986. Transmission of a female sex pheromone thwarted by males in the spider *Linyphia litigiosa* (Linyphiidae). *Science*, **233**: 219–221.

## The Heard Lab

**Chandra Moffat and Julia Mlynarek**

The Heard Lab (aka Heard's Nerds) is a group of community and evolutionary ecologists at (or affiliated with) the University of New Brunswick in Fredericton.

Their research interests are broad, but are centered on the role of ecological controls on the evolution of biodiversity (see word cloud at end of article). They seek to understand how ecological interactions and environmental contexts have influenced the assembly and evolution of ecological communities - and thus have shaped the modern diversity of life. Most of their work is with insects and plants, but they are open to finding the right study system for their questions.


Current research foci in the lab include (i) evolutionary ecology of herbivore impact, plant defense, host associations and diversification of various herbivorous insects (primarily gall formers and leaf miners) who feed on goldenrods (*Solidago* spp., Asteraceae) and (ii) community ecology of forest pests including the invasive brown spruce long horn beetle (*Tetropium fuscum*, Cerambycidae) and the out-breaking (but native) spruce budworm (*Choristoneura fumiferana*, Tortricidae). When not doing groundbreaking research, they play Boggle!

Some of them can be found on Twitter or at [www2.unb.ca/~sheard/](http://www2.unb.ca/~sheard/)



Core of the Heard's Nerds waiting to play Boggle (L-R: Julia, Tony (a Boggle associate), Yana, Mallory, Steve, Miller (the dog), Mischa, Allyson, Ken and Chandra).

*The Heard's Nerds are always looking for motivated people to join them - whether they are undergraduates, graduate students, or postdocs. If you are interested in joining the group, contact Steve Heard at [sheard@unb.ca](mailto:sheard@unb.ca)*


**Stephen Heard, Professor**  @StephenBHeard; BSc Waterloo, PhD Pennsylvania

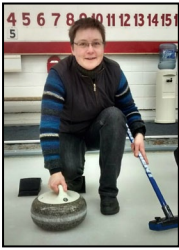


Steve usually thinks of himself as an evolutionary ecologist, but most of his research has involved insects. He's worked with pitcher-plant insects, benthic stream insects, insect herbivores of goldenrods, and (recently) forest pest insects, both native and introduced. His most general interests are in the ecological forces controlling biodiversity. In goldenrods, for instance, he would like to understand why some lineages radiate to form complexes of host-specialist races or cryptic species, while others remain generalists. With forest insects, he is interested in how invasives interact with native communities – displacing or complementing native species.

Thought he was never really trained as an entomologist, he has been drawn to insects (and especially insect-plant systems) because they provide wonderful model systems for addressing important ecological and evolutionary questions. And it doesn't hurt that they're fascinating and beautiful!

To find out more about Steve, follow him on Twitter or read his blog [scintitteesquirrel.wordpress.com](http://scintitteesquirrel.wordpress.com).

**Julia Mlynarek, Postdoctoral Researcher**  @JJMlynarek; BSc, MSc McGill, PhD Carleton

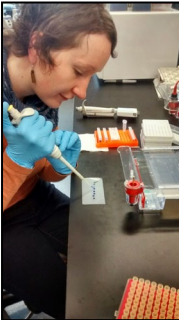


Julia is broadly interested in evolutionary ecology, systematics, phylogenetics and natural history. She's worked on the systematics of Chloropidae flies (BSc and MSc), investigated parasitism in damselflies (PhD) and is now studying leaf-mining insects (flies, beetles and moths) feeding on *Astereae* (Asteraceae). She finds coevolution and species associations fascinating, especially trying to understand their role in diversification and as drivers of community structure. In her work on leaf miners, she is documenting host ranges, exploring whether races are present in this system, and determining the drivers that formed those races (i.e., are they host races or environmental races). This system has been

somewhat overlooked in the evolutionary ecological context, but she believes that great things can be learned from it!

If you want to find out more about her, follow her on Twitter, read her blog [buddingbiologist.wordpress.com](http://buddingbiologist.wordpress.com) or check out her webpage [sites.google.com/site/juliamlynarek/](http://sites.google.com/site/juliamlynarek/).

**Chandra Moffat, PhD Candidate**  @ChandraMoffat; BSc Victoria, MSc British Columbia - Okanagan



Why are some insects specialists with a narrow host range while others are generalists with a broader host range? Chandra's BSc and MSc work in applied entomology (greenhouse IPM, then weed biological control) led her to ponder under which ecological scenarios specialist vs. generalist life history strategies are more favorable. To address this question, she is investigating the role of host plant trait variation in promoting (or restricting) the specialization, and ultimately the speciation, of herbivorous insects. She uses a suite of herbivorous insects at different stages of evolutionary divergence and host breadths, which all include *Solidago* spp. in their diet, as a model system to address this question. She has a particular fondness for gall formers that specialize on plants in the Asteraceae (sunflower) family.

**Ken Dearborn, MSc Candidate** BSc Guelph



Ken views himself as a naturalist and is interested in all biodiversity. He studies insects because of their vast diversity not only in species richness, but in their ecologies and behaviours, which makes entomology so fascinating. Ken prefers the field to the lab by far. Currently, he is working on wood boring insects in an attempt to understand ramifications of invasive beetles entering novel communities. However, his best contributions to the Heard Lab are in the form of comic relief!

**Zoryana (Yana) Shibel, MSc Candidate** BSc Toronto



Yana studies the impact of insect herbivores on their host plants, and how this impact evolves in novel vs. ancestral herbivore-plant associations. Theory generally predicts that pairs of antagonists evolve towards reduced virulence and increased tolerance, and she is testing this prediction for multiple insects in the goldenrod-insect study system. She is also interested in exploring the combined impact of water stress and simulated herbivory on *Solidago* (goldenrods).

**Allyson Heustis, MSc Candidate** BSc St. Francis Xavier



Allyson is just finishing her first year at UNB. She graduated from St. Francis Xavier University in 2014 with a BSc in Biology, and had been participating in various projects from lobster bait preference to ocean acidification. She is currently studying the invasion speed and severity of the brown spruce longhorn beetle, an invasive species that has wreaked havoc throughout Halifax, Nova Scotia, and surrounding areas. Allyson has always thought that invasive species were interesting because they can drastically affect surrounding native species in their community. She hopes to continue studying invasive species, and discover a proxy that can be used to predict invasion success, speed, and severity.

**Mallory MacDonnell, MSc Candidate** BSc St. Francis Xavier



Like Allyson, Mallory is currently finishing her first year at UNB. She is interested in the ecological and applied aspects of interactions between spruce budworm, a native defoliator, and the invasive phloem-feeding brown spruce longhorn beetle. Both are important pests of red spruce in Atlantic Canada. Currently, a great deal is known about how spruce budworm impacts spruce growth and survival, and about how budworm interacts with its predators and parasites; however, almost nothing is known about how it interacts with other co-occurring herbivores. This is particularly so for the indirect interactions between brown spruce longhorn beetle and spruce budworm as they are novel and potentially important. Mallory came to UNB after completing her undergraduate degree in biology and aquatic resources at St. Francis Xavier University, in Nova Scotia. There she was interested in all things aquatic, but specifically studied aquatic insects!

**Munaha Mostofa, BSc Honours Student**



Munaha's undergraduate honours thesis project involved determining local cytotypic (ploidy) frequencies of five *Solidago* species: *S. altissima*, *S. rugosa*, *S. puberula*, *S. juncea*, and *S. gigantea*. Previous work by Steve's lab had found that the ploidy level of *S. altissima* predicts insect attack. Her project involved determining the ploidy of each sample via flow cytometric analysis to see how many cytotypes of each species exist within the sampled populations in Fredericton and St. Stephen. The purpose of this study was to determine if there were multiple *Solidago* cytotypes at field sites in New Brunswick where the lab conducts other studies, and additional *Solidago* species were included in order to test the minority cytotypic exclusion principle, which predicts only one cytotypic should exist locally. Munaha determined that they are! But as much as she enjoyed working in the lab this year, Munaha will be taking a break from research to pursue a career in medicine, starting in September!

## Mischa Giasson, BSc Student



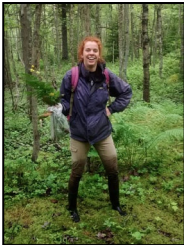
An undergraduate student working towards a degree in biology at UNB, Mischa has worked in Steve's lab for the past 2 years, mostly helping graduate students with their work involving *Solidago* spp. For example, in 2013 she set up and helped conduct a field experiment for Yana. Since then she has helped with digging up and collecting plants for Yana and Chandra to grow in a greenhouse and to conduct various experiments. Other tasks have included potting and taking care of many plants, measuring plant traits such as plant height, stem width, stem and leaf pubescence, and helping with data entry. She has traveled to Minnesota, New England and around New Brunswick with Chandra to help with collections for her project.

## Bethany Nordstrom, BSc Student



Bethany, an undergraduate student studying Environment and Natural Resources – Wildlife Conservation, has been working in the Heard Lab for the last 2 academic years, assisting with various graduate projects. During her time in the lab, she has collected insects from log bolts for an invasive wood-boring beetle project, weighed and measured goldenrod specimens as part of a project studying insect herbivory impacts on host plants, prepared goldenrod leaf and rhizome samples for flow cytometry ploidy analysis, and tended to the plants in the greenhouse.

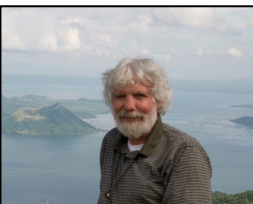
## Lauren Stead, Intern BSc New Brunswick



Lauren has just finished her undergraduate degree with a BSc in Environment and Natural Resources with a major in Wildlife Conservation. Her interests are primarily in plant ecology and she will be interning as an assistant helping with field and lab work.

## Associates

### Dan Quiring, Honorary Research Professor PhD Simon Fraser



After almost 30 years as the forest entomologist at UNB, Dan retired from his full-time position in 2013. However, he still has two graduate students, continues writing manuscripts and regularly attends lab meetings. His current projects emphasize insect - natural enemy - host plant interactions and their implications for forest pest management.



**Deepa Pureswaran, Research Scientist, CFS, Laurentian Forestry Centre**

MSc, PhD Simon Fraser



Deepa is a research scientist with the Canadian Forest Service in Quebec City. Her research explores the ecology and management of native and exotic forest insect pests, including semiochemistry, host and mate finding behaviour, community and population ecology. She is interested in using empirical and theoretical approaches to understand the factors involved in pushing forest insect populations over the edge, causing them to transition from endemic to epidemic states. Her current projects

involve questions related to climate change and forest insect disturbances in northern ecosystems as well the impact of invasive species on the community in their new range. She co-supervises graduate students at UNB, UQAM, Concordia University and UNBC.

**Rob Johns, Research Scientist, CFS, Atlantic Forestry Centre**

BSc St. Francis Xavier, PhD New Brunswick



Rob's research focuses on insect-plant interactions, population and community ecology, and the development of management strategies for forest insect pests. Specifically, he studies the mechanisms of resistance used by trees to reduce damage associated with herbivorous insects as well as examine the ecological factors influencing the spatial and temporal distribution and abundance of forest insect herbivores and their natural enemies.

**Sara Edwards, MSc-PhD transfer**  @Sara\_Edw; BSc New Brunswick



Currently, Sara is investigating heritability of insect resistance in balsam fir and white spruce. In each system she is estimating heritability of resistance to a multitude of insect pests, as well as other characteristics such as growth and phenology. Traditional methods for estimating heritability rely on statistical models that are not well suited for non-Gaussian data (i.e., percent, binary or count data), which is largely the type of data that she works with. She has spent a lot of time learning more comprehensive methods of statistical analyses, in both Frequentist and Bayesian frameworks. Working with rigorous

statistical models forced her to work in R, which at first was challenging but now that she understands the language she has developed a secret love of coding.



Wordcloud describing the Heard Lab.

**G**eoffrey David McLeod, Superintendent Urban Forestry and Pest Management, Saskatoon, passed away surrounded by family and friends on 4 March 2015. He defied his initial prognosis of “2 weeks to live” to go on to fight a nearly 2-year battle against brain cancer.

Geoff was born to Gary and Fran McLeod in 1971 and spent much of his early life in Regina, where he completed high school at Martin Collegiate in 1989. He then went on to graduate from the University of Regina with a bachelor’s degree in biology in 1997. He completed a second bachelor’s degree from the University of British Columbia in Forest Management (2001) and a master’s degree in insect chemical ecology from Simon Fraser University (2005). Under the supervision of Dr Gerhard Gries, Geoff worked on semiochemical mediated attraction of bark beetles to Dutch elm disease infected trees. Geoff discovered that the fungus which causes Dutch elm disease, *Ophiostoma novo-ulmi*, manipulates the semiochemical profile of host elm trees to make diseased trees more attractive to the fungal vector, the native elm bark beetle, *Hylurgopinus rufipes*. Working with the different blends of antennal-active compounds, Geoff made a breakthrough with his re-evaluation of the initial data when he discovered that one compound was partially obscured by another on the gas chromatogram.

After completing his master’s degree, Geoff returned to the City of Regina to apply his new knowledge to Dutch elm disease prevention. In 2006, the position of Pest Management Supervisor with the City of Saskatoon brought Geoff north. Geoff advanced quickly within the organization to become the Superintendent of Pest Management and Urban Forestry in 2008. During his time with the City of Saskatoon, Geoff created 20 new jobs including a full-time Entomologist position. When provincial funding for West Nile suppression ended, Geoff secured significant municipal funding to keep the mosquito control program functioning at the same capacity and still continued to fund Dutch elm disease prevention. He supported entomological initiatives including supplementing the monitoring programs of the Canadian Food Inspection Agency to improve the chances of early detection of important forest insect pests (e.g., gypsy moth and emerald ash borer). Geoff valued collaboration among municipalities, as evidenced by an organization that he started with several interprovincial colleagues called the Prairie Urban Forest Alliance, a group devoted to improving communication between urban forestry and pest management programs across the Prairie Provinces.

Geoff was active in a number of organizations including the International Society of Arboriculture, Save Our Saskatoon Elms, Saskatchewan Dutch Elm Disease Association, Wildlife Rehabilitation Society of Saskatchewan, and the Entomological Society of Canada (2006-2012). Geoff often served in leadership roles within each of these organizations. As Provincial Director for Saskatchewan of the Prairie Chapter of the International Society of Arboriculture, Geoff was the first to bring the Annual General Meeting to Saskatoon in 2010 and also laid the foundation for the meeting in Saskatoon in 2014.

Geoff’s move to Saskatoon not only resulted in his career with Urban Forestry and affiliation with many societies, it also introduced him to the love of his life, Jamille Heer. They married,



**Geoffrey D. McLeod  
(1971-2015)**

started their family in Saskatoon and began raising two daughters, Grace Margaret (5) and Bethany Frances (3). As an avid rugby player Geoff played for the Condors, Meraloma's, Saskatchewan Prairie Fire and the Saskatoon Gophers Rugby Club. At the end of Geoff's rugby-playing years he served as President of the North Saskatchewan Rugby Union. At his memorial service, his "rugby brothers" united in a scrum, sang "Danny boy" in tribute to their fallen brother. After rugby, Cross Fit became his new athletic passion and he quickly went from training to competing and helping judge in competitions. Geoff has not only left his indelible mark on the people and communities around him but also on entomology in Saskatchewan.

Jeff Boone and Tyler Wist  
Saskatoon



Jeff Boone

*Hylurgopinus rufipes*

## Book reviews / Critiques de livres

*Britain's Dragonflies: A Field Guide to the Damselflies and Dragonflies of Britain and Ireland.* Smallshire, D. & Swash, A. 2014. Princeton University Press, Woodstock, Oxfordshire, UK. 224pp. (softcover). ISBN: 978-0-691-16123-5. US\$25.95

*Britain's Dragonflies: A Field Guide to the Damselflies and Dragonflies of Britain and Ireland* has been written to satisfy anybody interested in odonates, from the novice to the expert. Dave Smallshire and Andy Swash published this book for those interested in odonates with the purpose of improving our knowledge of this order of insects and contribute to their conservation.

As the title suggests, this field guide focuses on the dragonflies and damselflies of Britain and Ireland. It includes the 20 species of damselflies and 26 species of dragonflies found in that region.

Following the introduction, there is a section on "Dragonfly Biology and Ecology", which covers the life cycle of odonates from egg to larva through emergence to adult. The guide then goes into detail about "Where to look for Dragonflies" with definitions for the habitats that are favored by the odonates, their favored habitats and where to look for rare and scarce odonates. Following is a section where the authors give a few tips about watching and photographing the Odonata. Then, a well-illustrated guide to the identification of odonates follows this section. The section on "How to Identify Dragonflies" is divided into an introduction to identification, color variations, the types of Odonata, adult identification charts and a glossary. This is followed by the species accounts. Other sections follow the species accounts, including "Introduced Exotic Species" and a large section about the identification of larvae and exuviae. Finally, there are a few sections about the conservation status of odonates, the British Dragonfly Society and how to record and monitor this group of insects.

There is a great deal of information in this book. At times it may seem overwhelming especially for a novice and even for a person well versed in odonates. But Smallshire and Swash did a very good job with it. The habitat photographs demonstrate very well what the different habitats look like. The "How to Identify" section illustrates the key features necessary for the identification of each species and the types of odonates is a general overview of what odonates can be found in Britain and Ireland.

I must praise Smallshire and Swash for the adult identification charts and the larval identification charts. These will really help quickly identify an odonate when in hand and without having to flip through all the pages. In addition, there are very few field guides, if any, that include an identification key to larval odonates. There are even images of certain of the larger dragonflies in flight to help with their identification!

Even the "Species Account" section is well done. At first, I was a little apprehensive because there is so much information on each page of the species accounts. Each species is presented on two pages: one page for the written description, ecology, distribution, and additional drawings of the key characters, and the other page for the photographs where both sexes of each species are illustrated both laterally and dorsally. But after regularly looking through the field guide, the species accounts are clearly laid out and will help with the proper identification of whatever odonate you may want to verify.

The only issue I have with this field guide is the authors' use of the term "dragonflies" to encompass all odonates. It threw me off guard because I was never sure whether they were only discussing one of the suborders or the entire order. Once the reader gets used to the fact that all



odonates are termed “dragonflies” in this field guide, you are away to the races. The authors were very thorough with this work. This softcover field guide, with its additional plastic cover, can truly increase your knowledge and appreciation of the Odonata. If you are at all interested in the Odonata and/or are going to Britain or Ireland, I would highly recommend having this valuable field guide with you.

Julia Mlynarek  
University of New Brunswick  
Fredericton

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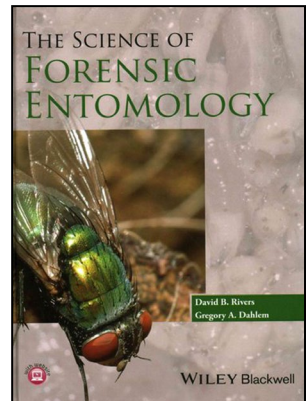
***The Science of Forensic Entomology.*** Rivers, David B. and Dahlem, Gregory A. 2014. John Wiley & Sons, Ltd. Sussex, UK. 382 pp. ISBN: 978-1-119-94037-1, US\$109.95 plus shipping from publisher, 185 X 240 mm, softcover (E-book US\$87.99).

I have been interested in forensic entomology for a while, primarily intrigued by the use of corpses as unique microhabitats by a number of insect groups. One day I was asked by a student to help her take dead pigs to the field, dress them up and then stab them a few times to look at the succession of insect visitors for a forensic study. What an experience! While on a trip Down Under, I remember stopping frequently in the outback to let a forensics student catch a few flies from road-killed kangaroos to the disgust of many passersby. Although the thought of spending any time around corpses and crime scenes might discourage many from entering this field of study, it is undeniable that insects can sometimes provide unique data to support law enforcement activities.

This book includes a short Preface, 18 chapters, 3 appendices as well as a glossary and the index. It also comes with a useful companion website link where copies of all figures and illustrations from each chapter are available for downloading either as pdf files or PowerPoint presentations. Based on the description of this book on the publisher’s website, the target audience includes advanced undergraduate as well as postgraduate students.

The Preface which introduces the topic in a broad sense provides a bit of a rough start unfortunately and may have been put together hastily. Figure and table numbers are referred to as “Figure 1...” and “Table 1...” in the text whereas their actual numbers in the captions of this section are “Figure P.1...” and “Table P.1...”. Some unfortunate typographical errors crept in (e.g., “weevls” instead of “weevils”, “efofrts” instead of “efforts”) in this short section. The lack of scientific names or better defined taxa when the authors refer to the economic impact of particular groups of insects (e.g., the use of broad groups such as “fleas”, “pine beetles”) is also a drawback.

The first four chapters provide a broad overview of fundamental concepts such as the Role of forensic science in criminal investigations (Chapter 1), History of forensic entomology (Chapter 2), Role of insects and other arthropods in urban and stored product entomology (Chapter 3) and Introduction to entomology (Chapter 4). Each of the four chapters (as well as other chapters in the book) is rather succinct and efficiently subdivided into sections, beginning with an overview of



the contents and a section called “Big picture” followed by major sections each with a subheading (e.g., What is forensic science). Figures (mostly photos and line drawings) and tables efficiently summarize important concepts and data. Each chapter ends with a series of questions entitled “Test your understanding” followed by some “Notes”, “References cited”, “Supplemental reading” and “Additional resources”.

The section of the book which includes more specific and detailed forensic entomology data for students covers Chapters 5 to 14. These understandably Diptera-centric chapters cover topics such as Reproductive strategies of necrophagous flies (Chapter 6), Biology of the maggot mass (Chapter 8), Temperature tolerances of necrophagous flies (Chapter 9), Postmortem interval (Chapter 12) and Necrophagous and parasitic flies as indicators of neglect and abuse (Chapter 14). Other chapters include valuable information such as Biology, taxonomy, and natural history of forensically important insects (Chapter 5), Chemical attraction and communication (Chapter 7), Postmortem decomposition of human remains and vertebrate carrion (Chapter 10), Insect succession on carrion under natural and artificial conditions (Chapter 11) and Insect alterations of bloodstain evidence (Chapter 13). This large section of the book is generally well written, separated into logical subsections, adequately illustrated (although gruesome pictures are kept to a minimum) and well referenced. This is the most valuable section of the book in my opinion.

The important Chapter 15, Application of molecular methods to forensic entomology, was uniquely co-authored by Evan Wong (University of Cincinnati). Sections ranging from the preservation of specimens for molecular analyses, to barcoding, to population genetics, to the basic principles of phylogenetics are densely packed into this chapter. These topics will undoubtedly be very important for students in the field of forensic entomology in the future but are probably outside of the comfort zone of the more traditionally trained authors, hence the need for a co-author for this particular chapter.

The last three chapters summarize information on Archaeoentomology (Chapter 16), Insects as weapons of war and threats to national security (Chapter 17) and Deadly insects (Chapter 18) which will be of general interest to a targeted undergraduate and graduate student audience but are slightly outside of the scope for this book in my opinion. They could probably have been left out and possibly replaced by more detailed coverage of the role of forensic entomologists in court or similar topics. The chapter called “Deadly insects” in particular seems especially weak and unnecessarily alarmist. Appendix I (Collection and preservation of calyprate Diptera), Appendix II (Getting specimens identified) and Appendix III (Necrophagous fly life table references) offer important additional information and links to resources not mentioned elsewhere in the book.

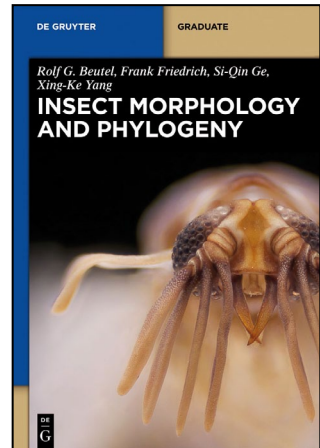
A large number of photos in the book were obtained from the website bugwood.org with others from the authors themselves and a variety of other sources. While relying on the contents of a website such as bugwood.com might be an efficient way to populate each chapter with color photographs, it also comes with drawbacks because identifications associated with each photo may not be accurate. One such problem occurred with Figure 5.22 which has a caption “Dermestid beetle larva and adult” but the adult depicted on the photo is that of a beetle in the family Tenebrionidae, likely *Alphitobius diaperinus*.

Overall, I believe that this book has achieved its goal of presenting a thorough introduction to forensic entomology (as well as a number of related topics) to undergraduate and graduate students. The core chapters in particular are informative and include useful lists of references and notes.

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*Insect Morphology and Phylogeny. A Textbook for Students of Entomology.* Beutel, R. G., F. Friedrich, S.-Q. Ge, and X.-K. Yang. 2013. De Gruyter, Berlin. xv + 516 pp., 233 figs, 2 tables, glossary, index. US\$126.00, ISBN 978-3-11-026263-6, paper. Also available as an e-book.

Unlike their predecessors (e.g., Edmund Walker, Melville DuPorte, Jake Rempel, Norm Church, Margaret Parsons, Ryuichi Matsuda, Geoff Scudder, Andy Hamilton, Jarmila Kukulová-Peck, Doug Craig, Bruce Heming, Susan McIver, Russ Zacharuk), few entomologists in Canada today, except systematists, investigate insect structure in spite of its central role in their success. Thus, few will be aware of the renaissance in insect morphology that has emerged in the last decade, mostly in Germany, China and Japan, due to development and use of groundbreaking new techniques described in this book. As we increasingly drown in a deluge of sequenced genomes, proteomes, and transcriptomes generated by technologies whose modes of action few of us understand, I find it gratifying, as a retired insect morphologist, to discover that these new findings in structure have not only provided additional support for and uncovered weaknesses in the results of recent phylogenomic studies but also have facilitated progress in paleoentomology. Prof. Rolf Beutel (Inst. für Spezielle Zool. und Evolutionsbiologie, Friedrich Schiller Univ., Jena, Germany), a coleopterist/morphologist and senior author of this volume, is the principal architect of this renaissance due to his success in assembling a talented, multinational cohort of collaborators with diverse skills and expertise. The quality, quantity, and originality of papers emanating from his lab bear witness to his success and feature prominently in this book.



As background, the first chapter (pp. 1-103) provides an outline of external and internal structure and function in hexapods with its principal terms printed in **bold** and defined later in the Glossary (pp. 117-142, Chapter 3). Derived mostly from Chapman (4th edition, 1998), Seifert (3rd edition, 1995), and Snodgrass (1935), it is illustrated with 48 line drawings and 3-D reconstructions beautifully redrafted by Wenzhu-Li mostly from originals by Hermann Weber (1933, 1938, Weber and Weidner, 1974), Snodgrass (1935), and Seifert (1995; also redrawn from Weber). Unique are Tables I (pp. 24—28) and II (pp. 49—58) listing, respectively, the abbreviation, name, origin and insertion (but not function) of the 90 known single and paired muscles of a generalized insect head and its appendages (based on those of a grylloblattid: Fig. 6.14.3) and of the 164 paired muscles in an unspecialized thorax based on those of a macropterous zorapteran. The latter are illustrated in such detail (Figs. 1.3.3.1—1.3.3.3, 6.13.4) that every sclerite or apodeme of origin or insertion can be identified unequivocally (no equivalent figures of cephalic and abdominal muscles are supplied nor are abdominal muscles tabulated).

Though insect reproduction, embryogenesis and postembryogenesis are the focus of much recent research (summarized in Heming, 2003) they are only skimmed on pages 104—116 (Chapter 2) and one must access Chapter 6 for details provided for members of each order.

Methods of fixation, dissection, maceration, scanning (SEM) and transmission electron microscopy, classical histology, serial block-face SEM, focused ion beam microscopy, confocal laser scanning microscopy, micro-computer tomography ( $\mu$ -CT), computer based 3-D reconstruction, geometric morphometrics, and its quantitative analysis are summarized and spectacularly illustrated on pages 143—163 (Chapter 4). Using  $\mu$ -CT and appropriate ancillary

techniques, one can image the entire external and internal structure of a single, unmacerated individual or of each of its tagmata in 3-D (as was done in 2010 for a 42 million year old male of *Mengea tertiaria* [Strepsiptera: Mengenillidae] in Baltic amber by Pohl and co-workers), and can rotate the image to view it from any aspect. One can also differentially color each organ system, can virtually dissect it from an image to observe it separately or to view what is behind it, or can follow the metamorphosis of the entire cephalic musculature or nervous system of an insect within the ghostly confines of its pupal and adult cuticles by imaging an ontogenetic sequence of pupal heads.

To introduce the principal subject of the book, insect phylogeny, the authors summarize (pp. 164—173; Chapter 5) the methods used to reconstruct phylogeny based on structure including explanations of Hennig's terms and principles, cladistics, taxon sampling, character selection, character state coding, listing characters, constructing data matrices, parsimony analysis, and phylogenetic trees: their reconstruction, presentation and statistics.

The rest of the book (pp. 174—479, Chapter 6) provides an up-to-date, sumptuously illustrated but grueling trek through the structure, variation and evolutionary relationships of each hexapod order, the whole prefaced by a balanced essay (pp. 174—178) on the position of Hexapoda within Arthropoda and evidence for its monophyly. Competing ideas on higher relationships within the Hexapoda are featured prominently throughout (Entognatha: pp. 177—178, Fig. 6.A; Pterygota: 205—207; Paleoptera : 207—209; Neoptera: 225—226; Polyneoptera [orthopteroids]: 226—229, Fig. 6.B; Acercaria [hemipteroids]: 291—296, Fig. 6.C.1; Holometabola: 359—363, Fig. 6.D) with competing higher taxon names placed appropriately within the text and on the trees along with the shared derived characters defining membership in each one.

The order-level treatments are from 4 (Protura, Diplura, Embioptera) to 43 (Hemiptera) pages long and appear in order of each taxon's position on the trees noted above. Each treatment has an identical format: diversity and distribution, taxonomy, diagnosis, autapomorphies, morphology of adult males and females (external and internal of each tagma and their appendages), juveniles, and pupae, life history, reproduction, development and immature stages, fossil history, and economic importance with some topics reduced or omitted from some treatments because of lack of information. The first illustration(s) in each essay are habit SEMs (mostly by Hans Pohl), line drawings or colored photos of typical adults - most of outstanding quality, contrast and resolution - followed by several to many, additional drawings, SEMs, colored 3-D reconstructions,  $\mu$ -CT images, etc. of mouthparts, wings, legs, guts, genitalia, etc.

That so many pages are allocated to Hemiptera is because members of this lineage are addressed differently from those of the other megadiverse orders (Hymenoptera = 12 pp.; and Coleoptera, Lepidoptera and Diptera = 14 pp. each) with each subordinate taxon (Auchenorrhyncha, Sternorrhyncha, Psyllina, Aleyrodina, Aphidina, Coccina, Coleorrhyncha, Heteroptera) treated separately. Also, although the order Isoptera is subsumed under Blattodea because termites are now known to be social cockroaches sister to the genus *Cryptocercus*, Phthiraptera and Siphonaptera, respectively, are treated separately from the paraphyletic Psocoptera and Mecoptera even though the authors recognize that both lice and fleas are known to have originated within the psocid (Psocodea) and scorpionfly lineages.

Until recently, the least known and, phylogenetically, most problematic orders, Zoraptera ('the Zoraptera problem'), and Strepsiptera ('the Strepsiptera problem') are now among the best known due to outstanding contributions of Beutel and associates. For example, a zorapteran is the only insect in this book to be provided with detailed drawings of its entire thoracic skeleton (Fig. 6.13.3) and musculature (Fig. 6.13.4) and of DAPI-stained images of whole mounts of its complete embryogenesis (Fig. 6.13.6). And Figures 6.30.1 and 6.30.2 are, respectively, SEMs of the immature stages and adult male of a mengenillid and a stylopid strepsipteran. (Note: Though



recent phylogenomic studies from Michael Whiting's lab placed Strepsiptera as sister to Diptera in the higher taxon Halteria (Whiting et al., 1998), it is now back where it belongs as sister to Coleoptera based on structure, molecules, and life history as originally proposed by R. A. Crowson, 1981).

The volume is well produced and serviceably written and has few errors in fact, though, on pages 292 – 294 it is indicated that thrips have bi-flagellate sperm when they actually have flagella with three, fused axonemes (Paccagnini et al., 2007). Unfortunately, many of the figure abbreviations are not intuitive and one must check for their meaning in the captions. In Figure 2.2.1.2D (p. 108; ventral aspect of a segmenting and gastrulating embryo) 'gastrulation' is labeled as 'dorsal closure' and on page 313 (Fig. 6.20.1) the habit SEM of a thrips is not of *Frankliniella* sp. but of the grain thrips, *Limothrips cerealium*. The book is most similar in content to '*The Insects of Australia*' (CSIRO, 1991) and '*Evolution of the Insects*' (Grimaldi and Engel, 2005) both extensively cited, but has far more on structure and far less on Earth, fossil and life history than Grimaldi and Engel and is not as stylishly organized, written or illustrated. But it is more up-to-date than either and contains copious detail on topics not even mentioned in these other books.

As noted in their Foreword (p. viii), 'molecular systematics has "evolved" with breathtaking momentum in the last 10 years (see [IKITE.org](http://IKITE.org))' and 'Robust "molecular phylogenies" will likely be available for Hexapoda (see Misof et al., 2014), and other groups of organisms in the very near future.' Nevertheless, knowledge of structure will continue to be important in Entomology because it provides an independent source of information for critically evaluating phylogenomic trees (and vice versa), is fundamental to understanding function, living individuals of all developmental stages are the principal targets of selection, and structure is the only source of information available to place fossils within phylogenies. The book deserves a wide audience.

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## Books available for review / Livres disponibles pour critique

The ESC frequently receives unsolicited books for review. A list of these books is available online ( <http://www.esc-sec.ca/bulletinbooks.php> ) and is updated as new books are received.

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

Preference will be given to ESC members.

La SEC reçoit fréquemment des livres non demandés pour des critiques. Une liste de ces livres est disponible en ligne ( <http://www.esc-sec.ca/f-bulletinbooks.php> ) et est mise à jour lorsque de nouveaux livres sont reçus.

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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.

### Guidelines

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

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

### 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.

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### Currently available for review / Disponibles pour critique

Cárcamo, H.A., & D.J. Giberson [Eds]. 2014. Arthropods of Canadian Grasslands. Vol. 3:

Biodiversity and Systematics, Part 1. 413 pp; photos, maps, checklists. Biological Survey of Canada. ISBN 9780968932162 [soft cover]

Giberson, D.J., & H.A. Cárcamo [Eds]. 2014. Arthropods of Canadian Grasslands. Vol. 4:

Biodiversity and Systematics, Part 2. 479 pp; photos, maps, checklists. Biological Survey of Canada. ISBN 9780968932179 [soft cover]

Wright, D.J. & T.M. Gilligan. 2015. *Eucosma* Hübner of the Contiguous United States and Canada (Lepidoptera: Tortricidae: Eucosmini). 256 pgs., 133 species accounts, 30 colour plates, 49 monochrome plates. Wedge Entomological Research Foundation. ISBN 9780933003163 [hardcover]

Bouchard, P. (Ed.). 2014. The Book of Beetles. 656 pp., 2,400 colour plates. University of Chicago Press. ISBN 978-0-226-08275-2 [hardcover]

Charabidze, D. & M. Gosselin. 2014. Insectes, cadavres et scènes de crimes : Principes et application de l'entomologie médico-légale. 261 pp. DeBoeck Supérieur. ISBN: 9782804184957 [paperback]

- Anonymous. 2014. Bug Bingo Board game. 64 illus. Features highly detailed illustrations and a brochure of factoids provided by The Natural History Museum of London. ISBN: 9781856699402 [board game]
- Williams, P., Thorp, R., Richardson, L., & S. Colla. 2014. Bumble Bees of North America. 208 pp., 150 colour illus. Princeton University Press. ISBN: 9780691152226 [paperback, e-book]
- Lemelin, R.H. (Ed.) 2013. Management of Insects in Recreation and Tourism. 365 pp. Cambridge University Press. ISBN: 9781107012882 [hardcover]
- Sanborn, A.F. 2013. Catalogue of the Cicadoidea (Hemiptera: Auchenorrhyncha), 1st Edition. 1,002 pp. Academic Press. ISBN: 9780124166479 [hardcover]
- Lonsdale, O. 2013. Review of the Families Tanypezidae and Strongylophthalmyiidae, with a Revision of *Neotanypeza* Hendel (Diptera: Schizophora). Smithsonian Contributions to Zoology, Number 641. vi + 60 pages, 92 figures, 5 tables. (<http://si-pddr.si.edu/dspace/handle/10088/21132>)
- Abrol, D.P. (Ed.). 2013. Integrated Pest Management, 1st Edition, Current Concepts and Ecological Perspective. 584 pp. Academic Press. ISBN: 9780123985293 [hardcover, e-book]
- Chyb, S. & N. Gompel. 2013. Atlas of Drosophila Morphology, 1st Edition, Wild-type and Classical Mutants. 248 pp., Academic Press. ISBN: 9780123846884 [hardcover, e-book]
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## Announcements / Annonces

### Content of newsletters published by the Canadian Phytopathological Society and Canadian Weed Science Society

Many members of the Entomological Society of Canada, the Canadian Phytopathological Society, and the Canadian Weed Science Society have mutual interests, perhaps especially in the realm of pest management. Thus, it was proposed in 2014 that we should develop closer ties among the three groups. As a first step down this road, we have agreed that each society will publish the contents of the other societies' newsletters in its own news magazine. We hope that *Bulletin* readers will find this new initiative worthwhile.

### Contenu des bulletins publiés par la Société canadienne de phytopathologie et la Société canadienne de malherbologie

Plusieurs membres de la Société d'entomologie du Canada, de la Société canadienne de phytopathologie et de la Société canadienne de malherbologie ont des intérêts communs, particulièrement autour de la gestion des ravageurs. Il a donc été proposé, en 2014, de développer des liens plus serrés entre les trois groupes. En tant que première étape en ce sens, nous avons acceptés que chaque société publie le contenu des bulletins des autres sociétés dans son propre bulletin. Nous espérons que les lecteurs du *Bulletin* trouveront cette initiative intéressante.



THE CANADIAN PHYTOPATHOLOGICAL SOCIETY  
LA SOCIÉTÉ CANADIENNE DE PHYTOPATHOLOGIE

**CPS.SCP News**  
**Vol 59(1) March 2015**

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This issue may be viewed online at / Ce numéro peut être visionné en ligne sur :  
[http://phytopath.ca/wp-content/uploads/2015/03/news\\_v59-1.pdf](http://phytopath.ca/wp-content/uploads/2015/03/news_v59-1.pdf)



Canadian Weed Science Society  
Société canadienne de malherbologie

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This issue may be viewed online at / Ce numéro peut être visionné en ligne sur :  
<http://www.weedscience.ca/media/cwss-scm-newsletter-spring-2015.pdf>

### Nominations for ESC Board of Directors / Nominations pour le Conseil d'administration de la SEC

The following have been nominated and agreed to stand for election in 2015 for the indicated positions. Members will receive more details on this year's process by email or in the mail. In accordance with our new By-laws under the Canada Not-for-profit Corporations Act, a plebiscite/vote first will be held to 'select candidates' for a slate of Directors. The slate will then be presented for formal election at the Annual Members' Meeting in Montreal in November.

The current ballot will select candidates for a Director-at-Large and a Societal Director (Second Vice-President). The plebiscite will be conducted electronically but paper ballots will still be mailed to members who do not have email addresses. Electronic votes must be submitted or ballots mailed to the Elections Committee by **15 July 2015**. PLEASE REMEMBER TO VOTE!

Les personnes suivantes ont été nommées et ont accepté de se présenter pour les élections de 2014 pour les postes indiqués. Les membres recevront plus de détails sur le processus de cette année par courriel ou par la poste. Conformément à notre nouveau règlement intérieur en vertu de la loi canadienne sur les organisations à but non lucratif, un plébiscite/vote sera d'abord tenu afin de « sélectionner les candidats » pour une liste de directeurs. La liste sera ensuite présentée pour une élection formelle à la réunion annuelle des membres à Montréal en novembre.

Ce vote sélectionnera les candidats pour les postes de conseillers et de directeur sociétal (second vice-président). Le plébiscite sera conduit électroniquement, mais des bulletins de vote papier seront envoyés aux membres ne possédant pas de courriel. Les votes électroniques doivent être soumis ou les bulletins de vote envoyés au comité des élections au plus tard le **15 juillet 2015**. N'OUBLIEZ PAS DE VOTER!

#### Candidates for Societal Director/Second Vice-President : Candidats pour le poste de directeur sociétal/second vice-président



Patrice Bouchard  
(Agriculture & Agri-Food Canada)

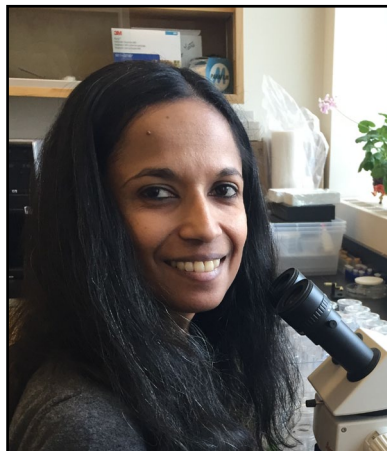


Cynthia Scott-Dupree  
(University of Guelph)

## Candidates for Director-at-Large : Candidats pour le poste de conseiller



Véronique Martel  
(Canadian Forest Service)



Deepa Pureswaran  
(Canadian Forest Service)

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### 65th Annual Meeting of Members and Board of Directors Meetings

The Annual Meeting of Members of the Entomological Society of Canada will be held at the Marriott Château Champlain Hotel, Montreal, Quebec, on Tuesday, 10 November 2015. The Board of Directors Meeting will be held at the same location on Saturday, 7 November 2015, from 8:30 to 17:00. The incoming Board of Directors will also meet immediately following the Annual Meeting of Members. Matters for consideration at any of the above meetings should be sent to Alec McClay, Secretary of the ESC (see inside back cover for contact details).

### 65e assemblée annuelle et réunions du conseil d'administration

L'assemblée annuelle de la société d'entomologie du Canada se tiendra à l'hôtel Marriott Château Champlain, Montréal, Québec, le mardi 10 novembre 2014. La réunion du conseil d'administration se tiendra au même endroit, le samedi 7 novembre 2015 de 8:30 à 17:00. Le nouveau conseil d'administration se réunira également immédiatement après l'assemblée annuelle. Les sujets à aborder pour n'importe laquelle de ces réunions doivent être envoyés à Alec McClay, secrétaire de la SEC (voir le troisième de couverture pour les coordonnées détaillées).

## ESC Scholarship Fund

Once again the Society would like to thank and acknowledge the very generous donors to the ESC Scholarship Fund. These tax-deductible donations are very important to the Society, as it is only because of these donations that the scholarship fund is self-sustainable. Donations can be made at any time and a receipt for income tax purposes in Canada will be issued. Please make cheques payable to the Entomological Society of Canada.

### Le Fonds de bourses d'études de la SEC

La Société tient à remercier, une fois de plus, les très généreux donateurs et donatrices au Fonds de bourses d'études de la SEC. Ces dons déductibles d'impôt sont très importants pour la Société, puisque c'est seulement grâce à ces dons que le Fonds de bourses d'études est autosuffisant. Les dons peuvent être faits en tout temps, et un reçu pour fin d'impôt vous sera envoyé. Veuillez libeller votre chèque au nom de la Société d'entomologie du Canada.

### 2014 Donors – Donateurs et donatrices pour 2014

Arnason John	Fields Paul	Martel Véronique
Ball George E.	Forbes Robert S.	McLachlin Hamilton Karen
Behan Valerie	Gades Steve J.	McLean John A.
Bodnaryk Robert P.	Gibson Gary	McNeil Jeremy
Borden John	Gillespie David R.	Otani-Semach Jennifer
Brodo Fenja	Gillott Cedric	Packer Laurence
Byers J. Robert	Gooding Ronald	Peschken Diether
Caltagirone Leopoldo E.	Harvey George T.	Philogene B.J.R.
Cameron E. Alan	Higgins Rob	Poland Therese
Churcher J.J.	Holliday Neil J.	Radcliffe Edward B.
Cloutier Conrad	Jaques Robert P.	Richards Miriam H.
Cutler Chris	Javitch Ronald A.	Sawinski T.A.
Dale John W.	Klimaszewski Jan	Schwarzfeld Marla
DeClerck-Floate Rosemarie	Leech Robin	Scott Ian
Delisle Johanne	Lindgren Staffan	Soroka Juliana J.
Devine Alexandra	Loschiavo S.R.	Stock Art
Dixon Peggy L.	Lynch Ann	Sweeney Jon
Doucet Daniel	MacLauchlan Lorraine	Westwood Richard
Evenden Maya	MacQuarrie Chris	Wood David L.
Fairchild Wayne	Marshall Valin G.	

... and those who preferred to remain anonymous.

... et ceux et celles qui ont préféré rester anonyme.



## Highlights from the Executive meeting of 19 February 2015

The Executive met by conference call on 19 February 2015. Attending were President Staffan Lindgren, Past President Rebecca Hallett, First Vice-President Terry Wheeler, Second Vice-President Neil Holliday, Treasurer Christopher Dufault, Secretary Alec McClay, and Executive Director Geoff A. Powell (Strauss Event and Association Management).

### President's report

An agreement for Association Management Services was signed with Strauss Event & Association Management on 13 November 2014. Office Manager Derna Lisi resigned in early December 2014. Strauss have been setting up a web-based membership renewal system, which has been a challenging exercise, partly due to our complex fee structure. Because of the late launch of the renewal system, the deadline for membership renewals has been extended to 31 March.

Most Committee chairs have been re-appointed, although some are still seeking additional members. Several Committees have been discontinued due to the transition to Strauss.

There was discussion of ways to improve the Society's online and social media presence. The Web Content Committee will review these and develop a coordinated strategy for the website, blog, and social media.

The Society has received an invitation to co-host the International Plant Protection Congress in Vancouver in 2023. The Executive felt that that the Society is already stretched with commitments to other co-hosted meetings, and that it might be possible for us to organize a symposium or session within the IPPC but not to be a full co-host.

### Treasurer's report

The Society's finances have been managed by Strauss since November 2014. The Society's investments have been transferred from National Bank to TD Price Waterhouse, and a new investment strategy is in place. The portfolio is a mix of equities, and Canadian, global and high yield bonds, and preferred shares, consistent with the investment objectives approved at the ESC's Annual General Meeting in Saskatoon in the autumn of 2014. It was agreed to add two additional signatories to the investment accounts and to require transactions to be signed by any two of the three signatories.

A change to the Society's financial year end to 30 June, effective in 2015, has been approved by the Canada Revenue Agency, to meet the requirement that the Annual Meeting be held within 6 months of the end of the financial year. Due to the change in the financial year end, the Act may require us to hold two Annual Meetings in 2015; Geoff Powell will investigate whether Industry Canada can provide an exemption from this requirement.

The Headquarters building in Ottawa was sold in January 2015 for \$525,000. The Society should clear about \$495,000 from the sale, which will be deposited to the investment account at TD Price Waterhouse. A storage locker has been rented in Ottawa for materials from the former Headquarters including back issues of *TCE* and the *Memoirs*, and the contents insured for \$50,000. There was discussion of a solution for the Society's archives. The Headquarters Committee will pursue a donation of these archives to Library and Archives Canada.

A draft budget for the 2015–2016 financial year was proposed and will be circulated to the full Board for approval.

### **Strauss Event and Association Management**

Martin Strauss reviewed the Society's insurance needs and provided a quote for Directors & Officers and Comprehensive General Liability insurance, which was accepted by the Executive. Affiliates and other societies meeting in conjunction with the Joint Annual Meeting will need to take out their own insurance.

Geoff Powell will advise on procedures and schedule required to transfer the Society's registered office to Strauss in Winnipeg.

### **Scholarship Fund Board of Trustees**

The Standing Rules for the Scholarship Fund have been drafted and approved by the Trustees. Discussions are underway on setting up a scholarship in memory of Lloyd Dосdall, to be funded out of the Dосdall estate.

### **Publications Committee**

A new policy for book reviews has been adopted, under which publishers will retain control of books for review and provide them directly to a society member for review. A procedure is being developed to handle orders for back issues of the *Memoirs*.

### **Achievement Awards Committee**

Nominations have been invited for the Gold Medal, Hewitt, Bert & John Carr Award as well as Honorary Members and Fellows. Nomination packages will be submitted exclusively by email. Copies of the book *Criddle-de-diddle-ensis* are exhausted; the Committee is investigating possibilities for items to be given as Criddle Awards in future.

### **Membership Committee**

The Membership Committee will review the fees structure to eliminate differential membership rates for non-Canadian members.

### **Science Policy and Education Committee**

The chair is initiating a process to review the activities, mandate and structure of this Committee.

### **Student Affairs Committee**

The Committee updated the Directory of Entomological Education in Canada and is developing the Research Roundup, which provides exposure for the scientific publications of Canadian entomological researchers, particularly students, and an opportunity to present their research in a less formal format (a blog post).

### **Local Organizing Committee for 2015 JAM**

Preparations for the JAM in Montréal are well under way. Registration is being handled by Strauss and should be open by 31 March. The meeting will be ecoresponsible, with a small booklet of essential information being printed and the full program provided as a PDF. There will be a cocktail reception at the Montreal Insectarium on Sunday night with some exotic entomophagous tapas. The Plenary Symposium is designed to provide a provocative overview of the challenges related to entomology in the Anthropocene.

## **International Congress of Entomology 2016**

An Ad Hoc Committee, chaired by Murray Isman, has been set up to coordinate the Society's involvement in the Congress. A proposal for student travel award funding was sent to the Entomological Society of America. A call was put out to the membership for proposals for an ESC Symposium at the Congress.

---

## **Notice: Extension of Time for Calling Annual Meeting of Members**

Under the Canada Not-for-profit Corporations Act the Society is required to hold its Annual Meeting of Members within 6 months of the end of the preceding financial year. This would have required an Annual Meeting to be held by 30 June 2015. Corporations Canada has granted an exemption under Subsection 160(2) of the Act allowing us to defer our Annual Meeting until 11 November 2015 at the latest. The financial statements for the year ending 31 December 2014 that would have been presented at the Annual Meeting will be available for inspection in the Members' Area of the website by 30 June 2015, and will be presented for approval at the Annual Meeting in November.

The Society's financial year end has now been changed to 30 June, so that in future years the Annual Meeting held as usual in conjunction with the Joint Annual Meeting will satisfy the timing requirements of the Act.

## **Note: Extension du délai pour la réunion annuelle des membres**

En vertu de la loi canadienne sur les organisations à but non lucrative, la Société doit tenir sa réunion annuelle des membres dans les six mois suivant la fin de l'année financière précédente. Cela demanderait de tenir la réunion annuelle au plus tard le 30 juin 2015. Corporations Canada a accordé une exemption en vertu de la sous-section 160(2) de la loi nous permettant de reporter notre réunion annuelle au 11 novembre 2015 au plus tard. Les états financiers de l'année se terminant le 31 décembre 2014 qui auraient été présentés à la réunion annuelle seront disponibles pour inspection dans la section des membres du site Internet au plus tard le 30 juin 2015, et seront présentés pour approbation à la réunion annuelle en novembre.

La fin de l'année financière de la Société a maintenant été changée pour le 30 juin, afin que dans les années futures la réunion annuelle tenue comme d'habitude en conjonction avec la réunion annuelle conjointe rencontre les exigences de la loi.

## Eleventh Annual Photo Contest

The Eleventh Annual Photo Contest to select images for the 2016 covers of *The Canadian Entomologist* and the *Bulletin of the Entomological Society of Canada* is underway. The cover images are intended to represent the breadth of entomology covered by the Society's publications. Insects and non-insects in forestry, urban or agriculture; landscapes, field, laboratory or close-ups; or activities associated with physiology, behaviour, taxonomy or IPM are all desirable. A couple of 'Featured Insects' (for the spine and under the title) are also needed. If selected, your photo will grace the cover of both publications for the entire year. In addition, winning photos and a selection of all submitted photos will be shown on the ESC website.

### **Contest rules:**

Photos of insects and other arthropods in all stages, activities, and habitats are accepted. To represent the scope of entomological research, we also encourage photos of field plots, laboratory experiments, insect impacts, research activities, sampling equipment, etc. Photos should, however, have a clear entomological focus.

Digital images must be submitted in unbordered, high-quality JPG format, with the long side (width or height) a minimum of 1500 pixels.

Entrants may submit up to five photographs. A caption must be provided with each photo submitted; photos without captions will not be accepted. Captions should include the locality, subject identification as closely as is known, description of activity if the main subject is other than an insect, and any interesting or relevant information. Captions should be a maximum of 40 words.

The entrant must be a member in good standing of the Entomological Society of Canada. Photos must be taken by the entrant, and the entrant must own the copyright.

The copyright of the photo remains with the entrant, but royalty-free use must be granted to the ESC for inclusion on the cover of one volume (6 issues) of *The Canadian Entomologist*, one volume (4 issues) of the *Bulletin*, and on the ESC website.

The judging committee will be chosen by the Chair of the Publications Committee of the ESC and will include a member of the Web Content Committee.

The Photo Contest winners will be announced on the ESC website, and may be announced at the Annual Meeting of the ESC or in the *Bulletin*. There is no cash award for the winners, but photographers will be acknowledged in each issue the photos are printed.

Submission deadline is 15 August 2015. Entries should be submitted as an attachment to an email message; the subject line should start with "ESC Photo Contest Submission". Send the email message to: [photocontest@esc-sec.ca](mailto:photocontest@esc-sec.ca).

## Onzième concours annuel de photographie

Le onzième concours annuel de photographie visant à sélectionner des images pour les couvertures de *The Canadian Entomologist* et du *Bulletin de la Société d'entomologie du Canada* pour 2016 est en cours. Les images sur la couverture doivent représenter l'étendue entomologique couverte par les publications de la Société. Des photos représentant des insectes ou autres arthropodes forestiers, urbains ou agricoles, des paysages, du travail de terrain ou de laboratoire, des gros plans, ainsi que montrant des activités associées à la physiologie, au comportement, à la taxonomie ou à la lutte intégrée seraient souhaitées. Deux « insectes vedettes » (pour le dos et sous le titre) sont également recherchés. Si elle est sélectionnée, votre photo ornara la couverture des deux publications pour l'année entière. De plus, vos photos gagnantes et une sélection de photos soumises seront montrées sur le site Internet de la SEC.

### Règlements du concours :

Les photos d'insectes et autres arthropodes à n'importe quel stade, effectuant n'importe quelle activité et dans n'importe quel habitat sont acceptées. Afin de représenter les sujets de la recherche entomologique, nous encourageons également les photos de parcelles de terrain, expériences de laboratoire, impacts des insectes, activités de recherche, équipement d'échantillonnage, etc. Les photos doivent, cependant, avoir un intérêt entomologique clair.

Les images numériques doivent être soumises sans bordure, en format JPG de haute qualité, avec le plus grand côté (largeur ou hauteur) d'un minimum de 1500 pixels.

Chaque participant peut soumettre jusqu'à cinq photographies. Une légende doit être fournie pour chaque photo soumise : les photos sans légendes ne seront pas acceptées. La légende doit inclure la localisation, l'identification du sujet le plus précisément possible, la description de l'activité si le sujet n'est pas un insecte, et toute information intéressante ou pertinente. Les légendes doivent avoir une longueur maximale de 40 mots.

Les participants doivent être membres en bonne et due forme de la Société d'entomologie du Canada. Les photos doivent avoir été prises par le participant, et le participant doit en posséder les droits d'auteur.

Le participant conserve les droits d'auteur de la photo, mais l'utilisation libre de droits doit être accordée à la SEC afin de l'inclure sur la couverture d'un volume (6 numéros) de *The Canadian Entomologist*, un volume (4 numéros) du *Bulletin*, et sur le site Internet de la SEC.

Le comité d'évaluation sera choisi par le président du comité des publications de la SEC et inclura un membre du comité du contenu du site Internet.

Les gagnants du concours de photographie seront annoncés sur le site Internet de la SEC et pourront être annoncés à la réunion annuelle de la SEC ou dans le *Bulletin*. Il n'y a pas de prix en argent pour les gagnants, mais les photographes seront remerciés dans chaque numéro où les photos seront imprimées.

La date limite de soumission est le 15 août 2015. Les soumissions doivent être faites en pièces jointes d'un courrier électronique. L'objet du message doit débiter par « Soumission pour le concours de photographie de la SEC ». Envoyez vos courriels à : [photocontest@esc-sec.ca](mailto:photocontest@esc-sec.ca).

# Meeting announcements / Réunions futures

## Joint Congress of the Entomological Society of Southern Africa and the Zoological Society of Southern Africa

Grahamstown, South Africa, 12-17 July 2015

<http://www.entsoc.org/PDF/International/1stCircularJointESSAandZSSACongressGrahamstown.pdf>

## International Congress on Invertebrate Pathology and Microbial Control and 48<sup>th</sup> Annual Meeting of the Society for Invertebrate Pathology

Vancouver, British Columbia, 9-13 August 2015

<http://www.sipmeeting-2015.org/> (see March 2015 *Bulletin*, p. 25 for more information)

## XVII International Plant Protection Congress (Mission possible: Food for All through Appropriate Plant Protection)

Berlin, Germany, 24-27 August 2015 <http://www.ippc2015.de/>

## Ento'15: International Symposium of the Royal Entomological Society (Insect Ecosystem Services)

Dublin, Ireland, 2-4 September 2015 <http://www.royensoc.co.uk/content/res-annual-national-science-meeting-international-symposium-ento-15-2-4-september-2015>

## Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Quebec (Entomology in the Anthropocene)

Montreal, Quebec, 8-11 November 2015

[www.seq.qc.ca/activites/reunions/SEQ-ESC\\_2015/index\\_eng.asp](http://www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/index_eng.asp)

## Entomology 2015: Entomological Society of America 63rd Annual Meeting (Synergy in Science: Partnering for Solutions)

Minneapolis, Minnesota, 14-18 November 2015 <http://www.entsoc.org/entomology2015>

The meeting will be co-located with the ASA-CSSA-SSSA Annual Meeting (American Society of Agronomy, Crop Science Society of America, and the Soil Science Society of America).



## Entomological Society of Canada Annual Meeting

Orlando, Florida, 25-30 September 2016

The meeting will be held in conjunction with the 2016 International Congress of Entomology.

## XXV International Congress of Entomology (Entomology without Borders)

Orlando, Florida, 25-30 September 2016

The 2016 ESA Annual Meeting and the 2016 ESC Annual Meeting will be held simultaneously in Orlando.

[www.ice2016orlando.org](http://www.ice2016orlando.org)

## *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.

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[www.esc-sec.ca/](http://www.esc-sec.ca/)

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

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**Submission deadline for the next issue: 31 July 2015**



## *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.

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[www.esc-sec.ca/](http://www.esc-sec.ca/)

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

Envoyer vos soumissions à:  
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Droits d'auteur 2015 Société d'entomologie du Canada

**Date de tombée pour le prochain numéro: 31 juillet 2015**

# Officers of affiliated Societies, 2014-2015

## Dirigeants des Sociétés associées, 2014-2015

### Entomological Society of British Columbia

President Steve Perlman  
1st Vice President: Bob Lalonde  
2nd Vice President: Brian van Hезewijk  
Past President Ward Strong  
Treasurer Ward Strong  
Editor (Journal) Dezene Huber  
Editors (Boreus) Gabriella Zilahi-Balogh  
Webmaster Alex Chubaty  
Secretary Tracy Hueppelsheuser  
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Tel: (604) 556-3031  
E-mail: [Tracy.Hueppelsheuser@gov.bc.ca](mailto:Tracy.Hueppelsheuser@gov.bc.ca)  
<http://entsocbc.ca>

### Entomological Society of Alberta

President John Swann  
Vice-President Shelly Hoover  
Past President Mike Dolinski  
Treasurer Caroline Whitehouse  
Editor (Proceedings) Megan Evans  
Webmaster Alec McClay  
Secretary Ken Fry  
Olds College  
4500 - 50 Steet, Olds, AB T4H 1R6  
Tel: (403) 556-8261  
E-mail: [esalberta@gmail.com](mailto:esalberta@gmail.com)  
<http://www.entsocalberta.ca>

### Entomological Society of Saskatchewan

President Dave Halstead  
Vice-President Tyler Wist  
Past President Margaret Gruber  
Treasurer Dwayne Hegedus  
Newsletter Editor Dave Halstead  
Secretary Iain Phillips  
Saskatchewan Watershed Authority  
101-108 Research Drive, Saskatoon, SK, S7N 3R3  
Tel: (306) 933-7474  
Email: [iain.phillips@swa.ca](mailto:iain.phillips@swa.ca)  
<http://www.entsocsask.ca>

### Entomological Society of Manitoba

President Richard Westwood  
President-Elect Paul Fields  
Past President Robbin Lindsay  
Treasurer Ian Wise  
Newsletter Editors Marjorie Smith and Jordan  
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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.*





### Something new, something retro

We are pleased to welcome a couple of new items to this issue of the *Bulletin*, namely, lists of the contents from the newsletters of the Canadian Phytopathological Society and the Canadian Weed Science Society. We have included the internet links to these items, so please take a look at what's happening in our sister societies – you'll find some interesting parallels with our own society's activities.

As well, we welcome back an old friend, Lab Profile, who we haven't seen for a few years. Chandra Moffat and Julia Mlynarek tell us about what the 'Heard's Nerds' are up to in New Brunswick (when they're not shoveling snow, that is!). Writing a Lab Profile is an excellent way to put the word out on what's going on in your neck of the woods – it's free and a far less 'stuffy' way of describing the research endeavors in your laboratory than a paid advertisement.

As I write this, spring is trying hard to make an appearance in Saskatchewan (whoever determined that it started on 21 March was not native to this province!), but at least it's sunny and we're not dealing with snow – still falling in Alberta and the Maritimes. Many of you will be preparing for your summer field work, often in remote places in this massive country. So, don't forget to pack warm clothing and rain gear, and show a little sympathy for one of our colleagues who at this moment is collecting in the heat and dust of Darkest Africa. Have a great summer!

### Quelque chose de neuf, quelque chose de retro

Nous sommes heureux d'accueillir de nouveaux articles dans ce numéro du *Bulletin*, soit les listes de contenu des bulletins de la Société canadienne de phytopathologie et de la Société canadienne de malherbologie. Nous avons inclus les liens Internet pour ces items, alors allez voir ce qui se passe dans nos sociétés sœurs – vous trouverez des parallèles intéressants avec les activités de notre propre société.

Également, nous accueillons un vieil ami, Profil de labo, que nous n'avions pas vu depuis plusieurs années. Chandra Moffat et Julia Mlynarek nous donnent des nouvelles des « Geeks de Heard »<sup>1</sup> au Nouveau-Brunswick (quand ils ne pellettent pas de neige, ça va de soi!). Écrire un profil de labo est un excellent moyen de faire savoir ce qui se passe dans votre coin de pays – c'est gratuit et c'est une façon beaucoup moins vieux jeu de décrire les efforts de recherche dans votre laboratoire qu'une publicité payée.

Alors que j'écris ces lignes, le printemps essaie très fort de faire une apparition en Saskatchewan (celui qui a déterminé que le printemps commençait le 21 mars n'était pas de cette province!), mais au moins, le temps est ensoleillé et il n'y a pas de neige – quoiqu'elle tombe toujours en Alberta et dans les maritimes. Plusieurs d'entre vous se préparent pour le travail de terrain estival, souvent dans des endroits éloignés de cet énorme pays. Alors n'oubliez pas d'emporter des vêtements chauds et pour la pluie, et montrez un peu de sympathie pour un de nos collègues qui collecte en ce moment dans la chaleur et la poussière de l'Afrique profonde. Ayez un bel été!

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<sup>1</sup>Traduction de « Heard's Nerds »

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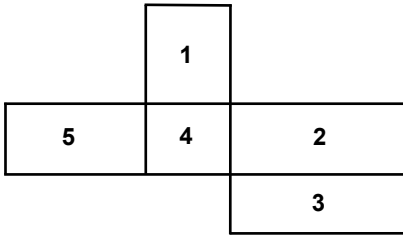
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### Front cover/Plate supérieur:

- 1 *Nicrophorus* species (Coleoptera: Silphidae) and Calliphoridae feeding on a dead mouse (Waterton, Alberta, Canada)  
 Une espèce de *Nicrophorus* (Coleoptera: Silphidae) et des Calliphoridae se nourrissant sur une souris morte (Waterton, Alberta, Canada)  
 [Photo: Rosemarie DeClerck-Floate]
2. *Diadromus pulchellus* (Hymenoptera: Ichneumonidae), a biological control agent introduced into Canada against the invasive leek moth, *Acrolepiopsis assectella* (Lepidoptera: Acrolepiidae) (Delémont, Switzerland)  
*Diadromus pulchellus* (Hymenoptera: Ichneumonidae), un agent de lutte biologique introduit au Canada contre la teigne du poireau, *Acrolepiopsis assectella* (Lepidoptera: Acrolepiidae) (Delémont, Suisse)  
 [Photo: Tim Haye]
3. *Orussus minutus* (Hymenoptera: Orussidae) female  
 Femelle *Orussus minutus* (Hymenoptera: Orussidae)  
 [Photo: Miles Zhang]
4. *Monochamus scutellatus* (Coleoptera: Cerambycidae) found in Prince George, British Columbia. June 2014 (Prince George, British Columbia, Canada)  
*Monochamus scutellatus* (Coleoptera: Cerambycidae) trouvé à Prince George, Colombie-Britannique. Juin 2014 (Prince George, Colombie-Britannique, Canada)  
 [Photo: Dezene Huber]
5. Colourful larva of the cecropia moth, *Hyalophora cecropia* (Lepidoptera: Saturniidae), from eggs laid by a gravid female caught at Black Donald Lake near Calabogie, Ontario (Canada)  
 Une chenille colorée de la Saturnie cécropia, *Hyalophora cecropia* (Lepidoptera: Saturniidae), sortie d'oeufs déposés par une femelle féconde au lac Black Donald près de Calabogie, Ontario (Canada)  
 [Photo: Andrea Brauner]

### Back cover/Plate inférieur:

- A two-striped grasshopper, *Melanoplus bivittatus* (Orthoptera: Acrididae), ovipositing beside a road in Torrance, Ontario (Canada)  
 Un criquet birayé, *Melanoplus bivittatus* (Orthoptera: Acrididae), déposant ses oeufs près d'une route à Torrance, Ontario (Canada)  
 [Photo: Justin M. Gaudon]